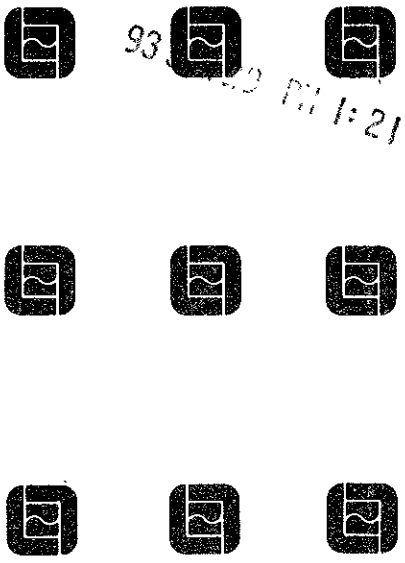

Quarterly Monitoring Report for the Period October 1 through December 31, 1992 Area A and the South-Central Portion of Area B Yerba Buena Project Site Emeryville and Oakland, California

January 29, 1993
1649.02

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

LEVINE·FRICKE

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

January 29, 1993 LF 1649.02

Ms. Susan Hugo
Alameda County Health Care Services Agency
80 Swan Way, Room 200
Oakland, California 94621

Subject: Quarterly Monitoring Report for the Period October 1 through December 31, 1992, Area A and the South-Central Portion of Area B, Yerba Buena Project Site, Emeryville and Oakland, California

Dear Ms. Hugo:

The enclosed quarterly monitoring report presents results of field activities conducted during the fourth quarter of 1993. The report includes a discussion of the installation, development, and sampling of newly installed well LF-30 (located south and within 3 feet of the East Bay Municipal Utility District's sewer interceptor pipe along Yerba Buena Avenue) and presents results of fourth quarter ground-water monitoring activities conducted in Area A and the south-central portion of Area B of the Yerba Buena Project Site in Emeryville and Oakland, California. Ground-water monitoring was conducted and this report is submitted in accordance with the December 6, 1991 "Sampling and Analysis Plan for Quarterly Ground-Water Monitoring in Area A," prepared by Levine•Fricke, Inc., and submitted to the Alameda County Health Care Services Agency.

If you have any questions or comments concerning this report, please call either of the undersigned.

Sincerely,

James D. Levine, P.E.
President

Jenifer Beatty
Project Hydrogeologist

Enclosure

cc: Ric Notini, Catellus
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1649/1649J93.QMR/NAS

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QUARTERLY GROUND-WATER MONITORING REPORT FOR THE PERIOD OCTOBER 1 THROUGH DECEMBER 31, 1992 AREA A AND SOUTH-CENTRAL PORTION OF AREA B YERBA BUENA PROJECT SITE EMERYVILLE AND OAKLAND, CALIFORNIA

1.0 INTRODUCTION

This report presents results of quarterly ground-water monitoring activities conducted during the period October 1 through December 31, 1992, for Area A and the south-central portion of Area B of the Yerba Buena Project Site ("the Site") located in Emeryville and Oakland, California (Figure 1). Levine·Fricke, Inc. ("Levine·Fricke") conducted this work on behalf of Catellus Development Corporation ("Catellus") in accordance with the December 6, 1991 "Sampling and Analysis Plan for Quarterly Ground-Water Monitoring in Area A" (SAP), prepared by Levine·Fricke and submitted to the Alameda County Health Care Services Agency (ACHA). This report summarizes results from the most recent ground-water sampling event, describes the installation, development, and sampling of ground-water monitoring well LF-30, and presents historical ground-water elevation and ground-water quality data for Area A and the south-central portion of Area B.

The site layout is presented in Figure 2. As illustrated, the Site was divided into Areas A, B, and C to aid in organizing the sampling and analysis program previously conducted for the Site.

1.1 Background

The Site is currently vacant and covers approximately 51 acres. 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.

1.2 Previous Investigations

Environmental investigations at the Site were initiated in September 1989 by Levine·Fricke on behalf of Catellus and have continued over the past 3 years (Levine·Fricke 1990, 1991a, 1991b, 1991c, 1992a, 1992b). Results of ground-water sampling and analyses conducted in Area A of the Site indicated concentrations of 1,1,1-trichloroethane (1,1,1-TCA) and 1,1-dichloroethene (1,1-DCE) in wells LF-4, LF-4D, and LF-5 in excess of drinking water standards (Maximum Contaminant Levels [MCLs] or Cal-EPA Department of Toxic Substances Control [DTSC] Recommended Action Levels for Drinking Water).

To inhibit off-site migration of ground water affected by volatile organic compounds (VOCs), a shallow ground-water collection trench (french drain) was installed during December 1991 and January 1992 along the western boundary of Area A (generally downgradient with respect to ground-water flow) to intercept VOC-affected ground water from Area A. Ground water entering the trench will be pumped and treated on site using a conventional treatment technology. It is anticipated that the treatment system will be installed following the completion of grading activities. For a more detailed discussion concerning ground-water remedial activities for Area A, refer to the February 11, 1991 "Site Remedial Plan," prepared by Levine·Fricke (Levine·Fricke 1991b) and approved by the ACHA.

A sampling and analysis plan for quarterly monitoring in Area A and the south-central portion of Area B was developed to monitor the effectiveness of the shallow ground-water extraction trench and to monitor the presence of VOCs in ground water in Area A and the south-central portion of Area B (Levine·Fricke 1991d). The quarterly monitoring program was implemented at the Site in January 1992. Results of the recent monitoring event are presented below.

2.0 ACTIVITIES CONDUCTED DURING THE QUARTERLY MONITORING PERIOD

The following activities were conducted for the Site during the period from October 1 through December 31, 1992:

- Off-site ground-water monitoring well LF-30 was installed just west of Hollis Street.
- Water-levels were measured in all on- and off-site monitoring wells.

- Ground-water samples were collected for chemical analyses from selected wells.

2.1 Installation of Ground-Water Monitoring Well LF-30

The East Bay Municipal Utility District (EBMUD) installed a sanitary sewer interceptor pipe along Yerba Buena Avenue beginning in August 1991. To assess whether VOC-affected shallow ground water may have migrated westward from the Site through the interceptor trench backfill material, one shallow monitoring well (LF-30) was installed south and within 3 feet of the interceptor pipe on the west side of Hollis Street.

Before drilling to install well LF-30 began, a monitoring well permit was obtained from Alameda County Flood Control and Water Conservation District, Zone 7, and an encroachment permit was obtained from the Public Works Department, City of Emeryville.

Monitoring well LF-30 was drilled and installed on October 14, 1992, by Spectrum Exploration Inc., of Stockton, California, under the observation of a Levine·Fricke geologist. The soil boring was drilled using a hollow-stem auger drill rig to a total depth of 20 feet below the ground surface (bgs) in accordance with procedures described in Appendix A.

Soil samples were collected during drilling for lithologic description and were field screened for the presence of VOCs using an organic vapor meter (OVM). OVM measurements were recorded during drilling and are presented on the lithologic logs included in Appendix B.

Sediments encountered during drilling generally consisted of gravel fill to a depth of 2.5 feet bgs underlain by silty clay, gravelly clayey sand, and sandy silty clay. Ground water was first encountered in the boring at approximately 17 feet bgs. Monitoring well LF-30 was constructed in the completed borehole using 2-inch-diameter polyvinyl chloride (PVC) blank well casing and well screen (0.020-inch slots). The screened interval extends from 8 feet bgs to 20 feet bgs. Table 1 summarizes well construction data. Well construction details are included on the lithologic log for well LF-30 contained in Appendix B.

On October 21, 1992, the newly installed well was surveyed to the nearest 0.01 foot, based on the National Vertical Geodetic Datum, by a state-licensed surveyor.

2.2 Water-Level Measurements

Water levels were measured in all on- and off-site monitoring wells on October 20, 1992. Depth to water was measured to the nearest 0.01 foot using an electric water-level sounding probe and recorded in the field. Depth-to-water measurements are presented in Table 1 and are discussed in Section 3.0.

On December 22, 1992, all on- and off-site wells were resurveyed by Nolte Associates, of Walnut Creek, California, to verify top-of-casing well elevations. Table 1 includes the recent survey results. No significant changes in well elevations were noted.

2.3 Ground-Water Sampling

Ground-water samples were collected for chemical analyses on October 21 and 22, 1992, from on-site monitoring wells LF-4, LF-4D, LF-4Z, LF-5, LF-5D, LF-6, LF-17, LF-18, LF-19, LF-19D, LF-20, and LF-21, and off-site wells LF-22, LF-23, and LF-30.

Before a sample was collected from newly installed well LF-30, the well was developed in accordance with procedures described in Appendix A. Before ground-water samples were collected from the remaining wells, 3 to 4 well volumes of water were purged from each well in accordance with procedures described in Appendix C. After the wells had been purged, ground-water samples were collected using a clean Teflon bailer and sample containers were filled to overflowing by pouring ground water directly from the bailer. Water-quality sampling sheets are included in Appendix D.

Ground-water samples were submitted to Anametrix, a state-certified laboratory, under strict chain-of-custody procedures. For quality assurance/quality control measures, field blanks were collected for wells LF-17 and LF-23 and duplicate samples were collected from wells LF-17, LF-19, and LF-30. All ground-water samples, including the field blank sample collected for LF-17 and the duplicate samples collected from wells LF-17 and LF-30 (labelled LF-117 and LF-130, respectively) were analyzed for VOCs using EPA Method 8010. The remaining duplicate and field blank were submitted to the analytical laboratory on a hold basis, pending the analysis of the remaining ground-water samples. Laboratory certificates are included in Appendix E. Results of chemical analyses are discussed in Section 5.0.

3.0 GROUND-WATER ELEVATIONS AND FLOW DIRECTION

Table 1 summarizes depth-to-water and ground-water elevation data collected at the Site. Depth to ground water measured on October 20, 1992, ranged from 6.25 feet bgs (LF-11) to 19.83 feet bgs (LF-18). Ground-water elevations in shallow sediments are presented in Figure 2. These data indicate that the general direction of shallow ground-water flow beneath the Site at the time of water-level measurement was generally west to southwest in the northern portion of the Site (north of Yerba Buena Avenue) and varied from the southwest to northwest in the southern portion of the Site (south of Yerba Buena Avenue). These results are consistent with ground-water flow direction previously reported for the Site during 1992. The average hydraulic gradient for the Site on October 20, 1992, was approximately 0.008 and 0.01 ft/ft, as measured between wells LF-8 and LF-12 and wells LF-1 and LF-6, respectively.

As discussed in the previous quarterly report dated October 23, 1992 (Levine·Fricke, 1992c), water levels measured in wells located in the western portion of Area A decreased significantly (up to 3.1 feet) between July and August 1991, and have continued to decrease through October 1992. It appears that dewatering activities, initiated in August 1991 by EBMUD during installation of the sanitary sewer interceptor trench beneath Yerba Buena Avenue, may have affected ground-water elevations beneath the Site. According to Mr. Dennis Campbell of Stacey & Whitbeck, subcontractor for EBMUD, these dewatering activities (pumping ground water from a location west of Hollis Street) ceased in April 1992. However, ground-water levels have not recovered in the Site vicinity since that time.

The apparent ground-water flow direction in the western portion of Area A has shifted from west, as measured in February and April 1990 (Figures 8 and 9 in Levine·Fricke, 1990), to northwest, as measured since August 1991 (Figure 3 in Levine·Fricke, 1991c). It is not clear whether the continued apparent shift in ground-water flow direction in the western portion of Area A is related to dewatering activities previously conducted along Yerba Buena Avenue (which ceased in April 1992), the presence of the interceptor trench (which may act as a conduit for ground water at the Site), or to an apparent regional decrease in ground-water elevations (which may be related to the drought).

To better evaluate ground-water flow direction beneath the Site, depth-to-water measurements will be collected from all existing wells on a monthly basis for at least six months.

These data will be presented and evaluated in future quarterly monitoring reports.

4.0 GROUND-WATER QUALITY

Analytical results for ground-water samples collected in October 1992 are presented on Figure 3. Historical ground-water quality data collected at the Site are summarized in Table 2. Laboratory data sheets and chain-of-custody forms are presented in Appendix E.

4.1 Shallow Monitoring Wells

Analytical results for ground-water samples collected from shallow monitoring wells (less than 25 feet bgs) in October 1992 were similar to previous results reported for the Site during 1992.

No VOCs were detected in ground-water samples collected from three (LF-18, LF-20, and LF-21) of the 11 shallow wells sampled. 1,1-DCE and 1,1,1-TCA were detected in the remaining wells at concentrations ranging from 0.00081 ppm (LF-30) to 0.39 ppm (LF-5), and from 0.00054 ppm (LF-23) to 0.042 ppm (LF-5), respectively.

Analytical results for ground-water samples collected from newly installed off-site well LF-30 indicated trace to very low concentrations of VOCs, including trichloroethene (TCE) and 1,2-dichloroethene (1,2-DCE), compounds which have not historically been detected in on-site wells.

Very low concentrations of tetrachloroethene (PCE), TCE, and 1,2-dichloroethene have generally been detected in off-site wells LF-22 and LF-23 since the wells were installed in July 1991 and only recently in on-site well LF-6 (since the change in ground-water flow direction noted in this area since August 1991; see Sections 3.0 and 5.0). The presence of PCE, TCE, and 1,2-DCE in ground-water samples collected from these wells and well LF-30 may indicate an unknown source of these compounds, potentially off site. The low concentrations detected, however, do not raise a significant concern.

4.2 Deeper Monitoring Wells

Monitoring wells LF-4D, LF-5D, and LF-19D are screened in intermediate-depth sediments, generally between 29 and 43 feet bgs (Table 1). Monitoring well LF-4Z is screened in deeper sediments, from 52 to 62 feet bgs. No VOCs were detected in

intermediate-depth well LF-5D. 1,1-DCE and 1,1,1-TCA were detected in the ground-water sample collected from well LF-4D at concentrations of 0.15 ppm and 0.013 ppm, respectively. These concentrations are similar to those reported for the ground-water sample collected from shallow well LF-4, located within 10 feet of well LF-4D and screened in shallow sediments (9.5 to 19.5 feet bgs). These results indicate possible hydraulic communication between the sediments encountered in wells LF-4 and LF-4D, at depths between 10 and 43 feet bgs. No VOCs were detected in deeper well LF-4Z, located within 10 feet of well LF-4D, indicating that VOC-affected ground water in the vicinity of well LF-4D has not migrated to deeper sediments.

5.0 DISCUSSION OF RESULTS AND RECOMMENDATIONS

Ground-water elevations have decreased in all wells on the Site by approximately 1.49 feet to 5.45 feet since April 1990. The greatest apparent decreases between April 1990 and October 1992 were recorded for wells LF-6 (5.45 feet) and LF-17 (5.21 feet), both located within 80 feet south of the interceptor trench along Yerba Buena Avenue (Figure 3). Although there has been a shift in ground-water flow direction in the western portion of Area A, the general flow direction has remained toward the west.

Analytical results for ground-water samples collected in October 1992 are similar to results previously reported for the Site during 1992. Results indicate that the plume of VOC-affected ground water likely extends approximately 300 to 400 feet northeast of well LF-5, and approximately 1,600 to 1,700 feet southwest of well LF-5 in a band approximately 550 to 650 feet wide (Figure 3). These results are consistent with results from ground-water samples collected in January, April, and July 1992. However, the width of the VOC plume appears to have expanded in the vicinity of well LF-17 as compared to analytical results for ground-water samples collected in 1990 (Figure 4). The concentration of 1,1-DCE in ground-water samples collected from well LF-17 appears to have increased between April 1990 (0.009 ppm) and January 1992 (0.490 ppm). Analytical results for ground-water samples collected from well LF-17 in October 1992 were similar to previous results reported in January, April, and July 1992 and indicate the presence of 1,1-DCE in ground water at concentrations up to 0.380 ppm.

It is possible that the increase in VOC concentrations detected in samples collected from well LF-17 is attributable to the apparent change in ground-water flow direction possibly in response to dewatering activities along the sewer line trench. However, ground-water elevations and flow direction do not appear to have recovered since dewatering activities were discontinued in April 1992.

To better evaluate the apparent decrease in ground-water elevations (and apparent shift in flow direction) in response to either regional (i.e., drought related) or local (i.e., dewatering) conditions, it is recommended that depth-to-water measurements be collected on a monthly basis for at least six months, beginning in January 1993.

The results of monthly and quarterly monitoring conducted during the first quarter of 1993 will be evaluated to assess whether the existing ground-water trench and proposed ground-water extraction and treatment system will be sufficient to provide on-site containment of VOC-affected shallow ground water.

6.0 ACTIVITIES PROPOSED FOR THE PERIOD JANUARY THROUGH MARCH 1993

The following activities will be conducted during the first quarter of 1993:

- Collect ground-water level measurements from all on- and off-site wells on a monthly basis for at least six months beginning in January 1993.
- Collect ground-water samples from wells LF-4, LF-4D, LF-4Z, LF-5, LF-5D, LF-6, LF-17, LF-18, LF-19, LF-19D, LF-20, LF-21, LF-22, LF-23, and LF-30 for chemical analysis for VOCs.
- Collect ground-water samples from wells LF-3, LF-4, LF-5, and LF-19 for chemical analysis for total petroleum hydrocarbons as diesel and oil.

REFERENCES

Levine•Fricke, Inc. 1990. Phase I and phase II environmental investigation, Yerba Buena Project Site, Emeryville and Oakland, California. August 15 (REVISED October 26, 1990).

———. 1991a. Phase III environmental investigation, Yerba Buena Project Site, Emeryville and Oakland, California. February 6.

———. 1991b. Site remedial plan, Yerba Buena Project Site, Emeryville and Oakland, California. February 11.

———. 1991c. Additional ground-water investigation, Yerba Buena Project Site, Emeryville and Oakland, California. September 6.

———. 1991d. Sampling and analysis plan for quarterly ground-water monitoring in Area A and the south-central portion of Area B of the Yerba Buena Project Site, Emeryville and Oakland, California. December 6.

———. 1992a. Quarterly ground-water monitoring report for the period January through March 1992, Area A and south-central portion of Area B, Yerba Buena Project Site, Emeryville and Oakland, California. April 30.

———. 1992b. Quarterly ground-water monitoring report for the period April through June 1992, Area A and south-central portion of Area B, Yerba Buena Project Site, Emeryville and Oakland, California. July 31.

———. 1992c. Quarterly ground-water monitoring report for the period July 1 through September 30, 1992, Area A and south-central portion of Area B, Yerba Buena Project Site, Emeryville and Oakland, California. October 23.

TABLE 1
WELL CONSTRUCTION AND GROUND-WATER ELEVATION DATA
YERBA BUENA, EMERYVILLE, CALIFORNIA
(all elevations in feet above mean sea level)

Well Number	Well Elevation (surveyed prior to Nov. 1992**)	Well Elevation (surveyed in Dec. 1992 by Nolte Associates)	Well Depth (feet)	Screened Interval (feet)	Date Measured	Depth to Water	Ground-Water Elevation (based on Dec. 1992 survey data)
LF-1	29.74	29.70	21	11-21	23-Feb-90	8.89	20.81
					23-Apr-90	9.57	20.13
					06-Jan-92	9.56	20.14
					15-Apr-92	8.74	20.96
					14-May-92	10.71	18.99
					22-Jul-92	12.28	17.42
					20-Oct-92	13.18	16.52
LF-2	30.36	NS	22	11.5-21.5	23-Feb-90	4.26	26.10
					23-Apr-90	4.52	25.84
LF-3	25.29	25.25	25	14.5-24.5	23-Feb-90	10.10	15.15
					23-Apr-90	11.50	13.75
					06-Jan-92	13.03	12.22
					15-Apr-92	10.71	14.54
					14-May-92	12.51	12.74
					22-Jul-92	14.02	11.23
					20-Oct-92	15.49	9.76
LF-4	26.09	26.02	20	9.5-19.5	23-Feb-90	11.11	14.91
					23-Apr-90	12.20	13.82
					12-Jul-91	13.04	12.98
					07-Aug-91	14.48	11.54
					17-Dec-91	16.01	10.01
					06-Jan-92	12.50	13.52
					15-Apr-92	11.64	14.38
					14-May-92	13.50	12.52
					22-Jul-92	15.23	10.79
					20-Oct-92	16.46	9.56
LF-4D	26.20	26.13	39	29-39	23-Apr-90	12.38	13.75
					07-Aug-91	14.87	11.26
					06-Jan-92	12.80	13.33
					15-Apr-92	12.25	13.88
					14-May-92	13.89	12.24
					22-Jul-92	15.56	10.57
					20-Oct-92	16.76	9.37
LF-4Z	26.05	26.01	62	52-62	07-Aug-91	13.48	12.53
					06-Jan-92	13.02	12.99
					15-Apr-92	11.42	14.59
					14-May-92	12.48	13.53
					22-Jul-92	13.62	12.39
					20-Oct-92	14.44	11.57
LF-5	27.01	26.97	25	10-25	23-Feb-90	10.86	16.11
					23-Apr-90	12.32	14.65
					07-Aug-91	14.20	12.77
					17-Dec-91	15.02	11.95
					06-Jan-92	13.32	13.65
					15-Apr-92	10.68	16.29
					14-May-92	12.74	14.23
					22-Jul-92	14.61	12.36
					20-Oct-92	15.65	11.32
LF-5D	27.09	27.04	44	34-44	23-Feb-90	10.61	16.43
					23-Apr-90	10.61	16.43
					07-Aug-91	11.42	15.62
					06-Jan-92	10.66	16.38
					15-Apr-92	8.63	18.41
					14-May-92	10.09	16.95
					22-Jul-92	11.47	15.57
					20-Oct-92	12.41	14.63

TABLE 1
WELL CONSTRUCTION AND GROUND-WATER ELEVATION DATA
YERBA BUENA, EMERYVILLE, CALIFORNIA
(all elevations in feet above mean sea level)

Well Number	Well Elevation (surveyed prior to Nov. 1992**)	Well Elevation (surveyed in Dec. 1992 by Nolte Associates)	Well Depth (feet)	Screened Interval (feet)	Date Measured	Depth to Water	Ground-Water Elevation (based on Dec. 1992 survey data)
LF-6	18.12	18.08	19.5	9.5-19.5	23-Feb-90	7.55	10.53
					23-Apr-90	8.66	9.42
					12-Jul-91	9.90	8.18
					07-Aug-91	12.85	5.23
					17-Dec-91	14.60	3.48
					06-Jan-92	9.71	8.37
					15-Apr-92	12.24	5.84
					14-May-92	12.15	5.93
					22-Jul-92	13.30	4.78
					20-Oct-92	14.11	3.97
LF-7	37.94	37.90	22	8-18	23-Feb-90	7.21	30.69
					23-Apr-90	8.22	29.68
					22-Jul-92	10.33	27.57
					20-Oct-92	12.15	25.75
LF-8	29.70	29.63	18	7.5-17.5	23-Feb-90	6.05	23.58
					06-Jan-92	5.04	24.59
					15-Apr-92	6.51	23.12
					14-May-92	8.54	21.09
					22-Jul-92	10.19	19.44
					20-Oct-92	11.24	18.39
LF-9*	14.59	NS	15.5	5.5-15.5	23-Feb-90	2.82	11.77
					23-Apr-90	3.10	11.49
LF-10	14.09	14.03	22.5	7.5-22.5	23-Feb-90	4.09	9.94
					06-Jan-92	4.04	9.99
					15-Apr-92	5.55	8.48
					14-May-92	5.81	8.22
					22-Jul-92	6.15	7.88
					20-Oct-92	6.43	7.60
LF-11	10.06	9.99	20.5	10.5-20.5	23-Feb-90	1.88	8.11
					23-Apr-90	2.50	7.49
					15-Apr-92	2.30	7.69
					14-May-92	4.71	5.28
					28-May-92	4.94	5.05
					22-Jul-92	5.64	4.35
					20-Oct-92	6.25	3.74
LF-12	8.18	8.14	16	5.5-15.5	23-Feb-90	5.64	2.50
					23-Apr-90	6.63	1.51
					06-Jan-92	6.70	1.44
					15-Apr-92	7.41	0.73
					14-May-92	7.13	1.01
					22-Jul-92	7.48	0.66
					20-Oct-92	8.12	0.02
LF-13	9.19	9.14	20	5-20	23-Feb-90	4.10	5.04
					23-Apr-90	6.20	2.94
					06-Jan-92	4.54	4.60
					15-Apr-92	7.25	1.89
					14-May-92	6.81	2.33
					22-Jul-92	7.52	1.62
					20-Oct-92	8.25	0.89
LF-14	14.56	NS	18	5.5-15.5	23-Feb-90	6.30	8.26
					23-Apr-90	7.40	7.16
LF-16	17.56	17.47	20	5-20	23-Feb-90	5.98	11.49
					06-Jan-92	6.04	11.43
					15-Apr-92	6.40	11.07
					14-May-92	6.46	11.01

TABLE 1
WELL CONSTRUCTION AND GROUND-WATER ELEVATION DATA
YERBA BUENA, EMERYVILLE, CALIFORNIA
(all elevations in feet above mean sea level)

Well Number	Well Elevation (surveyed prior to Nov. 1992**)	Well Elevation (surveyed in Dec. 1992 by Nolte Associates)	Well Depth (feet)	Screened Interval (feet)	Date Measured	Depth to Water	Ground-Water Elevation (based on Dec. 1992 survey data)
					22-Jul-92	6.68	10.79
					20-Oct-92	7.43	10.04
LF-17	25.60	25.52	20.5	10-20	23-Apr-90	13.71	11.81
					12-Jul-91	14.62	10.90
					07-Aug-91	17.72	7.80
					17-Dec-91	18.90	6.62
					06-Jan-92	16.67	8.85
					15-Apr-92	16.03	9.49
					14-May-92	16.82	8.70
					22-Jul-92	18.12	7.40
					20-Oct-92	18.92	6.60
LF-18	28.48	28.41	20.5	10-20	23-Apr-90	15.63	12.78
					12-Jul-91	16.40	12.01
					07-Aug-91	17.73	10.68
					17-Dec-91	19.24	9.17
					06-Jan-92	16.28	12.13
					15-Apr-92	15.50	12.91
					14-May-92	16.86	11.55
					22-Jul-92	18.43	9.98
					20-Oct-92	19.83	8.58
LF-19	20.88	20.84	20.5	10-20	23-Apr-90	11.18	9.66
					12-Jul-91	11.86	8.98
					07-Aug-91	14.06	6.78
					17-Dec-91	16.19	4.65
					06-Jan-92	11.86	8.98
					15-Apr-92	12.69	8.15
					14-May-92	12.82	8.02
					22-Jul-92	14.14	6.70
					20-Oct-92	14.93	5.91
LF-19D	23.87	23.83	43	33-43	07-Aug-91	17.53	6.30
					06-Jan-92	16.94	6.89
					15-Apr-92	16.87	6.96
					14-May-92	17.40	6.43
					22-Jul-92	18.36	5.47
					20-Oct-92	19.11	4.72
LF-20	33.24	33.19	20.5	7-22	23-Apr-90	11.18	22.01
					07-Aug-91	12.67	20.52
					06-Jan-92	8.91	24.28
					15-Apr-92	8.86	24.33
					28-May-92	11.05	22.14
					22-Jul-92	13.07	20.12
					20-Oct-92	14.07	19.12
LF-21	31.68	31.70	23.5	8-23	07-Aug-91	12.57	19.13
					06-Jan-92	11.18	20.52
					15-Apr-92	8.92	22.78
					14-May-92	11.30	20.40
					22-Jul-92	14.07	17.63
					20-Oct-92	15.25	16.45
LF-22	18.02	17.99	20	10-20	12-Jul-91	9.64	8.35
					07-Aug-91	11.49	6.50
					17-Dec-91	13.62	4.37
					06-Jan-92	10.76	7.23
					15-Apr-92	11.07	6.92
					14-May-92	10.90	7.09
					22-Jul-92	12.36	5.63
					20-Oct-92	13.25	4.74

TABLE 1
WELL CONSTRUCTION AND GROUND-WATER ELEVATION DATA
YERBA BUENA, EMERYVILLE, CALIFORNIA
(all elevations in feet above mean sea level)

Well Number	Well Elevation (surveyed prior to Nov. 1992**)	Well Elevation (surveyed in Dec. 1992 by Nolte Associates)	Well Depth (feet)	Screened Interval (feet)	Date Measured	Depth to Water	Ground-Water Elevation (based on Dec. 1992 survey data)
LF-23	18.05	17.99	20	10-20	12-Jul-91	9.70	8.29
					07-Aug-91	11.97	6.02
					17-Dec-91	14.35	3.64
					06-Jan-92	10.58	7.41
					15-Apr-92	1.80	16.19
					14-May-92	11.71	6.28
					22-Jul-92	12.96	5.03
					20-Oct-92	13.92	4.07
LF-24	21.97	21.97	20	7-20	14-May-92	9.75	12.22
					28-May-92	9.86	12.11
					22-Jul-92	10.13	11.84
					20-Oct-92	10.91	11.06
LF-25	23.01	23.00	15	5-15	14-May-92	7.02	15.98
					28-May-92	7.34	15.66
					22-Jul-92	8.38	14.62
					20-Oct-92	9.11	13.89
LF-26	26.84	26.82	20	8-20	14-May-92	10.55	16.27
					28-May-92	10.87	15.95
					22-Jul-92	11.70	15.12
					20-Oct-92	12.67	14.15
LF-27	22.77	22.76	20	8-20	14-May-92	12.87	9.89
					28-May-92	13.10	9.66
					22-Jul-92	13.55	9.21
					20-Oct-92	14.40	8.36
LF-28	20.55	20.54	20	7-20	14-May-92	9.00	11.54
					28-May-92	9.02	11.52
					22-Jul-92	9.41	11.13
					20-Oct-92	10.04	10.50
LF-29	29.86	29.82	20	8-20	20-Oct-92	14.40	15.42
LF-30	17.40	17.39	20	8-20	20-Oct-92	15.70	1.69

Notes:

* Well abandoned on June 18, 1991.
** Wells were surveyed by Moran Engineering of Berkeley, California and and Nolte Associates of San Jose, California prior to November 1992.
NS = Not surveyed

TABLE 2
GROUND-WATER QUALITY DATA SUMMARY
CHEMICAL COMPOUNDS DETECTED IN SHALLOW GROUND WATER
AREA A AND VICINITY
EMERYVILLE, CALIFORNIA
YERBA BUENA PROJECT SITE
(concentrations in parts per million)

Sample Location	Date Sampled	1,1-DCE	1,1-DCA	1,2-DCE	TCE	1,1,1-TCA	PCE	Oil	Diesel
LF-3	06-Feb-90	ND	ND	ND	ND	ND	ND	NA	NA
	07-Jan-92	ND	ND	ND	ND	ND	ND	ND	ND
	23-Jul-92	ND	ND	ND	ND	ND	ND	NA	NA
LF-4	07-Feb-90	0.49	0.008	ND	ND	0.082	ND	NA	NA
	06-Jan-92	0.43	0.006	ND (1)	ND (1)	0.078	ND (1)	ND	ND
	duplicate	0.41	0.004	ND (1)	ND (1)	0.075	ND (1)	ND	ND
	15-Apr-92	0.25	ND	ND	ND	0.025	ND	NA	NA
	24-Jul-92	0.22	ND	ND	ND	0.024	ND	0.042	ND
	21-Oct-92	0.19	ND	ND	ND	0.02	ND	NA	NA
LF-4D	25-Apr-90	0.43	0.007	ND	ND	0.087	ND	NA	NA
	06-Jan-92	0.39	0.006	ND (2)	ND (2)	0.074	ND (2)	NA	NA
	16-Apr-92	0.16	ND	ND	ND	0.020	ND	NA	NA
	23-Jul-92	0.15	ND	ND	ND	0.018	ND	NA	NA
	21-Oct-92	0.15	ND	ND	ND	0.013	ND	NA	NA
LF-4Z	21-Nov-90	ND	ND	ND	ND	ND	ND	NA	NA
	06-Jan-92	ND	ND	ND	ND	ND	ND	NA	NA
	16-Apr-92	ND	ND	ND	ND	ND	ND	NA	NA
	23-Jul-92	ND	ND	ND	ND	ND	ND	NA	NA
	21-Oct-92	ND	ND	ND	ND	ND	ND	NA	NA
LF-5	06-Feb-90	0.73	0.014	ND	ND	0.27	ND	ND	ND
	06-Jan-92	0.88	0.011	ND (3)	ND (3)	0.010	ND (3)	ND	ND
	16-Apr-92	0.44	ND	ND	ND	0.10	ND	NA	NA
	23-Jul-92	0.47	ND	ND	ND	0.08	ND	0.0058	ND
	21-Oct-92	0.39	ND	ND	ND	0.042	ND	NA	NA
LF-5D	26-Apr-90	ND	ND	ND	ND	ND	ND	NA	NA
	29-Nov-90	ND	ND	ND	ND	ND	ND	NA	NA
	06-Jan-92	ND	ND	ND	ND	ND	ND	NA	NA
	16-Apr-92	ND	ND	ND	ND	ND	ND	NA	NA
	23-Jul-92	ND	ND	ND	ND	ND	ND	NA	NA
	21-Oct-92	ND	ND	ND	ND	ND	ND	NA	NA
LF-6	07-Feb-90	ND	0.018	ND	ND	ND	ND	ND	ND
	duplicate	ND	0.018	ND	ND	ND	ND	ND	NA
	29-Nov-90	ND	ND	ND	ND	ND	ND	NA	NA
	07-Jan-92	0.0048	0.011	0.0005	0.0026	0.0044	0.018	NA	NA
	15-Apr-92	0.004	0.0032	0.0025	0.0026	0.001	0.0065	NA	NA
	23-Jul-92 (8)	0.0082	0.0033	0.0094	0.0071	0.0014	0.0094	NA	NA
	20-Oct-92 (8)	0.0051	0.0026	0.016	0.0046	0.0015	0.0025	NA	NA
LF-17	25-Apr-90	0.009	0.001	ND	ND	0.003	ND	NA	NA
	duplicate	ND	ND	ND	ND	ND	ND	NA	NA
	07-Jan-92	0.490	0.012	ND (2)	ND (2)	0.092	ND (2)	NA	NA
	16-Apr-92	0.350	ND	ND	ND	0.047	ND	NA	NA
	duplicate	0.360	ND	ND	ND	0.049	ND	NA	NA
	24-Jul-92	0.320	ND	ND	ND	0.035	ND	NA	NA
	duplicate	0.460	ND	ND	ND	0.053	ND	NA	NA
	21-Oct-92	0.380	ND	ND	ND	0.04	ND	NA	NA
	duplicate	0.320	ND	ND	ND	0.033	ND	NA	NA
LF-18	25-Apr-90	0.003	ND	ND	ND	ND	ND	NA	NA
	07-Jan-92	0.0013	ND	ND	ND	ND	ND	NA	NA
	16-Apr-92	0.0017	ND	ND	ND	ND	ND	NA	NA
	23-Jul-92	ND	ND	ND	ND	ND	ND	NA	NA
	21-Oct-92	ND	ND	ND	ND	ND	ND	NA	NA
LF-19	25-Apr-90	0.15	0.006	ND	ND	0.034	ND	NA	NA
	06-Jan-92	0.100	0.0087	ND	ND	0.018	ND	ND	0.120
	15-Apr-92	0.064	0.0028	ND	ND	0.008	ND	NA	NA

TABLE 2
GROUND-WATER QUALITY DATA SUMMARY
CHEMICAL COMPOUNDS DETECTED IN SHALLOW GROUND WATER
AREA A AND VICINITY
EMERYVILLE, CALIFORNIA
YERBA BUENA PROJECT SITE
(concentrations in parts per million)

Sample Location	Date Sampled		1,1-DCE	1,1-DCA	1,2-DCE	TCE	1,1,1-TCA	PCE	Oil	Diesel
	24-Jul-92		0.032	0.0032	ND	ND	0.0039	ND	0.200	ND
	20-Oct-92	(7)	0.0052	0.003	ND	ND	0.0011	ND	NA	NA
LF-19D	12-Jul-91		ND	ND	ND	ND	ND	ND	NA	NA
	06-Jan-92		ND	ND	ND	ND	ND	ND	ND	ND
	15-Apr-92		ND	ND	ND	ND	ND	ND	NA	NA
	23-Jul-92		ND	0.0007	ND	ND	ND	ND	NA	NA
	20-Oct-92		ND	ND	ND	ND	ND	ND	NA	NA
LF-20	26-Apr-90		ND	ND	ND	ND	ND	ND	NA	NA
	duplicate		ND	ND	ND	ND	ND	ND	NA	NA
	07-Jan-92		ND	ND	ND	ND	ND	ND	NA	NA
	16-Apr-92		ND	ND	ND	ND	ND	ND	NA	NA
	24-Jul-92		ND	ND	ND	ND	ND	ND	NA	NA
	21-Oct-92		ND	ND	ND	ND	ND	ND	NA	NA
LF-21	29-Nov-90		ND	ND	ND	ND	ND	ND	NA	NA
	07-Jan-92		ND	ND	ND	ND	ND	ND	NA	NA
	16-Apr-92		ND	ND	ND	ND	ND	ND	NA	NA
	24-Jul-92		ND	ND	ND	ND	ND	ND		
	21-Oct-92		ND	ND	ND	ND	ND	ND	NA	NA
LF-22	12-Jul-91		0.053	0.0063	0.0016	0.0007	0.012	0.0017	NA	NA
	07-Jan-92		0.041	0.0054	0.0011	ND	0.009	0.0037	NA	NA
	16-Apr-92		0.015	0.0021	ND	ND	0.0026	0.0018	NA	NA
	23-Jul-92	(6)	0.027	0.0052	ND	ND	0.0034	0.0014	NA	NA
	20-Oct-92		0.014	0.004	ND	0.00078	0.0013	0.00066	NA	NA
LF-23	12-Jul-91		0.0012	0.011	0.0009	0.0039	0.0009	0.027	NA	NA
	07-Jan-92		0.0034	0.012	0.0013	0.007	0.0023	0.056	NA	NA
	16-Apr-92		0.0044	0.0044	0.0011	0.0036	0.00068	0.020	NA	NA
	23-Jul-92		0.0061	0.0044	0.0014	0.0038	0.0013	0.029	NA	NA
	20-Oct-92		0.0047	0.002	0.0015	0.0033	0.00054	0.023	NA	NA
LF-30	22-Oct-92		0.00079	0.0058	0.0015	0.00065	0.001	ND	NA	NA
	duplicate		0.00081	0.0053	0.0013	0.00051	0.00056	ND	NA	NA
Field Blanks:										
LF1-7503	05-Feb-90		ND	ND	ND	ND	ND	ND	NA	NA
LF-4FB	06-Jan-92		ND	ND	ND	ND	ND	ND	ND	ND
LF-17FB (4)	16-Apr-92		ND	ND	ND	ND	ND	ND	NA	NA
LF-17FB	24-Jul-92		ND	ND	ND	ND	ND	ND	NA	NA
LF-17-BB	20-Oct-92	(9)	ND	ND	ND	ND	ND	ND	NA	NA
Detection Limit:			0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.05	0.05

Data entered by MEK/11 Jan 93. Data proofed by MEK/11 Na 93. QA/QC by WEM/12 Jan 93.

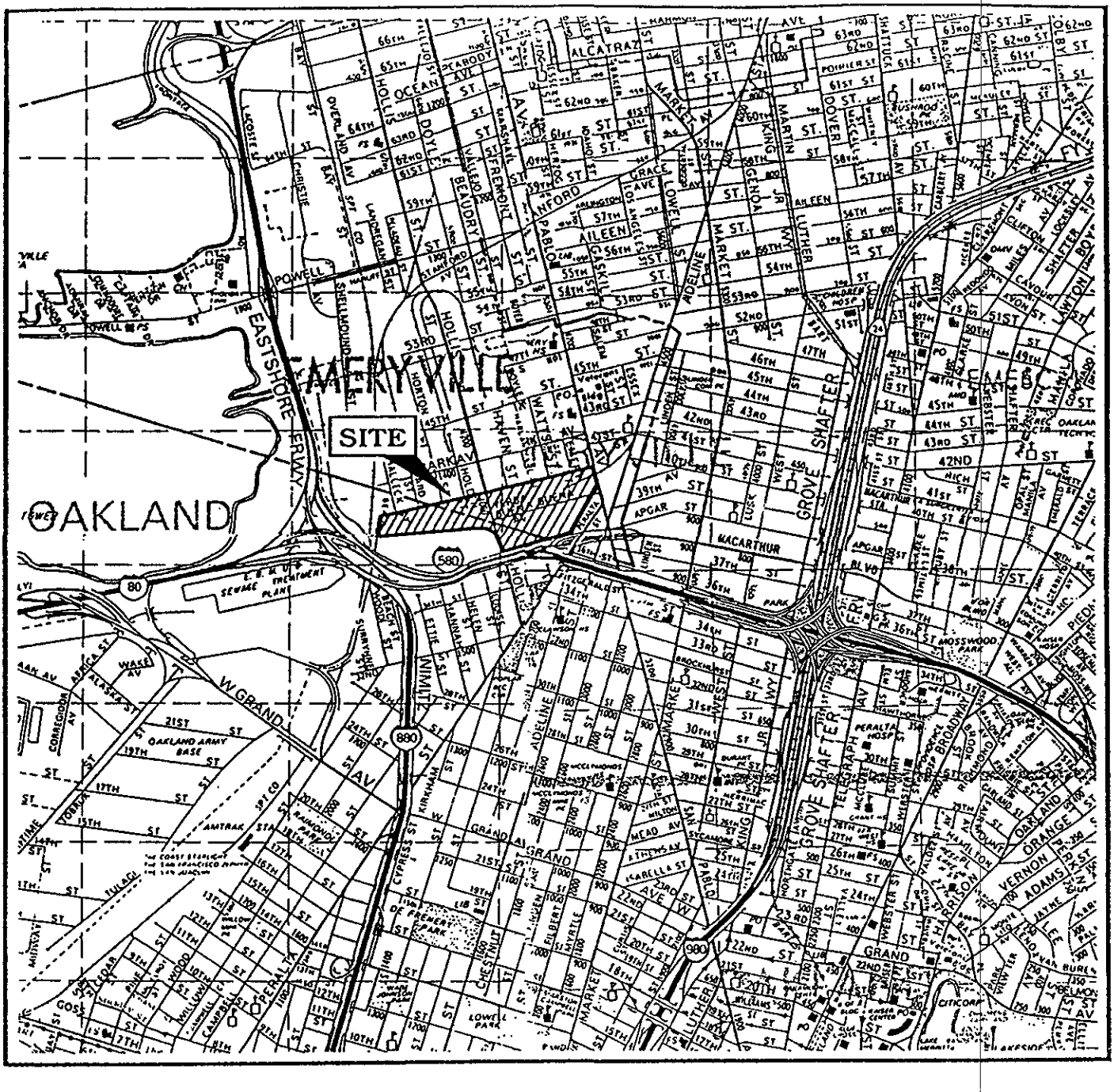
Notes for Table 2:

NA - not analyzed
ND - not detected

(1) Detection limit 0.003 ppm.
(2) Detection limit 0.002 ppm.
(3) Detection limit 0.005 ppm.
(4) 0.0011 ppm methylene chloride detected; methylene chloride is a common laboratory contaminant.
(5) 0.0015 ppm vinyl chloride detected.
(6) 0.00081 ppm vinyl chloride detected.
(7) 0.0012 ppm vinyl chloride detected.
(8) 0.0023 ppm vinyl chloride detected.
(9) 0.0016 ppm methylene chloride (a common laboratory contaminant) detected within normal laboratory background concentrations.

Key to abbreviations:

1,1-DCE - 1,1-Dichloroethene
1,1-DCA - 1,1-Dichloroethane
1,2-DCE - 1,2-Dichloroethene
TCE - Trichloroethene
1,1,1-TCA - 1,1,1-Trichloroethane
PCE - Tetrachloroethene



MAP SOURCE:
Alameda & Contra Costa Counties,
Thomas Bros. map, 1990 Edition

N

0 1/2 1 MILE

Figure 1 : SITE LOCATION MAP
YERBA BUENA PROJECT SITE

Project No. 1649

LEVINE • FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

1649ALS-SITE91-nyz

APPENDIX A

PROCEDURES USED DURING INSTALLATION AND DEVELOPMENT OF MONITORING WELL LF-30

PROCEDURES USED DURING INSTALLATION AND DEVELOPMENT OF MONITORING WELL LF-30

DRILLING

On October 14, 1992, Spectrum Exploration Inc., of Stockton, California, a licensed well-drilling contractor, drilled one soil boring under the direction of a Levine·Fricke geologist. The soil boring was drilled using a truck-mounted drill rig equipped with nominal 8-inch-inside-diameter hollow-stem augers to a depth of 20 feet below ground surface (bgs).

During drilling, soil samples were collected for lithologic description by pushing a modified California split-spoon sampler ahead of the auger into undisturbed soil. Soil cores were described using the Unified Soil Classification System and recorded on a lithologic log (Appendix B). A field organic vapor meter (OVM) was used to help select samples for possible chemical analyses. Based on low or nondetect OVM measurements recorded in the field, no soil samples were submitted for chemical analyses. OVM measurements are presented on the lithologic log for the well (Appendix B).

All drilling and sampling equipment was steam cleaned or washed using a laboratory-grade detergent before use at each sampling location. Soil cuttings from the borehole were stockpiled adjacent to an existing on-site stockpile.

WELL INSTALLATION

Shallow ground-water monitoring well LF-30 was installed in the completed boring by inserting 4-inch-diameter, flush-threaded, solid and slotted well casing through the hollow-stem auger to the bottom of the boring. The well was installed to a depth of 20 feet bgs. The screened interval extends from 8 feet bgs to 20 feet bgs. Ground water was first encountered in the soil boring at 17 feet bgs.

A filter pack consisting of Number 2/12 sand was poured into the annular space between the hollow-stem auger and the slotted polyvinyl chloride (PVC) well casing as the auger was gradually removed from the borehole. The filter pack was installed to approximately 2 feet above the top of the slotted casing. A 1-foot-thick layer of bentonite was placed on top of the filter pack and the remainder of the annular space was sealed with neat cement grout containing approximately 3 percent bentonite. At the ground surface, a flush mount 10-

inch diameter locking traffic-rated protective cover was installed to ensure well integrity. Well construction details are presented on the lithologic log presented in Appendix B.

On October 21, 1992, the elevation of the top of the PVC casing for well LF-30 was surveyed to the nearest 0.01 foot relative to a known reference point by Nolte Associates of Walnut Creek and San Jose, California, a licensed surveyor.

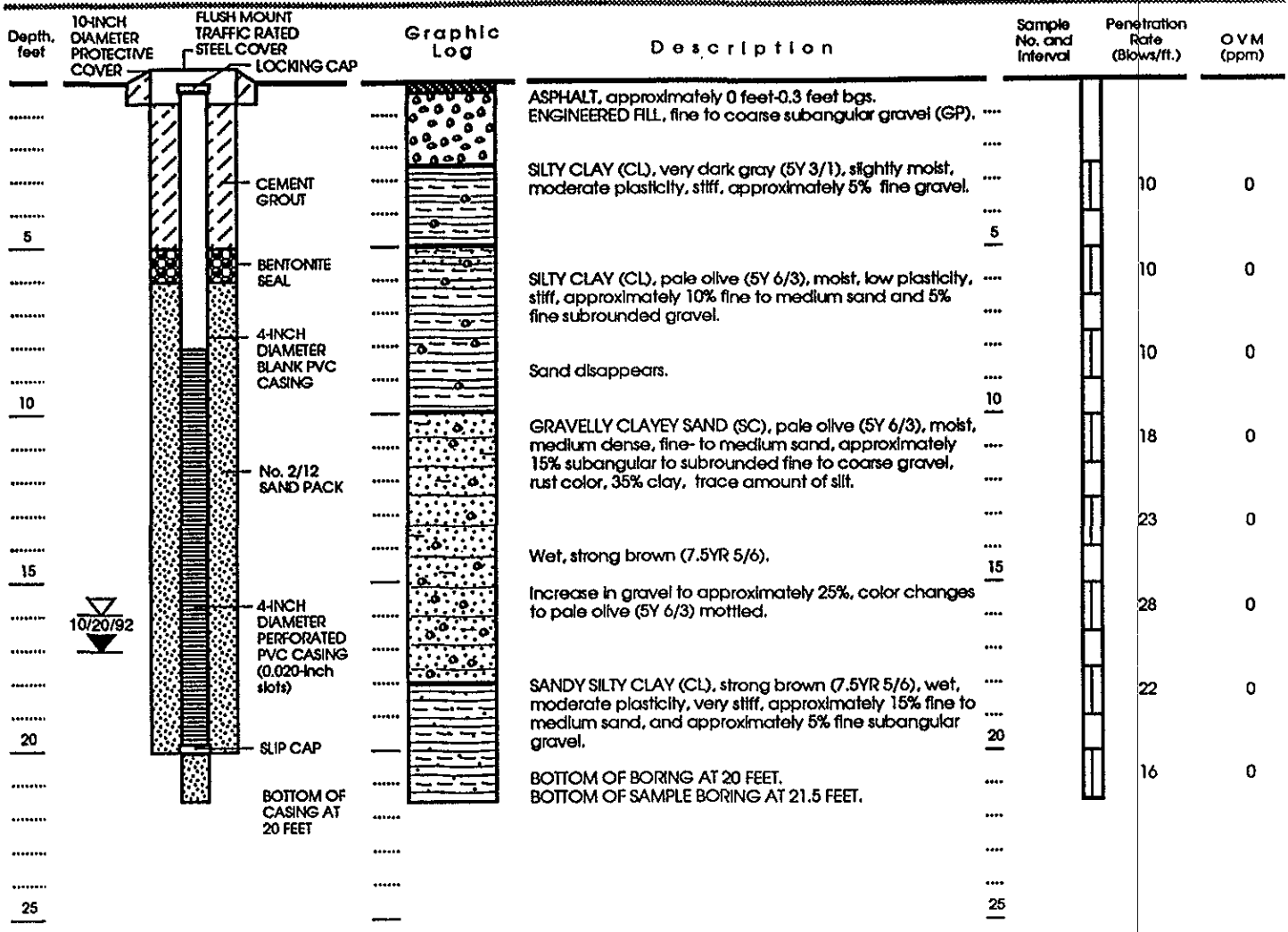
WELL DEVELOPMENT

On October 22, 1992, newly installed well LF-30 was developed to remove fine particles near the slotted casing and improve hydraulic communication between the slotted casing and the surrounding formation.

The well was developed by purging approximately 12 well casing volumes of water from the well using a centrifugal pump and clean hose. The well was purged until indicator parameters (specific conductance, pH, and temperature) had stabilized, thereby indicating complete removal of static water from the well. During purging, indicator parameters were recorded on water-quality sampling sheets, copies of which are included in Appendix C. Ground-water samples were collected from well LF-30 using the procedures described in Appendix C.

APPENDIX B

LITHOLOGIC WELL LOG AND WELL CONSTRUCTION DATA FOR MONITORING WELL LF-30



EXPLANATION

- Clay
- Silt
- Sand
- Gravel

Well Permit No.: 92504
Date well drilled: October 14, 1992
Date water level measured: October 20, 1992
Hammer weight: 140 lbs.
LF Geologist: William Madison

- Split Spoon Sampler
- Initial water level in augers during drilling
- Static water level

Approved by: Richard Isaacs R6 # 5706

Figure : WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-30

Project No. 1649.06

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

WEM24NOV92MP

APPENDIX C

GROUND-WATER SAMPLING PROCEDURES

GROUND-WATER SAMPLING PROCEDURES AND WATER-QUALITY SAMPLING SHEETS

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 ground-water were then purged from each well using a submersible or centrifugal pump 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 was steam cleaned before use at each well.

After the well had been purged, ground-water 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 ground water 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.

Ground-water samples were submitted to Anametrix, a state-certified laboratory, under strict chain-of-custody protocol. For quality assurance/quality control measures, field blanks were collected for wells LF-17 and LF-23 and duplicate samples were collected from wells LF-17, LF-19, and LF-30. All ground-water samples, including the field blank sample collected for LF-17 and the duplicate samples collected from wells LF-17 and LF-30 (labelled LF-117 and LF-130, respectively) were analyzed for VOCs using EPA Method 8010. The remaining duplicate and field blank were submitted to the analytical laboratory on a hold basis, pending the analysis of the remaining ground-water samples. Laboratory certificates are included in Appendix E.

APPENDIX D

WATER-QUALITY SAMPLING SHEETS

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WATER-QUALITY SAMPLING INFORMATION

Project Name Yerba Buena — Project No. 1649.02

Date 10.21.92 — Sample No. LF.4

Samplers Name SCH JCK

Sampling Location S'ville

Sampling Method Cent. pump / Teflon bailer

Analyses Requested 8010

Number and Types of Sample Bottles used 3 VOA / HCl

Method of Shipment Courier

GROUND WATER

Well No. LF.4

Well Diameter (in.) 4

Depth to Water, Static (ft) 16.48

Water in Well Box

Well Depth (ft) 20.71

Height of Water Column in Well 4.23

Water Volume in Well 2.75 ≈ 3

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently ?

Other

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

20.71
16.48
4.23
65
2115
25380
2.75

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
501 0955								start
0957		3	21.4	6.74	863			Sl. turbid
0958		6	21.4	6.76	861			V. sl. turbid
1001		13	21.2	6.73	864			Clear / off
1005								sample LF.4

Suggested Method for Purging Well

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Yerba Buena — Project No.: 1649.02

Date: 10-21-92 — Sample No.: LF-4D

Samplers Name: SCH JCK

Sampling Location: E'ville

Sampling Method: Sub. pump / Teflon bail

Analyses Requested: 8010

Number and Types of Sample Bottles used: 3 VOA/HCl

Method of Shipment: courier

GROUND WATER

Well No.: LF-4D

Well Diameter (in.): 4

Depth to Water, Static (ft): 16.76

Water in Well Box: _____

Well Depth (ft): 39.74

Height of Water Column in Well: 22.98

Water Volume in Well: 14.94 ≈ 15

SURFACE WATER

Stream Width: _____

Stream Depth: _____

Stream Velocity: _____

Rained recently ?: _____

Other: _____

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

39.74
16.76
22.98
65
1490
137880
14.94

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
516 1019								Start
531 1021		15	20.5	6.69	881			Mod. turbid
546 1023		30	20.3	6.70	878			Sl. turbid
561 1027		45	20.4	6.70	879			clear/stop
1050								sample LF-4D
1054	17.00							

Suggested Method for Purging Well: _____

LEVINE • FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Yerba Buena — Project No. 1649.02

Date 10.21.92 — Sample No. LF-4Z

Samplers Name SCH JCK

Sampling Location Emville

Sampling Method Sub. pump / Teflon baiter

Analyses Requested 8010

Number and Types of Sample Bottles used 3 VOA/HCl

Method of Shipment Courier

62.99
14.44
48.55
65
24275
291300
31.56

GROUND WATER

Well No. LF-4Z

Well Diameter (in.) 4

Depth to Water, Static (ft) 14.44

Water in Well Box

Well Depth (ft) 62.99

Height of Water Column in Well 48.55

Water Volume in Well 31.56 ≈ 32

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently ?

Other

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1030								Start
1033		32	20.3	6.83	621			Clear
1037	Inlet	64	20.0	6.84	614			Sl. turbid
1043	↓	96	20.0	6.86	614			Clear / off
1100								Sample LF-4Z
1101	24.45							

Suggested Method for Purging Well

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Yerba Buena — Project No. 1649.02

Date 10.21.92 — Sample No. LF·5

Samplers Name SCH JCK

Sampling Location E'ville

Sampling Method Cent. pump / Teflon bailer

Analyses Requested 8010

Number and Types of Sample Bottles used 3 VOA / HCl

Method of Shipment Courier

24.74
15.62
9.12
65
4560
54720
5.93

LOCATION MAP

GROUND WATER

Well No. LF·5

Well Diameter (in.) _____

Depth to Water, Static (ft) 15.62

Water in Well Box _____

Well Depth (ft) 24.74

Height of Water Column in Well 9.12

Water Volume in Well 5.93 ÷ 6

SURFACE WATER

Stream Width _____

Stream Depth _____

Stream Velocity _____

Rained recently? _____

Other _____

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
0848								~~Start~~ pH Calibrated
0851								Start
0854		6	21.7	6.70	796			Sl. turbid
0856		12	21.4	6.67	854			" /off. Dry
0924	20.88							Start
0926		18	21.4	6.74	843			Mod. turbid/off/dry
0930								Sample LF·5
0937	22.96							

4560

4495

Suggested Method for Purging Well _____

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Yerba Buena — Project No. 1649.02

Date 10-21-92 — Sample No. LF-SD

Samplers Name SCH JCK

Sampling Location E'ville

Sampling Method Sub. pump / Teflon bailer

Analyses Requested 8010

Number and Types of Sample Bottles used 3 VOA / HCl

Method of Shipment Courier

GROUND WATER

Well No. LF-SD

Well Diameter (in.) 4

Depth to Water, Static (ft) 12.40

Water in Well Box

Well Depth (ft) 44.57

Height of Water Column in Well 32.17

Water Volume in Well 20.91 ≈ 21

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently ?

Other

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

44.57
12.40
32.17
65
16 085
193.020
2091

80% recovery =
.2 × 32.17 + 12.40
6.44
→ 18.84

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
0913								Start
0915		21	21.3	6.97	640			Clear
0917		27						Off/dewatered
1109	23.93							
1115								Sample LF-SD

Suggested Method for Purging Well

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Yerba Buena — Project No. 1649.02

Date 10-20-92 — Sample No. LF-6

Samplers Name SCH

Sampling Location Emeryville

Sampling Method Cent. pump / Teflon bailer

Analyses Requested 8010

Number and Types of Sample Bottles used 3 VOA / HCl

Method of Shipment Couriers

GROUND WATER

Well No. LF-6

Well Diameter (in.) 4

Depth to Water, Static (ft) 14.11

Water in Well Box

Well Depth (ft) 19.98

Height of Water Column in Well 5.87

Water Volume in Well 3.82 ≈ 4

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently?

Other

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

19.98
14.11
5.87
65
2935
35220
3.82

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1455								Start
1457		4	20.9	6.74	1312			Clear
1458		6						Stp/Dry
		Recharge	0.32 ft/min (16.2' → 15.88')					
1511								Start
1513		8	21.6	6.75	1295			Sl. turbid
1515		12	22.3	6.78	1333			Clear / Stp
1525								Sample LF-6
1528	15.12							

Suggested Method for Purging Well

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name YERBA BUENA

Project No. 1649.02

Date 10/21/92

Sample No. LF-17
LF-17-BB
LF-117

Samplers Name JCK

Sampling Location LF-17

Sampling Method HAND BAIL / TEFLON BAILER

Analyses Requested EPA 8010 /

Number and Types of Sample Bottles used 9 VOA

Method of Shipment COURIER

21.54
18.92
2.62
.65
1310
1572
17030

LOCATION MAP

GROUND WATER

Well No. LF-17

Well Diameter (in.) 4

Depth to Water, Static (ft) 18.92

Water in Well Box NO

Well Depth (ft) 21.54

Height of Water Column in Well 2.62

Water Volume in Well 1.70

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently ?

Other

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
13:32								START
13:35		1.75	20.3	6.67	996			CLEAR
13:40		3.50	20.0	6.71	953			SLIGHTLY TURBID
13:46		5.25	19.9	6.73	948			
13:50								
13:30								FB
15:50								SAMPLE
15:50								DUPLICATE
1400	19.37							

1 1/2

Suggested Method for Purging Well

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Yerba Buena — Project No.: 1649.02

Date: 10.21.97 — Sample No.: LF·18

Samplers Name: SCH JCK

Sampling Location: E'ville

Sampling Method: Hand Bail / Teflon bailer

Analyses Requested: 8010

Number and Types of Sample Bottles used: 3 VOA / HCl

Method of Shipment: Courier

GROUND WATER

Well No.: LF·18

Well Diameter (in.): 4

Depth to Water, Static (ft): 19.86

Water in Well Box: no

Well Depth (ft): 22.16

Height of Water Column in Well: 2.30

Water Volume in Well: 1.49 ≈ 1.5

SURFACE WATER

Stream Width: ~~X~~

Stream Depth: ~~X~~

Stream Velocity: ~~X~~

Rained recently ?: ~~X~~

Other: ~~X~~

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

22.16
19.86
2.30
65
1150
13800
1.49

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1311								start bailing
1314		1.5	20.9	6.67	948			Clear
1323		2.5	20.2	6.71	899			Clear/dewatered
1519	21.76							
1520								Sample LF·18

Suggested Method for Purging Well: _____

LEVINE • FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Yuba Buena — Project No.: 1649.02

Date: 10-20-92 — Sample No.: LF·19, LF·119

Samplers Name: SCH

Sampling Location: Emeryville

Sampling Method: Cent. pump / Teflon bailer

Analyses Requested: 8010

Number and Types of Sample Bottles used: 3 VOA / HCl

Method of Shipment: Courier

GROUND WATER

Well No.: LF·19

Well Diameter (in.): 4

Depth to Water, Static (ft): 14.93

Water in Well Box:

Well Depth (ft): 20.50

Height of Water Column in Well: 5.57

Water Volume in Well: 3.62 ≈ 4

SURFACE WATER

Stream Width:

Stream Depth:

Stream Velocity:

Rained recently ?:

Other:

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

20.50
14.93
5.57
65
2785
33420
3.62

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1536								Start
1540		4						Clear, effervescent, odor
1541		7						off/dewatered
1608								Start
1611		10	22.7	6.60	1341			Clear
1612		11						off/dewatered
1621	19.22							
1634								Start
1635		12	25.6	6.64	1521			Sl. turbid/off/dry
1640	Drained Hose →	14	25.0	6.65	1534			Clear
1645								Sample LF·19
1745								Dup LF·119
1652	18.93							

382
449

Suggested Method for Purging Well:

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Yerba Buena — Project No. 1649.02

Date 10-20-92 — Sample No. LF·19D

Samplers Name SCH

Sampling Location G'ville

Sampling Method Cent. pump/Teflon baiks

Analyses Requested 8010

Number and Types of Sample Bottles used 3 VOA/HCl

Method of Shipment Courier

45.30
19.11
26.19
65
13095
157140
17.02

LOCATION MAP

GROUND WATER

Well No. LF·19D

Well Diameter (in.) 4

Depth to Water, Static (ft) 19.11

Water in Well Box

Well Depth (ft) 45.30

Height of Water Column in Well 26.19

Water Volume in Well 17.02 ≈ 18

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently ?

Other

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft.

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1547								Start
1550		18	19.8	6.96	873			Clear, particulates
1553		36	19.6	6.97	824			" "
1556		54	19.6	6.95	813			Clear / Stop
~~1565~~								
1605								Sample LF·19D
1607	19.58							

Suggested Method for Purging Well

LEVINE • FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Yerba Buena — Project No.: 1649.02

Date: 10/21/92 — Sample No.: LF-20

Samplers Name: SCH JCK

Sampling Location: E'ville

Sampling Method: cent. pump/ Teflon bail

Analyses Requested: 8010

Number and Types of Sample Bottles used: 3 VOA/HCl

Method of Shipment: Courier

GROUND WATER

Well No.: LF-20

Well Diameter (in.): 4

Depth to Water, Static (ft): 14.05

Water in Well Box: no

Well Depth (ft): 24.85

Height of Water Column in Well: 10.80

Water Volume in Well: 7.02 ≈ 7.5

SURFACE WATER

Stream Width:

Stream Depth:

Stream Velocity:

Rained recently ?:

Other:

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

24.85
14.05
10.80
65
5400
6480
7.02

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1238								Start
1241		7.5	21.6	6.57	712			Sl. turbid
1244		15	21.7	6.46	707			"
1248		20						Stop/dewatered
1253								Start
1254		22.5	21.8	6.49	702			Mod. turbid/stop
1300								Sample LF-20
1301	19.72							

677
614.5
692

Suggested Method for Purging Well:

LEVINE • FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Yerba Buena — Project No. 1649.02

Date 10.21.92 — Sample No. LF-21

Samplers Name SCH JCK

Sampling Location E'ville

Sampling Method Cent. pump/Teflon bailer

Analyses Requested 8010

Number and Types of Sample Bottles used 3 VOA/HCl

Method of Shipment Courier

GROUND WATER

Well No. LF-21

Well Diameter (in.) _____

Depth to Water, Static (ft) 15.19

Water in Well Box _____

Well Depth (ft) 25.32

Height of Water Column in Well 10.13

Water Volume in Well 6.58 ≈ 7

SURFACE WATER

Stream Width _____

Stream Depth _____

Stream Velocity _____

Rained recently? _____

Other _____

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

25.32
15.19
10.13
65
5065
60780
65845

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1217								Start
1219		7	22.4	6.59	856			Clear
1223		14	24.9	6.57	992			Mod. turbid/off/org
1423	19.59							
1425								Sample LF-21

Suggested Method for Purging Well _____

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Yerba Buena — Project No. 1649.02

Date 10.20.92 — Sample No. LF.22

Samplers Name SCH

Sampling Location E'ville / Hollis St.

Sampling Method Hand bail / Teflon bailer

Analyses Requested 8010

Number and Types of Sample Bottles used 3 VOA / HCl

Method of Shipment Courier

GROUND WATER

Well No. LF.22

Well Diameter (in.) 4

Depth to Water, Static (ft) 13.25

Water in Well Box NO

Well Depth (ft) 19.50

Height of Water Column in Well 6.25

Water Volume in Well 4.06 ≅ 4.25

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently ?

Other

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

19.50
13.25
6.25
65
3125
37500
406

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1407								Start bailing
1411		4.25	20.1	6.89	1069			Mod. turbid
1417		8.5	~~19.3~~	6.89	~~1089~~ 1079			"
1428		11.5						Stop / not getting full bailer
1436								Start
1438		12.75	19.8	6.89	1082			Mod. turbid / stop
1440								Sample LF.22
1444	17.36							

Suggested Method for Purging Well

LEVINE-FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Yerba Buena
Project No. 1649.02
Date 10·20·92
Sample No. LF·23
LF·23·BB
Samplers Name SCH
Sampling Location E'ville / Hollis St
Sampling Method Hand bail / Teflon bailer
Analyses Requested EPA 8010
Number and Types of Sample Bottles used 6 VOA/HCl
Method of Shipment Courier

Trip20 = trip Blank

18.36
13.92
4.44
65
2220
26640
2.886

Bailer blank poured w lab-supplied water.

GROUND WATER

Well No. LF23
Well Diameter (in.) 4
Depth to Water, Static (ft) 13.92
Water in Well Box no
Well Depth (ft) 18.36
Height of Water Column in Well 4.44
Water Volume in Well 2.89 ÷ 3

SURFACE WATER

Stream Width
Stream Depth
Stream Velocity
Rained recently ?
Other

2-inch casing = 0.16 gal/ft
4-inch casing = 0.65 gal/ft
5-inch casing = 1.02 gal/ft
6-inch casing = 1.47 gal/ft

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1305	pH, Conductivity calibrated							
1320								LF-23-BB = Bailer Blank
1327								Start bailing
1326		3	19.3	6.88	867			Sl. turbid
1331		6	19.3	6.86	850			Mod. turbid
1336		8						stop / w.l. < ½ bailer Hgt
1341								Start
1344		9	19.9	6.88	847			mod. turbid / stop
1345								sample LF·23
1348	16.46							
0800								Trip20 = trip blank

Suggested Method for Purging Well

Develop + SAMPLE

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Yerba Buena
Project No. 1649.06
Date 10.22.92
Sample No. LF·30
LF·130
Samplers Name SCH JCK
Sampling Location E'ville - Hollis St.
Sampling Method Cent. pump / Teflon bailer
Analyses Requested EPA 8010
Number and Types of Sample Bottles used 6 VOA / HCl
Method of Shipment Courier

GROUND WATER

Well No. LF·30
Well Diameter (in.) 4
Depth to Water, Static (ft) 15.74
Water in Well Box NO
Well Depth (ft) 19.48
Height of Water Column in Well 3.74
Water Volume in Well 2.43 ~2.5

SURFACE WATER

Stream Width
Stream Depth
Stream Velocity
Rained recently ?
Other

2-inch casing = 0.16 gal/ft
4-inch casing = 0.65 gal/ft
5-inch casing = 1.02 gal/ft
6-inch casing = 1.47 gal/ft

19.48
15.74
3.74
65
1870
22440
2.431

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
0850								~~St~~ pH, Conductivity Calib
0901								Start
0902		5	20.5	6.69	1098			V. Turbid
0906		10	20.4	6.69	1064			" /Off/dewatered
0913	16.3							Start
0916		15	20.3	6.71	1085			Turbid
0920		20	20.7	6.74	1046			Turbid/Off/dewat
0927								Start
0931		25	20.7	6.71	1072			Turbid
0936		30	21.0	6.73	1048			Mod. turbid / stop
0945								Sample LF·30
1045								Dup. LF·130

Suggested Method for Purging Well

APPENDIX E

LABORATORY CERTIFICATES

ANAMETRIX INC
Environmental & Analytical Chemistry
Part of INCHCAPE ENVIRONMENTAL

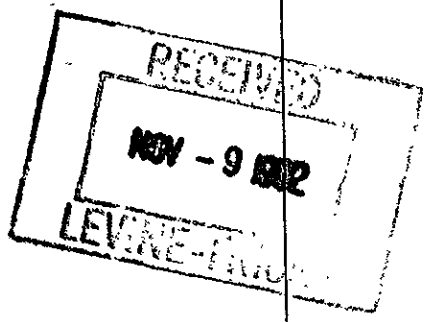
REPORT

MS. JENIFER BEATTY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9210371
Date Received : 10/22/92
Project ID : 1649.02
Purchase Order: N/A

The following samples were received at Anametrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9210371- 1	LF-23-BB
9210371- 2	LF-23
9210371- 3	TRIP20
9210371- 4	LF-22
9210371- 5	LF-6
9210371- 6	LF-19D
9210371- 7	LF-19
9210371- 8	LF-119
9210371- 9	LF-5
9210371-10	LF-4
9210371-11	LF-4D
9210371-12	LF-4Z
9210371-13	LF-20
9210371-14	LF-17-BB
9210371-15	LF-17
9210371-16	LF-117
9210371-17	LF-21
9210371-18	LF-18
9210371-19	LF-5D



This report consists of 30 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Larry Kent for

Sarah Schoen, Ph.D.
Laboratory Director

11-05-92
Date

COPY

ANAMETRIX REPORT DESCRIPTION
GC

Organic Analysis Data Sheets (OADS)

OADS forms contain tabulated results for target compounds. The OADS are grouped by method and, within each method, organized sequentially in order of increasing Anametrix ID number.

Surrogate Recovery Summary (SRS)

SRS forms contain quality assurance data. An SRS form will be printed for each method, if the method requires surrogate compounds. They will list surrogate percent recoveries for all samples and any method blanks. Any surrogate recovery outside the established limits will be flagged with an "*", and the total number of surrogates outside the limits will be listed in the column labelled "Total Out".

Matrix Spike Recovery Form (MSR)

MSR forms contain quality assurance data. They summarize percent recovery and relative percent difference information for matrix spikes and matrix spike duplicates. This information is a statement of both accuracy and precision. Any percent recovery or relative percent difference outside established limits will be flagged with an "*", and the total number outside the limits will be listed at the bottom of the page. Not all reports will contain an MSR form.

Qualifiers

Anametrix uses several data qualifiers (Q) in it's report forms. These qualifiers give additional information on the compounds reported. They should help a data reviewer to verify the integrity of the analytical results. The following is a list of qualifiers and their meanings:

- U - Indicates that the compound was analyzed for, but was not detected at or above the specified reporting limit.
- B - Indicates that the compound was detected in the associated method blank.
- J - Indicates that the compound was detected at an amount below the specified reporting limit. Consequently, the amount should be considered an approximate value. Tentatively identified compounds will always have a "J" qualifier because they are not included in the instrument calibration.
- E - Indicates that the amount reported exceeded the linear range of the instrument calibration.
- D - Indicates that the compound was detected in an analysis performed at a secondary dilution.

Absence of a qualifier indicates that the compound was detected at a concentration at or above the specified reporting limit.

REPORTING CONVENTIONS

- Due to a size limitation in our data processing step, only the first eight (8) characters of your project ID and sample ID will be printed on the report forms. However, the report cover letter and report summary pages display up to twenty (20) characters of your project and sample IDs.
- Amounts reported are gross values, i.e., not corrected for method blank contamination.

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MS. JENIFER BEATTY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9210371
Date Received : 10/22/92
Project ID : 1649.02
Purchase Order: N/A
Department : GC
Sub-Department: VOA

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9210371- 2	LF-23	WATER	10/20/92	8010
9210371- 3	TRIP20	WATER	10/20/92	8010
9210371- 4	LF-22	WATER	10/20/92	8010
9210371- 5	LF-6	WATER	10/20/92	8010
9210371- 6	LF-19D	WATER	10/20/92	8010
9210371- 7	LF-19	WATER	10/20/92	8010
9210371- 9	LF-5	WATER	10/21/92	8010
9210371-10	LF-4	WATER	10/21/92	8010
9210371-11	LF-4D	WATER	10/21/92	8010
9210371-12	LF-4Z	WATER	10/21/92	8010
9210371-13	LF-20	WATER	10/21/92	8010
9210371-14	LF-17-BB	WATER	10/21/92	8010
9210371-15	LF-17	WATER	10/21/92	8010
9210371-16	LF-117	WATER	10/21/92	8010
9210371-17	LF-21	WATER	10/21/92	8010
9210371-18	LF-18	WATER	10/21/92	8010
9210371-19	LF-5D	WATER	10/21/92	8010

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MS. JENIFER BEATTY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9210371
Date Received : 10/22/92
Project ID : 1649.02
Purchase Order: N/A
Department : GC
Sub-Department: VOA

QA/QC SUMMARY :

- The amount of methylene choride reported in sample LF-17-BB is within normal laboratory background levels.

Corinne Chan 11/4/92
Department Supervisor Date

Kamal G. Kamal 11/5/92
Chemist Date

DESCRIPTIONS FOR SPECIFIC COMPOUNDS ANALYZED

EPA METHOD 601/8010

CAS #	COMPOUND NAME	ABBREVIATED NAME
74-87-3	Chloromethane	Chloromethane
74-83-9	Bromomethane	Bromoethane
75-71-8	Dichlorodifluoromethane	Freon 12
75-01-4	Vinyl Chloride	Vinyl Chloride
75-00-3	Chloroethane	Chloroethane
75-09-2	Methylene Chloride	Methylene Chlor
75-69-4	Trichlrofluoromethane	Freon 11
75-35-4	1,1-Dichloroethene	1,1-DCE
75-34-3	1,1-Dichloroethane	1,1-DCA
156-59-2	Cis-1,2-Dichloroethene	Cis-1,2-DCE
156-60-5	Trans-1,2-Dichloroethene	Trans-1,2-DCE
67-66-3	Chloroform	Chloroform
76-13-1	Trichlorotrifluoroethane	Freon 113
107-06-2	1,2-Dichloroethane	1,2-DCA
71-55-6	1,1,1-Trichloroethane	1,1,1-TCA
56-23-5	Carbon Tetrachloride	Carbon Tet
75-27-4	Bromodichloromethane	BromodichloroMe
78-87-5	1,2-Dichloropropane	1,2-DCPA
10061-02-6	Trans-1,3-Dichloropropene	Trans-1,3-DCPE
79-01-6	Trichloroethene	TCE
124-48-1	Dibromochloromethane	DibromochloroMe
79-00-5	1,1,2-Trichloroethane	1,1,2-TCA
10061-01-5	Cis-1,3-Dichloropropene	Cis-1,3-DCPE
110-75-8	2-Chloroethylvinylether	Chloroethylvinl
75-25-2	Bromoform	Bromoform
127-18-4	Tetrachloroethene	PCE
79-34-5	1,1,2,2-Tetrachloroethane	PCA
108-90-7	Chlorobenzene	Chlorobenzene
95-50-1	1,2-Dichlorobenzene	1,2-DCB
541-73-1	1,3-Dichlorobenzene	1,3-DCB
106-46-7	1,4-Dichlorobenzene	1,4-DCB
352-33-0	p-Chlorofluorobenzene	Chlorofluoroben

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Sample ID : LF-23
Matrix : WATER
Date Sampled :10/20/92
Date Analyzed :10/29/92
Instrument ID : HP14

Anametrix ID : 9210371-02
Analyst : KK
Supervisor : CP
Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	4.7	
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	2.0	
156-59-2	Cis-1,2-DCE	.50	1.5	
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	.54	
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	3.3	
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	23.	
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Sample ID : TRIP20
Matrix : WATER
Date Sampled :10/20/92
Date Analyzed :10/29/92
Instrument ID : HP14

Anametrix ID : 9210371-03
Analyst : KK
Supervisor : CP
Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Sample ID : LF-22
Matrix : WATER
Date Sampled :10/20/92
Date Analyzed :10/29/92
Instrument ID : HP14

Anametrix ID : 9210371-04
Analyst :
Supervisor : CP KK

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	14.	
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	4.0	
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	1.3	
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	.78	
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	.66	
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Sample ID : LF-6
Matrix : WATER
Date Sampled :10/20/92
Date Analyzed :10/29/92
Instrument ID : HP14

Anametrix ID : 9210371-05
Analyst : KK
Supervisor : CP

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	2.3	
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	5.1	
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	2.6	
156-59-2	Cis-1,2-DCE	.50	16.	
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	1.5	
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	4.6	
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	2.5	
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Sample ID : LF-19D
Matrix : WATER
Date Sampled :10/20/92
Date Analyzed :10/29/92
Instrument ID : HP14

Anametrix ID : 9210371-06
Analyst :
Supervisor : CP KK

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Sample ID : LF-19
Matrix : WATER
Date Sampled :10/20/92
Date Analyzed :10/29/92
Instrument ID : HP14

Anametrix ID : 9210371-07
Analyst : [illegible]
Supervisor : [illegible]

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	1.2	
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	5.2	
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	3.0	
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	1.1	
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Sample ID : LF-5
Matrix : WATER
Date Sampled :10/21/92
Date Analyzed :11/ 2/92
Instrument ID : HP14

Anametrix ID : 9210371-09
Analyst :
Supervisor : CP KK

Dilution Factor : 20.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	20.	ND	U
74-87-3	Chloromethane	20.	ND	U
75-01-4	Vinyl Chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Freon 11	10.	ND	U
76-13-1	Freon 113	10.	ND	U
75-35-4	1,1-DCE	10.	390.	
75-09-2	Methylene Chlor	20.	ND	U
156-60-5	Trans-1,2-DCE	10.	ND	U
75-34-3	1,1-DCA	10.	ND	U
156-59-2	Cis-1,2-DCE	10.	ND	U
67-66-3	Chloroform	10.	ND	U
71-55-6	1,1,1-TCA	10.	42.	
56-23-5	Carbon Tet	10.	ND	U
107-06-2	1,2-DCA	10.	ND	U
79-01-6	Trichloroethene	10.	ND	U
78-87-5	1,2-DCPA	10.	ND	U
75-27-4	Bromodichlorome	10.	ND	U
110-75-8	Chloroethylvinl	20.	ND	U
10061-01-5	Cis-1,3-DCPE	10.	ND	U
10061-02-6	Trans-1,3-DCPE	10.	ND	U
79-00-5	1,1,2-TCA	10.	ND	U
127-18-4	PCE	10.	ND	U
124-48-1	Dibromochlorome	10.	ND	U
108-90-7	Chlorobenzene	10.	ND	U
75-25-2	Bromoform	10.	ND	U
79-34-5	1,1,2,2-PCA	10.	ND	U
541-73-1	1,3-DCB	20.	ND	U
106-46-7	1,4-DCB	20.	ND	U
95-50-1	1,2-DCB	20.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Sample ID : LF-4
Matrix : WATER
Date Sampled :10/21/92
Date Analyzed :10/30/92
Instrument ID : HP14

Anametrix ID : 9210371-10
Analyst : KC
Supervisor : JL

Dilution Factor : 5.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	5.0	ND	U
74-87-3	Chloromethane	5.0	ND	U
75-01-4	Vinyl Chloride	2.5	ND	U
74-83-9	Bromomethane	2.5	ND	U
75-00-3	Chloroethane	2.5	ND	U
75-69-4	Freon 11	2.5	ND	U
76-13-1	Freon 113	2.5	ND	U
75-35-4	1,1-DCE	2.5	190.	
75-09-2	Methylene Chlor	5.0	ND	U
156-60-5	Trans-1,2-DCE	2.5	ND	U
75-34-3	1,1-DCA	2.5	ND	U
156-59-2	Cis-1,2-DCE	2.5	ND	U
67-66-3	Chloroform	2.5	ND	U
71-55-6	1,1,1-TCA	2.5	20.	
56-23-5	Carbon Tet	2.5	ND	U
107-06-2	1,2-DCA	2.5	ND	U
79-01-6	Trichloroethene	2.5	ND	U
78-87-5	1,2-DCPA	2.5	ND	U
75-27-4	Bromodichlorome	2.5	ND	U
110-75-8	Chloroethylvinl	5.0	ND	U
10061-01-5	Cis-1,3-DCPE	2.5	ND	U
10061-02-6	Trans-1,3-DCPE	2.5	ND	U
79-00-5	1,1,2-TCA	2.5	ND	U
127-18-4	PCE	2.5	ND	U
124-48-1	Dibromochlorome	2.5	ND	U
108-90-7	Chlorobenzene	2.5	ND	U
75-25-2	Bromoform	2.5	ND	U
79-34-5	1,1,2,2-PCA	2.5	ND	U
541-73-1	1,3-DCB	5.0	ND	U
106-46-7	1,4-DCB	5.0	ND	U
95-50-1	1,2-DCB	5.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Sample ID : LF-4D
Matrix : WATER
Date Sampled :10/21/92
Date Analyzed :10/30/92
Instrument ID : HP14

Anametrix ID : 9210371-11
Analyst : KL
Supervisor : CP

Dilution Factor : 5.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	5.0	ND	U
74-87-3	Chloromethane	5.0	ND	U
75-01-4	Vinyl Chloride	2.5	ND	U
74-83-9	Bromomethane	2.5	ND	U
75-00-3	Chloroethane	2.5	ND	U
75-69-4	Freon 11	2.5	ND	U
76-13-1	Freon 113	2.5	ND	U
75-35-4	1,1-DCE	2.5	150.	
75-09-2	Methylene Chlor	5.0	ND	U
156-60-5	Trans-1,2-DCE	2.5	ND	U
75-34-3	1,1-DCA	2.5	ND	U
156-59-2	Cis-1,2-DCE	2.5	ND	U
67-66-3	Chloroform	2.5	ND	U
71-55-6	1,1,1-TCA	2.5	13.	
56-23-5	Carbon Tet	2.5	ND	U
107-06-2	1,2-DCA	2.5	ND	U
79-01-6	Trichloroethene	2.5	ND	U
78-87-5	1,2-DCPA	2.5	ND	U
75-27-4	Bromodichlorome	2.5	ND	U
110-75-8	Chloroethylvinl	5.0	ND	U
10061-01-5	Cis-1,3-DCPE	2.5	ND	U
10061-02-6	Trans-1,3-DCPE	2.5	ND	U
79-00-5	1,1,2-TCA	2.5	ND	U
127-18-4	PCE	2.5	ND	U
124-48-1	Dibromochlorome	2.5	ND	U
108-90-7	Chlorobenzene	2.5	ND	U
75-25-2	Bromoform	2.5	ND	U
79-34-5	1,1,2,2-PCA	2.5	ND	U
541-73-1	1,3-DCB	5.0	ND	U
106-46-7	1,4-DCB	5.0	ND	U
95-50-1	1,2-DCB	5.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Sample ID : LF-4Z
Matrix : WATER
Date Sampled :10/21/92
Date Analyzed :10/29/92
Instrument ID : HP14

Anametrix ID : 9210371-12
Analyst : KK
Supervisor : CP

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Sample ID : LF-20
Matrix : WATER
Date Sampled :10/21/92
Date Analyzed :10/29/92
Instrument ID : HP14

Anametrix ID : 9210371-13
Analyst :
Supervisor : CP KL

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Sample ID : LF-17-BB
Matrix : WATER
Date Sampled :10/21/92
Date Analyzed :10/30/92
Instrument ID : HP14

Anametrix ID : 9210371-14
Analyst : KK
Supervisor : CP

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	1.6	
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Sample ID : LF-17
Matrix : WATER
Date Sampled :10/21/92
Date Analyzed :10/30/92
Instrument ID : HP14

Anametrix ID : 9210371-15
Analyst : KK
Supervisor : CR

Dilution Factor : 10.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	10.	ND	U
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl Chloride	5.0	ND	U
74-83-9	Bromomethane	5.0	ND	U
75-00-3	Chloroethane	5.0	ND	U
75-69-4	Freon 11	5.0	ND	U
76-13-1	Freon 113	5.0	ND	U
75-35-4	1,1-DCE	5.0	380.	
75-09-2	Methylene Chlor	10.	ND	U
156-60-5	Trans-1,2-DCE	5.0	ND	U
75-34-3	1,1-DCA	5.0	ND	U
156-59-2	Cis-1,2-DCE	5.0	ND	U
67-66-3	Chloroform	5.0	ND	U
71-55-6	1,1,1-TCA	5.0	40.	
56-23-5	Carbon Tet	5.0	ND	U
107-06-2	1,2-DCA	5.0	ND	U
79-01-6	Trichloroethene	5.0	ND	U
78-87-5	1,2-DCPA	5.0	ND	U
75-27-4	Bromodichlorome	5.0	ND	U
110-75-8	Chloroethylvinl	10.	ND	U
10061-01-5	Cis-1,3-DCPE	5.0	ND	U
10061-02-6	Trans-1,3-DCPE	5.0	ND	U
79-00-5	1,1,2-TCA	5.0	ND	U
127-18-4	PCE	5.0	ND	U
124-48-1	Dibromochlorome	5.0	ND	U
108-90-7	Chlorobenzene	5.0	ND	U
75-25-2	Bromoform	5.0	ND	U
79-34-5	1,1,2,2-PCA	5.0	ND	U
541-73-1	1,3-DCB	10.	ND	U
106-46-7	1,4-DCB	10.	ND	U
95-50-1	1,2-DCB	10.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Sample ID : LF-117
Matrix : WATER
Date Sampled :10/21/92
Date Analyzed :10/30/92
Instrument ID : HP14

Anametrix ID : 9210371-16
Analyst :
Supervisor : KK

Dilution Factor : 10.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	10.	ND	U
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl Chloride	5.0	ND	U
74-83-9	Bromomethane	5.0	ND	U
75-00-3	Chloroethane	5.0	ND	U
75-69-4	Freon 11	5.0	ND	U
76-13-1	Freon 113	5.0	ND	U
75-35-4	1,1-DCE	5.0	320.	
75-09-2	Methylene Chlor	10.	ND	U
156-60-5	Trans-1,2-DCE	5.0	ND	U
75-34-3	1,1-DCA	5.0	ND	U
156-59-2	Cis-1,2-DCE	5.0	ND	U
67-66-3	Chloroform	5.0	ND	U
71-55-6	1,1,1-TCA	5.0	33.	
56-23-5	Carbon Tet	5.0	ND	U
107-06-2	1,2-DCA	5.0	ND	U
79-01-6	Trichloroethene	5.0	ND	U
78-87-5	1,2-DCPA	5.0	ND	U
75-27-4	Bromodichlorome	5.0	ND	U
110-75-8	Chloroethylvinl	10.	ND	U
10061-01-5	Cis-1,3-DCPE	5.0	ND	U
10061-02-6	Trans-1,3-DCPE	5.0	ND	U
79-00-5	1,1,2-TCA	5.0	ND	U
127-18-4	PCE	5.0	ND	U
124-48-1	Dibromochlorome	5.0	ND	U
108-90-7	Chlorobenzene	5.0	ND	U
75-25-2	Bromoform	5.0	ND	U
79-34-5	1,1,2,2-PCA	5.0	ND	U
541-73-1	1,3-DCB	10.	ND	U
106-46-7	1,4-DCB	10.	ND	U
95-50-1	1,2-DCB	10.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Sample ID : LF-21
Matrix : WATER
Date Sampled :10/21/92
Date Analyzed :10/30/92
Instrument ID : HP14

Anametrix ID : 9210371-17
Analyst :
Supervisor : CP KK

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Sample ID : LF-18
Matrix : WATER
Date Sampled :10/21/92
Date Analyzed :10/30/92
Instrument ID : HP14

Anametrix ID : 9210371-18
Analyst :
Supervisor : CPKK

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Sample ID : LF-5D
Matrix : WATER
Date Sampled :10/21/92
Date Analyzed :11/ 2/92
Instrument ID : HP14

Anametrix ID : 9210371-19
Analyst : KK
Supervisor : CP

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.0
Sample ID : VBLANK
Matrix : WATER
Date Sampled : 0/ 0/ 0
Date Analyzed :10/29/92
Instrument ID : HP14

Anametrix ID : 14B1029H01
Analyst : KK
Supervisor : SK

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.0
Sample ID : VBLANK
Matrix : WATER
Date Sampled : 0/ 0/ 0
Date Analyzed :10/30/92
Instrument ID : HP14

Anametrix ID : 14B1030H01
Analyst : KK
Supervisor : AL

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.0
Sample ID : VBLANK
Matrix : WATER
Date Sampled : 0/ 0/ 0
Date Analyzed :11/ 2/92
Instrument ID : HP14

Anametrix ID : 14B1102H01
Analyst : KL
Supervisor : [illegible]

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

SURROGATE RECOVERY SUMMARY -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Matrix : LIQUID

Anametrix ID : 9210371
Analyst : KK
Supervisor : M

	SAMPLE ID	SU1	SU2	SU3
1	VBLANK	87		
2	LF-23	92		
3	TRIP20	80		
4	LF-22	86		
5	LF-6	99		
6	LF-19D	79		
7	LF-19	85		
8	LF-4Z	76		
9	LF-20	78		
10	VBLANK	85		
11	LF-18	91		
12	LF-21	87		
13	LF-17	89		
14	LF-117	84		
15	LF-4	84		
16	LF-4D	84		
17	LF-17-BB	93		
18	LF-18MS	80		
19	LF-18MSD	89		
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

	QC LIMITS
SU1 = CHLOROFLUOROBEN	(51-136)

* Values outside of Anametrix QC limits

SURROGATE RECOVERY SUMMARY -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Matrix : LIQUID

Anametrix ID : 9210371
Analyst : KK
Supervisor : [signature]

	SAMPLE ID	SU1	SU2	SU3
1	VBLANK	102		
2	LF-5D	109		
3	LF-5	97		
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
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25				
26				
27				
28				
29				
30				

	QC LIMITS
SU1 = CHLOROFLUOROBEN	(51-136)

* Values outside of Anametrix QC limits

MATRIX SPIKE RECOVERY FORM -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.02
Sample ID : LF-18
Matrix : WATER
Date Sampled :10/21/92
Date Analyzed :10/30/92
Instrument ID : HP14

Anametrix ID : 9210371-18
Analyst :
Supervisor : KK

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	%REC LIMITS
Freon 113	10.0	.0	9.0	90	28-127
1,1-DCE	10.0	.0	9.6	96	47-119
Trans-1,2-DCE	10.0	.0	7.5	75	46-112
1,1-DCA	10.0	.0	9.5	95	57-124
Cis-1,2-DCE	10.0	.0	11.7	117	70-139
1,1,1-TCA	10.0	.0	8.2	82	57-125
Trichloroethene	10.0	.0	10.2	102	61-133
PCE	10.0	.0	10.0	100	61-132
Chlorobenzene	10.0	.0	11.6	116	81-120
1,3-DCB	10.0	.0	10.0	100	56-113
1,4-DCB	10.0	.0	11.9	119	62-119
1,2-DCB	10.0	.0	11.6	116	69-116

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	RPD LIMITS	%REC LIMITS
Freon 113	10.0	10.7	107	16	25	28-127
1,1-DCE	10.0	9.5	95	1	25	47-119
Trans-1,2-DCE	10.0	7.4	74	2	25	46-112
1,1-DCA	10.0	8.9	89	7	25	57-124
Cis-1,2-DCE	10.0	12.3	123	4	25	70-139
1,1,1-TCA	10.0	8.2	82	0	25	57-125
Trichloroethene	10.0	10.5	105	3	25	61-133
PCE	10.0	10.3	103	3	25	61-132
Chlorobenzene	10.0	11.6	116	0	25	81-120
1,3-DCB	10.0	9.3	93	7	25	56-113
1,4-DCB	10.0	11.2	112	6	25	62-119
1,2-DCB	10.0	11.4	114	2	25	69-116

* Value is outside of Anametrix QC limits

RPD: 0 out of 12 outside limits
Spike Recovery: 0 out of 24 outside limits

LABORATORY CONTROL SAMPLE
EPA METHOD 601/8010
ANAMETRIX, INC. (408)432-8192

Project/Case	: LABORATORY CONTROL SAMPLE	Anametrix I.D.	: WO102992
Matrix	: WATER	Analyst	: KK
SDG/Batch	: N/A	Supervisor	: [illegible]
Date analyzed	: 10/29/92	Instrument I.D.	: HP14

COMPOUND	SPIKE AMOUNT (ug/L)	AMOUNT RECOVERED (ug/L)	PERCENT RECOVERY	%RECOVERY LIMITS
FREON 113	10	11.9	119%	34 - 128
1,1-DICHLOROETHENE	10	9.7	97%	63 - 133
trans-1,2-DICHLOROETHENE	10	9.9	99%	55 - 145
1,1-DICHLOROETHANE	10	10.1	101%	49 - 121
cis-1,2-DICHLOROETHENE	10	16.4	164%	66 - 168
1,1,1-TRICHLOROETHANE	10	10.0	100%	72 - 143
TRICHLOROETHENE	10	11.9	119%	63 - 147
TETRACHLOROETHENE	10	10.6	106%	60 - 133
CHLOROBENZENE	10	11.8	118%	70 - 148
1,3-DICHLOROBENZENE	10	9.5	95%	49 - 139
1,4-DICHLOROBENZENE	10	11.0	110%	70 - 133
1,2-DICHLOROBENZENE	10	11.0	110%	69 - 140

* Limits based on data generated by Anametrix, Inc., August, 1992.

LABORATORY CONTROL SAMPLE
EPA METHOD 601/8010
ANAMETRIX, INC. (408)432-8192

Project/Case	: LABORATORY CONTROL SAMPLE	Anametrix I.D.	: WO103092
Matrix	: WATER	Analyst	: KK
SDG/Batch	: N/A	Supervisor	: PK
Date analyzed	: 10/30/92	Instrument I.D.	: HP14

COMPOUND	SPIKE AMOUNT (ug/L)	AMOUNT RECOVERED (ug/L)	PERCENT RECOVERY	%RECOVERY LIMITS
FREON 113	10	11.9	119%	34 - 128
1,1-DICHLOROETHENE	10	9.4	94%	63 - 133
trans-1,2-DICHLOROETHENE	10	7.5	75%	55 - 145
1,1-DICHLOROETHANE	10	9.4	94%	49 - 121
cis-1,2-DICHLOROETHENE	10	13.6	136%	66 - 168
1,1,1-TRICHLOROETHANE	10	8.7	87%	72 - 143
TRICHLOROETHENE	10	10.5	105%	63 - 147
TETRACHLOROETHENE	10	9.8	98%	60 - 133
CHLOROBENZENE	10	11.7	117%	70 - 148
1,3-DICHLOROBENZENE	10	9.5	95%	49 - 139
1,4-DICHLOROBENZENE	10	10.8	108%	70 - 133
1,2-DICHLOROBENZENE	10	10.8	108%	69 - 140

* Limits based on data generated by Anametrix, Inc., August, 1992.

LABORATORY CONTROL SAMPLE
EPA METHOD 601/8010
ANAMETRIX, INC. (408)432-8192

Project/Case	: LABORATORY CONTROL SAMPLE	Anametrix I.D.	: WO110292
Matrix	: WATER	Analyst	: kk
SDG/Batch	: N/A	Supervisor	:
Date analyzed	: 11/02/92	Instrument I.D.	: HP14

COMPOUND	SPIKE AMOUNT (ug/L)	AMOUNT RECOVERED (ug/L)	PERCENT RECOVERY	%RECOVERY LIMITS
FREON 113	10	5.8	58%	34 - 128
1,1-DICHLOROETHENE	10	8.9	89%	63 - 133
trans-1,2-DICHLOROETHENE	10	13.5	135%	55 - 145
1,1-DICHLOROETHANE	10	9.8	98%	49 - 121
cis-1,2-DICHLOROETHENE	10	11.6	116%	66 - 168
1,1,1-TRICHLOROETHANE	10	10.3	103%	72 - 143
TRICHLOROETHENE	10	11.6	116%	63 - 147
TETRACHLOROETHENE	10	10.1	101%	60 - 133
CHLOROBENZENE	10	11.9	119%	70 - 148
1,3-DICHLOROBENZENE	10	10.1	101%	49 - 139
1,4-DICHLOROBENZENE	10	11.7	117%	70 - 133
1,2-DICHLOROBENZENE	10	11.4	114%	69 - 140

* Limits based on data generated by Anametrix, Inc., August, 1992.

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CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 1649.02	Field Logbook No.:	Date: 10.21.92	Serial No.: 9708
Project Name: Yerba Buena	Project Location: Emeryville		
Sampler (Signature): Prescott C. Heald			Samplers: SCH JCK

	SAMPLES						ANALYSES								
	SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	EPA 8010				HOLD	RUSH	REMARKS
1	LF.23.BB	10.20.92	1320		3	H2O			X				X		Arametrix Ref. # 1648
2	LF.23	"	1345		3	"			X						
3	TRIP20	"	0800		3	"			X						Results to Jenifer Beatty
4	LF.22	"	1440		3	"			X						
5	LF.6	"	1525		3	"			X						
6	LF.19D	"	1605		3	"			X						Analysis: EPA Method 8010 for all samples
7	LF.19	"	1645		3	"			X						
8	LF.119	↓	1745		3	"			X				X		
9	LF.5	10.21.92	0930		3	"			X						Normal TAT
10	LF.4	"	1005		3	"			X						
11	LF.4D	"	1050		3	"			X						
12	LF.42	"	1100		3	"			X						
13	LF.20	"	1300		3	"			X						
14	LF.17.BB	"	1330		3	"			X						
15	LF.17	"	1350		3	"			X						
16	LF.117	↓	1650		3	↓			X						

RELINQUISHED BY: (Signature) Prescott C. Heald	DATE 10/22/92	TIME 1020	RECEIVED BY: (Signature) Benny S. Cayosa	DATE 10/22/92	TIME 1020
RELINQUISHED BY: (Signature) Benny S. Cayosa	DATE 10/22/92	TIME 1145	RECEIVED BY: (Signature) Michele D. Aguilar	DATE 10/22/92	TIME 1145
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT: Courier	DATE	TIME	LAB COMMENTS:		

Sample Collector:
LEVINE-FRICKE
1900 Powell Street, 12th Floor
Emeryville, Ca 94608
(415) 652-4500

Analytical Laboratory:
Arametrix, San Jose

9210371 16.10 MA (16) PAGE 2/2

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 1649.02	Field Logbook No.:	Date: 10.21.92	Serial No.: 9709
Project Name: Yerba Buena	Project Location: Emeryville		
Sampler (Signature): Prescott C. Heald			Samplers: SCH JCK

SAMPLES						ANALYSES								
SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	EPA 8010				HOLD	RUSH	REMARKS
(17) LF-21	10-21-92	1425		3	H_2O			X						Anametrix Ref. # 1148
(18) LF-18	↓	1520		3	↓			X						
(19) LF-5D	↓	1115		3	↓			X						Results to Jenifer Beatty
														Analysis: EPA Method 8010 for all samples
														Normal TAT

RELINQUISHED BY: (Signature) Prescott C. Heald	DATE 10/22/92	TIME 1020	RECEIVED BY: (Signature) Benny S. Cayosa	DATE 10/22/92	TIME 1020
RELINQUISHED BY: (Signature) Benny S. Cayosa	DATE 10/22/92	TIME 1145	RECEIVED BY: (Signature) Michele D. Aguilar	DATE 10/22/92	TIME 1145
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT: Courier	DATE	TIME	LAB COMMENTS:		

Sample Collector: LEVINE-FRICKE 1900 Powell Street, 12th Floor Emeryville, Ca 94608 (415) 652-4500	Analytical Laboratory: Anametrix San Jose

Shipping Copy (White) Lab Copy (Green) File Copy (Yellow) Field Copy (Pink) FORM NO. 86/COC/ARE

ANAMETRIX INC
Environmental & Analytical Chemistry

Part of INCHCAPE ENVIRONMENTAL

REPORT

MS. JENIFER BEATTY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9210370
Date Received : 10/22/92
Project ID : 1649.06
Purchase Order: N/A

The following samples were received at Anametrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9210370- 1	LF-30
9210370- 2	LF-130

This report consists of 9 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Larry Kent for
Sarah Schoen, Ph.D.
Laboratory Director

11-04-92
Date

ANAMETRIX REPORT DESCRIPTION
GC

Organic Analysis Data Sheets (OADS)

OADS forms contain tabulated results for target compounds. The OADS are grouped by method and, within each method, organized sequentially in order of increasing Anametrix ID number.

Surrogate Recovery Summary (SRS)

SRS forms contain quality assurance data. An SRS form will be printed for each method, if the method requires surrogate compounds. They will list surrogate percent recoveries for all samples and any method blanks. Any surrogate recovery outside the established limits will be flagged with an "*", and the total number of surrogates outside the limits will be listed in the column labelled "Total Out".

Matrix Spike Recovery Form (MSR)

MSR forms contain quality assurance data. They summarize percent recovery and relative percent difference information for matrix spikes and matrix spike duplicates. This information is a statement of both accuracy and precision. Any percent recovery or relative percent difference outside established limits will be flagged with an "*", and the total number outside the limits will be listed at the bottom of the page. Not all reports will contain an MSR form.

Qualifiers

Anametrix uses several data qualifiers (Q) in it's report forms. These qualifiers give additional information on the compounds reported. They should help a data reviewer to verify the integrity of the analytical results. The following is a list of qualifiers and their meanings:

- U - Indicates that the compound was analyzed for, but was not detected at or above the specified reporting limit.
- B - Indicates that the compound was detected in the associated method blank.
- J - Indicates that the compound was detected at an amount below the specified reporting limit. Consequently, the amount should be considered an approximate value. Tentatively identified compounds will always have a "J" qualifier because they are not included in the instrument calibration.
- E - Indicates that the amount reported exceeded the linear range of the instrument calibration.
- D - Indicates that the compound was detected in an analysis performed at a secondary dilution.

Absence of a qualifier indicates that the compound was detected at a concentration at or above the specified reporting limit.

REPORTING CONVENTIONS

- Due to a size limitation in our data processing step, only the first eight (8) characters of your project ID and sample ID will be printed on the report forms. However, the report cover letter and report summary pages display up to twenty (20) characters of your project and sample IDs.
- Amounts reported are gross values, i.e., not corrected for method blank contamination.

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MS. JENIFER BEATTY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9210370
Date Received : 10/22/92
Project ID : 1649.06
Purchase Order: N/A
Department : GC
Sub-Department: VOA

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9210370- 1	LF-30	WATER	10/22/92	8010
9210370- 2	LF-130	WATER	10/22/92	8010

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MS. JENIFER BEATTY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9210370
Date Received : 10/22/92
Project ID : 1649.06
Purchase Order: N/A
Department : GC
Sub-Department: VOA

QA/QC SUMMARY :

- No QA/QC problems encountered for samples.

Corinne Khan 11/4/92
Department Supervisor Date

Kamel G. Kamel 11/4/92
Chemist Date

DESCRIPTIONS FOR SPECIFIC COMPOUNDS ANALYZED
EPA METHOD 601/8010

CAS #	COMPOUND NAME	ABBREVIATED NAME
74-87-3	Chloromethane	Chloromethane
74-83-9	Bromomethane	Bromoethane
75-71-8	Dichlorodifluoromethane	Freon 12
75-01-4	Vinyl Chloride	Vinyl Chloride
75-00-3	Chloroethane	Chloroethane
75-09-2	Methylene Chloride	Methylene Chlor
75-69-4	Trichlrofluoromethane	Freon 11
75-35-4	1,1-Dichloroethene	1,1-DCE
75-34-3	1,1-Dichloroethane	1,1-DCA
156-59-2	Cis-1,2-Dichloroethene	Cis-1,2-DCE
156-60-5	Trans-1,2-Dichloroethene	Trans-1,2-DCE
67-66-3	Chloroform	Chloroform
76-13-1	Trichlorotrifluoroethane	Freon 113
107-06-2	1,2-Dichloroethane	1,2-DCA
71-55-6	1,1,1-Trichloroethane	1,1,1-TCA
56-23-5	Carbon Tetrachloride	Carbon Tet
75-27-4	Bromodichloromethane	BromodichloroMe
78-87-5	1,2-Dichloropropane	1,2-DCPA
10061-02-6	Trans-1,3-Dichloropropene	Trans-1,3-DCPE
79-01-6	Trichloroethene	TCE
124-48-1	Dibromochloromethane	DibromochloroMe
79-00-5	1,1,2-Trichloroethane	1,1,2-TCA
10061-01-5	Cis-1,3-Dichloropropene	Cis-1,3-DCPE
110-75-8	2-Chloroethylvinylether	Chloroethylvinl
75-25-2	Bromoform	Bromoform
127-18-4	Tetrachloroethene	PCE
79-34-5	1,1,2,2-Tetrachloroethane	PCA
108-90-7	Chlorobenzene	Chlorobenzene
95-50-1	1,2-Dichlorobenzene	1,2-DCB
541-73-1	1,3-Dichlorobenzene	1,3-DCB
106-46-7	1,4-Dichlorobenzene	1,4-DCB
352-33-0	p-Chlorofluorobenzene	Chlorofluoroben

mh/3426 - 10MH

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.06
Sample ID : LF-30
Matrix : WATER
Date Sampled :10/22/92
Date Analyzed :10/30/92
Instrument ID : HP14

Anametrix ID : 9210370-01
Analyst :
Supervisor : CP KK

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	.79	
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	5.8	
156-59-2	Cis-1,2-DCE	.50	1.5	
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	1.0	
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	.65	
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.06
Sample ID : LF-130
Matrix : WATER
Date Sampled :10/22/92
Date Analyzed :10/30/92
Instrument ID : HP14

Anametrix ID : 9210370-02
Analyst :
Supervisor : LP KK

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	.81	
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	5.3	
156-59-2	Cis-1,2-DCE	.50	1.3	
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	.56	
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	.51	
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.0
Sample ID : VBLANK
Matrix : WATER
Date Sampled : 0/ 0/ 0
Date Analyzed :10/30/92
Instrument ID : HP14

Anametrix ID : 14B1030H01
Analyst :
Supervisor : CP KK

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

SURROGATE RECOVERY SUMMARY -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.06
Matrix : LIQUID

Anametrix ID : 9210370
Analyst : KK
Supervisor : CP

	SAMPLE ID	SU1	SU2	SU3
1	VBLANK	85		
2	LF-30	90		
3	LF-130	94		
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
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25				
26				
27				
28				
29				
30				

	QC LIMITS
SU1 = CHLOROFLUOROBEN	(51-136)

* Values outside of Anametrix QC limits

LABORATORY CONTROL SAMPLE
EPA METHOD 601/8010
ANAMETRIX, INC. (408)432-8192

Project/Case : LABORATORY CONTROL SAMPLE
Matrix : WATER
SDG/Batch : N/A
Date analyzed : 10/30/92

Anametrix I.D. : WO103092
Analyst : KL
Supervisor : CP
Instrument I.D.: HP14

COMPOUND	SPIKE AMOUNT (ug/L)	AMOUNT RECOVERED (ug/L)	PERCENT RECOVERY	%RECOVERY LIMITS
FREON 113	10	11.9	119%	34 - 128
1,1-DICHLOROETHENE	10	9.4	94%	63 - 133
trans-1,2-DICHLOROETHENE	10	7.5	75%	55 - 145
1,1-DICHLOROETHANE	10	9.4	94%	49 - 121
cis-1,2-DICHLOROETHENE	10	13.6	136%	66 - 168
1,1,1-TRICHLOROETHANE	10	8.7	87%	72 - 143
TRICHLOROETHENE	10	10.5	105%	63 - 147
TETRACHLOROETHENE	10	9.8	98%	60 - 133
CHLOROBENZENE	10	11.7	117%	70 - 148
1,3-DICHLOROBENZENE	10	9.5	95%	49 - 139
1,4-DICHLOROBENZENE	10	10.8	108%	70 - 133
1,2-DICHLOROBENZENE	10	10.8	108%	69 - 140

* Limits based on data generated by Anametrix, Inc., August, 1992.

9210370 (116) 1650 mls

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 1649.06	Field Logbook No.:	Date: 10.22.92	Serial No.: 9710
Project Name: Yerba Buena	Project Location: Emeryville		
Sampler (Signature): Prescott C. Heald			Samplers: SCH JCK

SAMPLES						ANALYSES								
SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	EPA 8010				HOLD	RUSH	REMARKS
(1) LF.30	10.22.92	0945		3	H_2O			X						Results to Jenifer Beatty
(2) LF.130	↓	1045		3	↓			X						
														Normal TAT

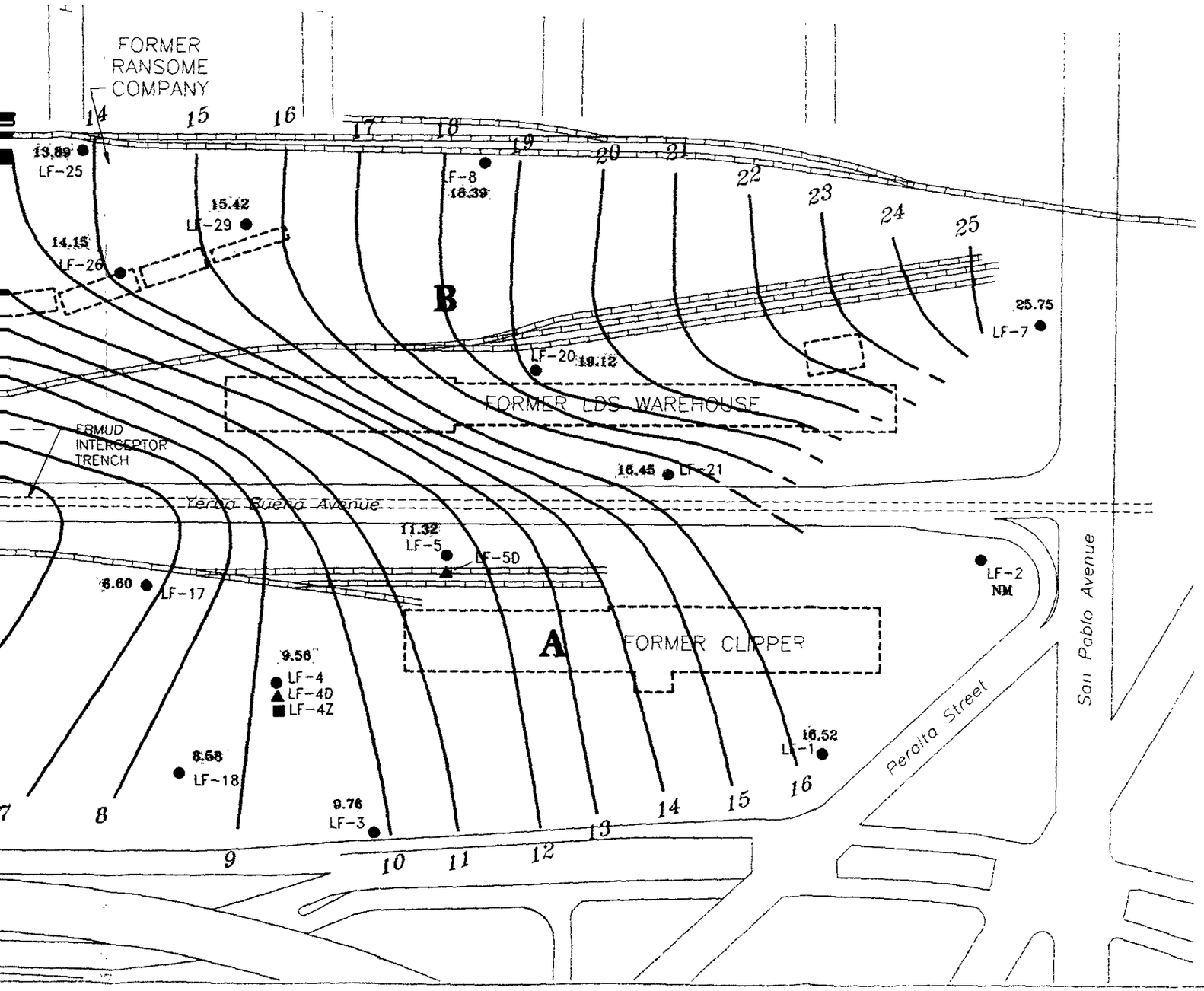
RELINQUISHED BY: (Signature) Prescott C. Heald	DATE 10.22.92	TIME 1025	RECEIVED BY: (Signature) Jenny L. Grayson	DATE 10/22/92	TIME 1025
RELINQUISHED BY: (Signature) Jenny L. Grayson	DATE 10/22/92	TIME 1145	RECEIVED BY: (Signature) Michele D Aguilar	DATE 10/22/92	TIME 1145
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT: Courier	DATE	TIME	LAB COMMENTS:		

Sample Collector:
LEVINE-FRICKE
1900 Powell Street, 12th Floor
Emeryville, Ca 94608
(415) 652-4500

Analytical Laboratory:
Aramedrix

Shipping Copy (White) Lab Copy (Green) File Copy (Yellow) Field Copy (Pink) FORM NO. 86/COC/ARE

Halleck Street
Hubbard Street
Horton Street
Holden Street
Haven Street
Hollis Street
Beach Street
FORMER RANSOME COMPANY
FORMER BASHLAND
FORMER BAY AREA WAREHOUSE
FORMER M & N WAREHOUSE
OAKLAND TERMINAL RAILWAYS
MARKSTEIN BEVERAGE COMPANY
YERBA BUENA RIGHT-OF-WAY
EBMUD INTERCEPTOR TRENCH
Yerba Buena
LF-12 0.02
LF-11 3.74
LF-10 7.60
LF-9
LF-16 10.04
LF-25 13.89
LF-24 11.06
LF-29 15.42
LF-26 14.15
LF-28 10.50
LF-27 8.36
LF-13 0.69
LF-30 1.69
LF-6 3.97
LF-17 6.60
LF-23 4.07
LF-19 5.91
LF-22 4.74
LF-19D
8.58
C
D



■ DEEPER (82 FEET) MONITORING WELL LOCATION

● ABANDONED WELL

LOCATION OF FORMER BUSINESSES

11.32 GROUND-WATER ELEVATION (FEET)

15 GROUND-WATER ELEVATION CONTOUR (FEET)

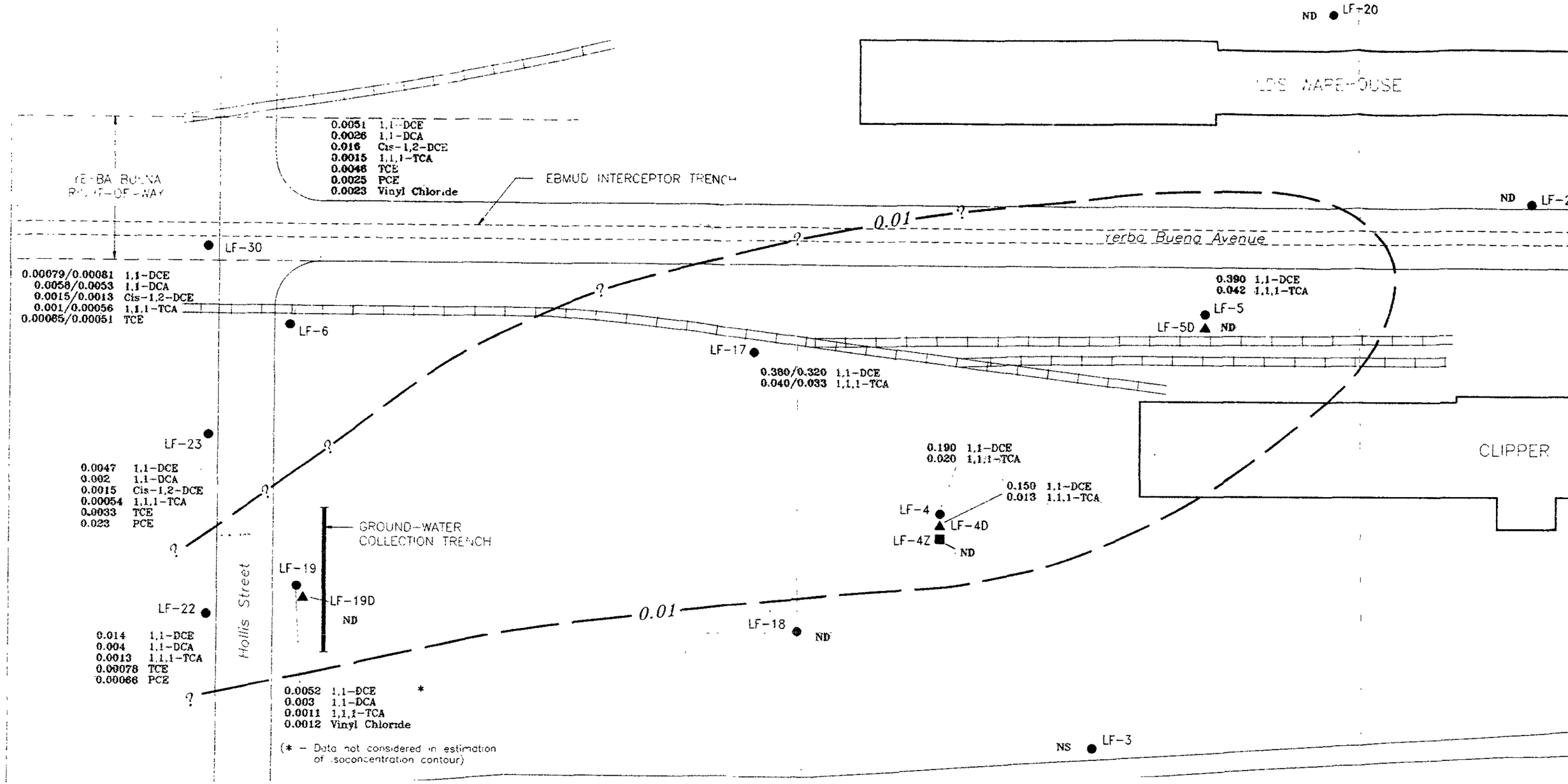
NM NOT MEASURED

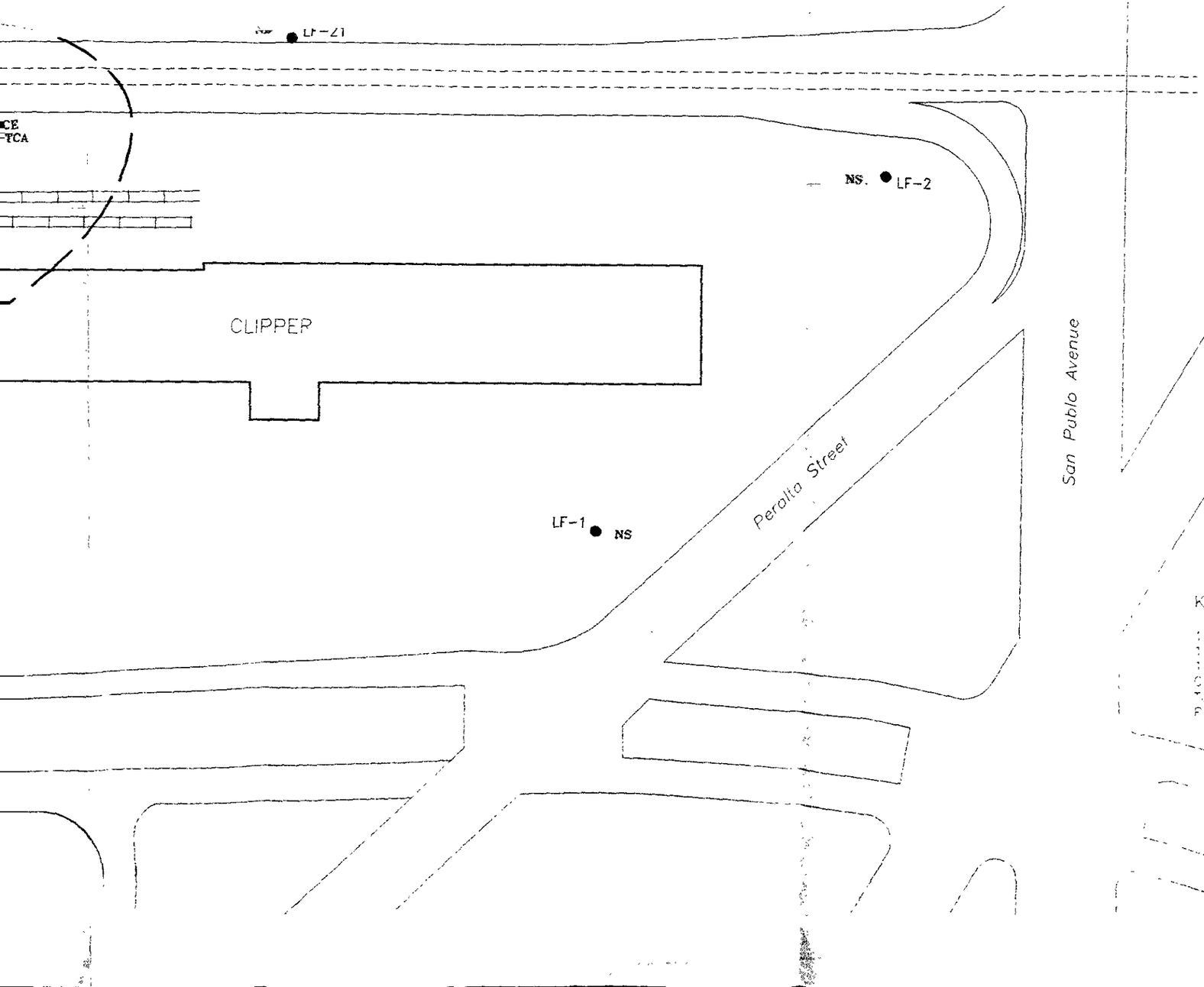
0 150 300 FEET

Figure 2 :
SHALLOW GROUND-WATER ELEVATION
CONTOUR MAP
OCTOBER 20, 1992
YERBA BUENA PROJECT SITE

Project No 1649

LEVINE-FRICKE
ENGINEERS, HYDROGEOLOGISTS, & APPLIED SCIENTISTS


LF-20
ND
LOS MAPE-OUSE
EBMUD INTERCEPTOR TRENCH
0.0051 1,1-DCE
0.0026 1,1-DCA
0.016 Cis-1,2-DCE
0.0015 1,1,1-TCA
0.0048 TCE
0.0025 PCE
0.0023 Vinyl Chloride
ND
0.01
Yerba Buena Avenue
LF-30
0.00079/0.00081 1,1-DCE
0.0058/0.0053 1,1-DCA
0.0015/0.0013 Cis-1,2-DCE
0.001/0.00056 1,1,1-TCA
0.00065/0.00051 TCE
LF-6
LF-17
0.380/0.320 1,1-DCE
0.040/0.033 1,1,1-TCA
0.390 1,1-DCE
0.042 1,1,1-TCA
LF-5
LF-5D
ND
LF-23
0.0047 1,1-DCE
0.002 1,1-DCA
0.0015 Cis-1,2-DCE
0.00054 1,1,1-TCA
0.0033 TCE
0.023 PCE
CLIPPER
0.190 1,1-DCE
0.020 1,1,1-TCA
0.150 1,1-DCE
0.013 1,1,1-TCA
LF-4
LF-4D
LF-4Z
ND
GROUND-WATER
COLLECTION TRENCH
LF-19
LF-19D
ND
Hollis Street
LF-22
0.014 1,1-DCE
0.004 1,1-DCA
0.0013 1,1,1-TCA
0.00078 TCE
0.00066 PCE
0.01
LF-18
ND
0.0052 1,1-DCE *
0.003 1,1-DCA
0.0011 1,1,1-TCA
0.0012 Vinyl Chloride
(* - Data not considered in estimation
of isoconcentration contour)
NS
LF-3



MONITORING WELL LOCATION

0.0058/0.0053 1,1-DCA

- 1,1-DCA — CHEMICAL COMPOUND
- 0.0058/0.0053 — CONCENTRATION DETECTED IN GROUND-WATER SAMPLES (PPM)
- / — DUPLICATE ANALYSIS
- ND — NOT DETECTED
- NS — NOT SAMPLED
- ISOCONCENTRATION LINE FOR 0.01 PPM 1,1-DCE, DASHED WHERE INFERRED, QUERIED WHERE UNCERTAIN

NOTES

Monitoring well samples were submitted to Anametrix, Inc. for volatile organic compounds analysis using EPA Method 8010

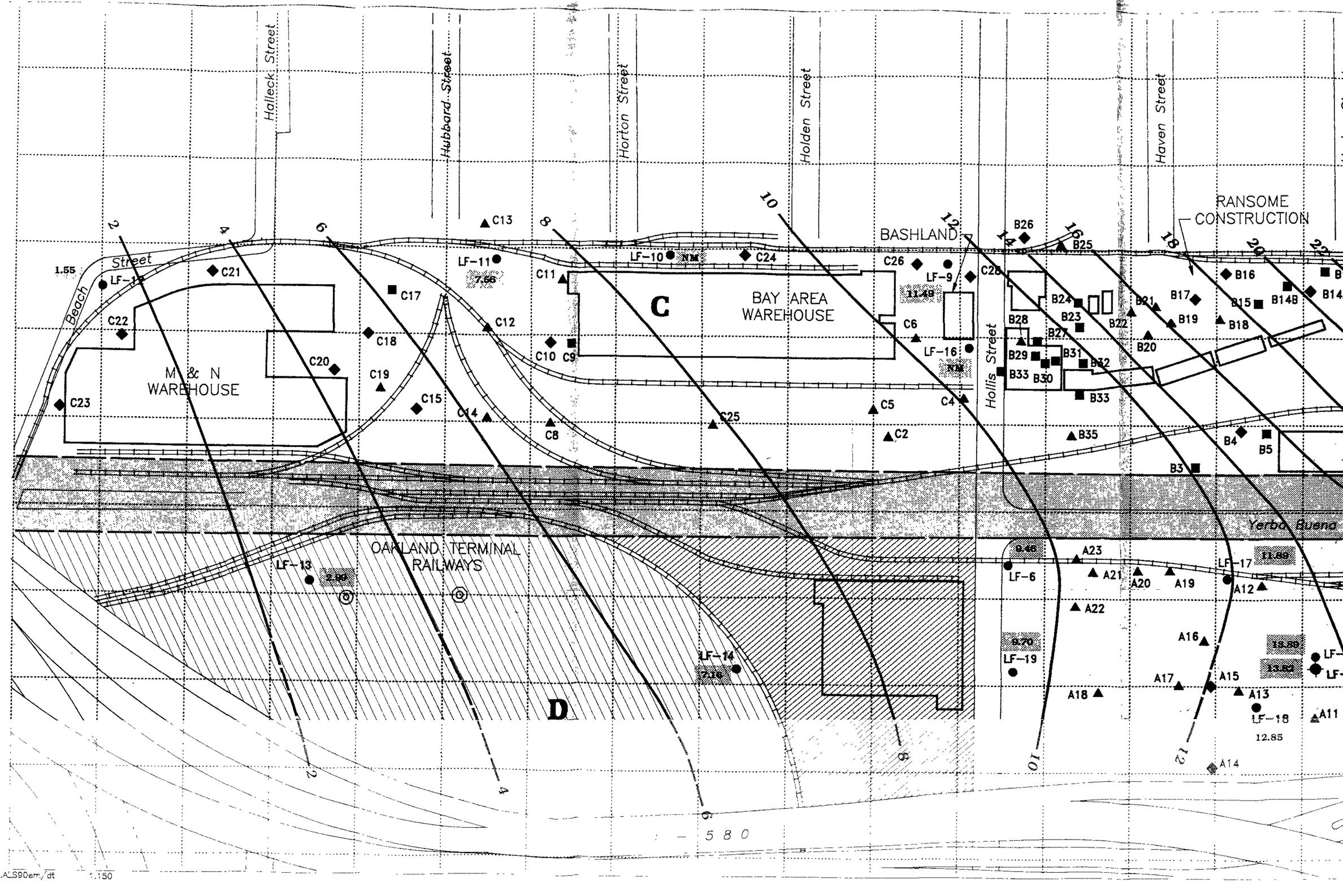
KEY TO ABBREVIATIONS:

1,1-DCA	- 1,1-Dichloroethane
1,1-DCE	- 1,1-Dichloroethene
1,1,1-TCA	- 1,1,1-Trichloroethane
Cis-1,2-DCE	- Cis-1,2-Dichloroethene
TCE	- Trichloroethene
PCE	- Tetrachloroethene

Figure 3 :

VOLATILE ORGANIC COMPOUNDS DETECTED IN SHALLOW GROUND-WATER SAMPLES, OCTOBER 20 AND 21, 1992, AREAS A AND B YERBA BUENA PROJECT SITE

LEVINE•FRICKE



1649 \81 MY22.ALS90em/dt 1:150

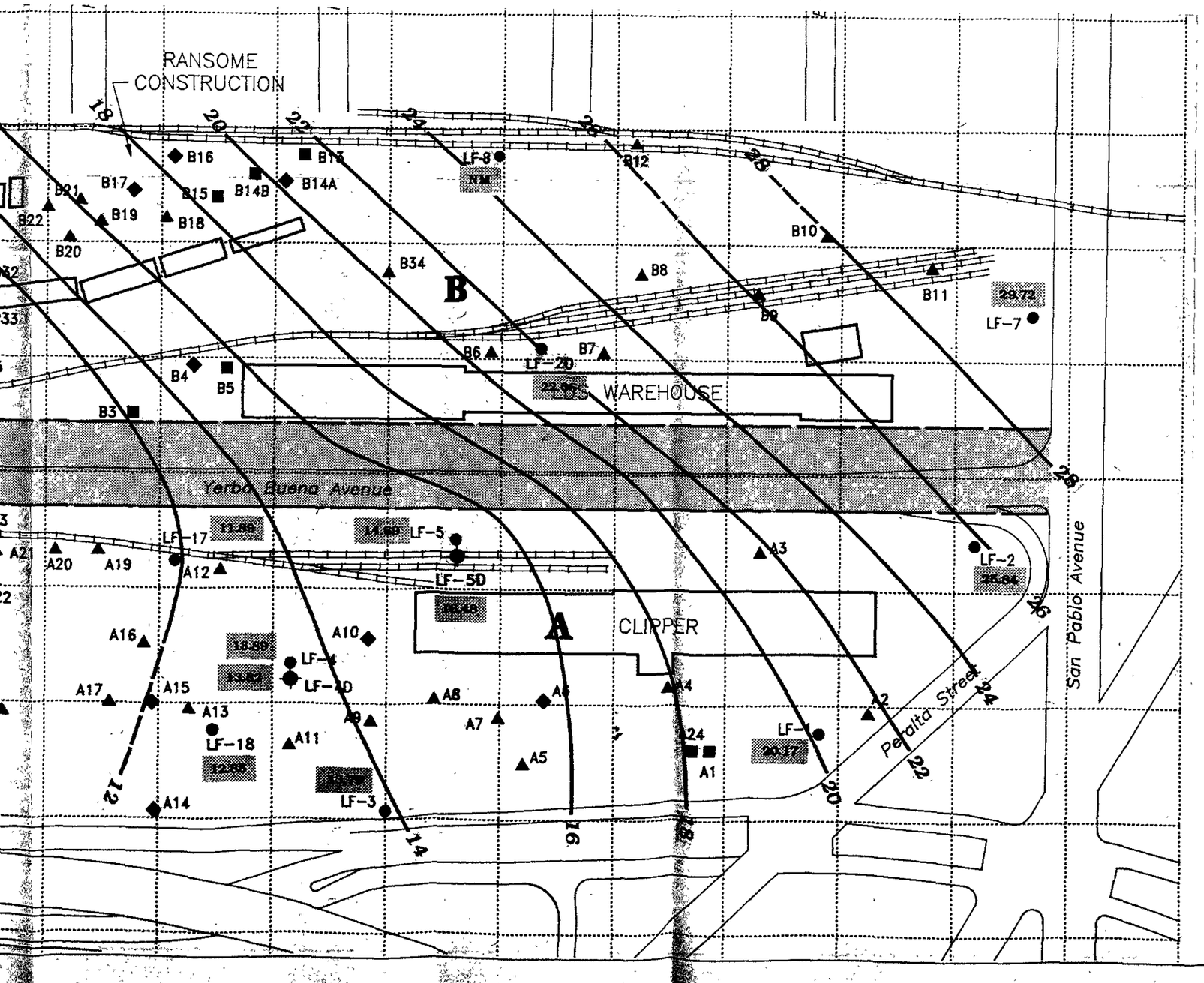


Figure 4 :

GROUND-WATER ELEVATION CONTOURS APRIL 23, 1990

Project No. 1649

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