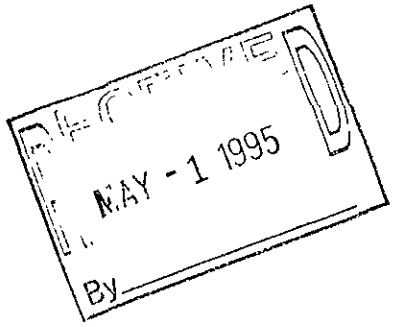

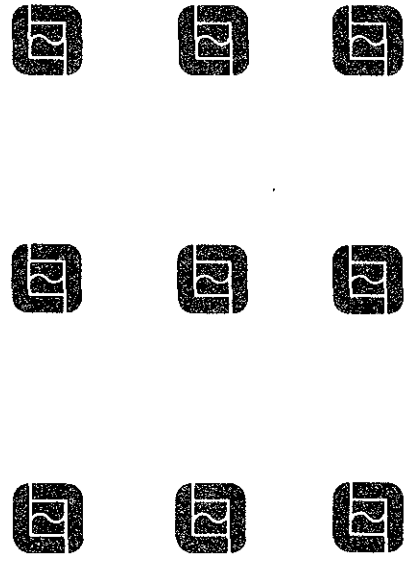

Quarterly Monitoring Report for
January 1 through March 31, 1995
East Baybridge Center
Emeryville and Oakland, California

April 28, 1995
1649.95-02

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

LEVINE·FRICKE

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

April 28, 1995

LF 1649.95-02

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

Subject: Quarterly Monitoring Report for January 1 through March 31, 1995, East Baybridge Center, Emeryville and Oakland, California

Dear Ms. Hugo:

The enclosed report presents the results of quarterly ground-water monitoring for January 1 through March 31, 1995, at the Yerba Buena/East Baybridge Center in Emeryville and Oakland, California.

Monitoring was conducted in accordance with Levine•Fricke's "Ground-Water Monitoring Plan for the East Baybridge Center, Emeryville and Oakland, California," dated December 19, 1994 and submitted to the Alameda County Health Care Services Agency.

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

Sincerely,

Ron Goloubow
Senior Project Geologist

Enclosure

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

1649\1649-A95.QMR:FNC

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CERTIFICATION

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

Donald T. Bradshaw
Senior Associate Hydrogeologist
California Registered Geologist (5300)

4/26/95
Date

April 28, 1995 LF 1649.95-02

QUARTERLY GROUND-WATER MONITORING REPORT FOR JANUARY 1 THROUGH MARCH 31, 1995 EAST BAYBRIDGE CENTER EMERYVILLE AND OAKLAND, CALIFORNIA

1.0 INTRODUCTION

This report presents the results of ground-water monitoring conducted by Levine·Fricke during the quarterly period from January 1 through March 31, 1995, at the East Baybridge Center in Emeryville and Oakland, California ("the Site"; Figure 1). The Site covers approximately 51 acres and is partially developed and undergoing further development. To aid in organizing environmental investigation, remediation, and monitoring activities, the Site has been divided into Areas A, B, and C (Figure 2).

Levine·Fricke completed monitoring activities and submits this report on behalf of the Catellus Development Corporation ("Catellus") in accordance with the December 19, 1994 ground-water monitoring plan (Levine·Fricke 1994a) submitted to the Alameda County Health Care Services Agency (ACHA). Quarterly monitoring activities included measuring water levels in all accessible wells and collecting ground-water samples from selected wells. Ground-water monitoring is being conducted to monitor volatile organic compound (VOC) concentrations in ground water and assess the effectiveness of a ground-water extraction system installed at the Site during the summer of 1994. In addition, soils affected with total petroleum hydrocarbons (TPH) have been contained on site beneath building pads. Monitoring data are being collected to assess possible impacts on ground-water quality beneath the Site from the contained soils.

2.0 BACKGROUND

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

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

2.1 Areas A and B

As illustrated on Figure 2, Area A and a portion of Area B have been developed for commercial use, including a large retail store, several smaller retail stores, and two large parking areas. Areas north of the parking lots and west of Emery Street have not yet been developed.

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

Approximately 25,000 cubic yards of petroleum hydrocarbon-affected soil was excavated from Area B and contained beneath building pads in Areas A and B in accordance with Levine·Fricke's March 10, 1992 containment plan (Levine·Fricke 1992a). Details regarding the removal of soil from this area of the Site were presented in Levine·Fricke's December 21, 1992 soil remediation activities report (Levine·Fricke 1992b). To assess ground-water quality in Areas A and B, five monitoring wells were installed and sampled on a quarterly basis for over a year. In response to a request from the RWQCB, Levine·Fricke prepared a soils management plan for the contained soils (Levine·Fricke 1994a). That plan outlines periodic ground-water monitoring to evaluate the possible impacts on ground water from soils contained at the Site.

2.2 Area C

Area C (the area west of Hollis Street) is currently being developed for commercial use, including construction of two retail stores, one smaller retail store, and large parking areas.

VOCs have been detected in ground-water samples collected in Area C of the Site. Based on the distribution of VOCs detected, it appears that the VOCs have migrated from an off-site source. The Regional Water Quality Control Board (RWQCB) concurs with this conclusion as demonstrated by the RWQCB's letter to Catellus and others dated May 11, 1994.

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

Replacement wells for those wells (MW-31R and MW-34R) will be installed following completion of site development in Area C; installation is anticipated to occur in mid- to late-1995. In addition, well MW-12R will be installed downgradient from (west of) USTs formerly located along Beach Street, to monitor ground-water quality in that area. Wells MW-10R and MW-34R will be installed in locations presented on Figure 2 to monitor possible on-site migration of VOCs from a known source located north of the property.

3.0 GROUND-WATER ELEVATIONS AND FLOW DIRECTION

On February 16, 1995, depth to water was measured in all accessible on- and off-site wells to the nearest 0.01 foot using an electric water-level sounding probe. Table 1 summarizes the depth-to-water and ground-water elevation data collected. As shown, depth to ground water in shallow wells (less than 25 feet deep) ranged from 6.84 feet below ground surface (bgs) in well MW-2 to 18.85 feet bgs in well MW-9.

Figure 3 is a ground-water elevation contour map for water levels measured on February 16, 1995. As illustrated, the direction of shallow ground-water flow beneath the Site is

toward the west-southwest, in the direction of the ground-water extraction wells (EX-3 and EX-4) and interceptor trench. The hydraulic gradient across the Site is 0.016 foot per foot (ft/ft), as measured between wells MW-2 and MW-9. The direction and gradient are consistent with the ground-water flow direction previously reported at the Site (Levine•Fricke 1993a, b, c, d).

The influence of pumping from the shallow extraction wells and trench on the ground-water flow pattern is illustrated in Figure 3 by depressions in the ground-water surface and by the deflection of contour lines in the vicinity of the extraction wells and trench.

4.0 GROUND-WATER SAMPLING AND ANALYSIS

Ground-water samples were collected between February 16 and 17, 1995 for chemical analysis. A total of 12 samples were collected from 10 shallow ground-water monitoring wells (less than 25 feet deep; MW-1, MW-2, MW-3, MW-5, MW-6, MW-7, MW-8, MW-9, LF-22 and LF-23) and two shallow extraction wells (less than 25 feet deep; EX-3 and EX-4). A total of four samples was collected from three intermediate-depth wells (30 to 45 feet deep; MW-6D, MW-7D, and MW-9D) and one deeper well (50 to 65 feet deep; MW-7Z).

Before ground-water samples were collected, 3 to 4 well volumes of water were purged from each well in accordance with field procedures for quarterly ground-water sampling described in Appendix A. During purging, indicator parameters such as pH, temperature, and specific conductance were recorded on water-quality sampling sheets, copies of which are included in Appendix B.

After collection, samples were submitted to American Environmental Network, Inc., a state-certified laboratory, under strict chain-of-custody procedures.

All samples, with the exception of those collected from wells MW-1 and MW-2, were analyzed for VOCs using EPA Method 8010. In addition, ground-water samples collected from wells MW-1, MW-2, EX-3, and EX-4 were analyzed for TPH as diesel (TPHd; carbon chain length C_{12} to C_{22}), and TPH as oil (TPHo; carbon chain length C_{22} to C_{36}) in accordance with the soils management plan (Levine•Fricke 1994a). Samples from wells MW-1 and MW-2 also were analyzed for TPH as gasoline (TPHg) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) to monitor

whether TPHg-affected ground water is migrating onto the Site. Results of chemical analyses are discussed in Section 5.0.

For QA/QC purposes, a duplicate sample was collected from well MW-6 and analyzed for VOCs. Results of the duplicate sample were similar to results of the primary sample.

5.0 GROUND-WATER QUALITY

Table 2 summarizes the analytical results for ground-water samples collected. Appendix C presents laboratory data sheets and chain-of-custody forms for the samples analyzed.

5.1 Volatile Organic Compounds

In general, the concentration of VOCs detected in samples collected during this monitoring period are within the same order of magnitude as samples previously collected at the Site (Table 2). No VOCs were detected at concentrations above method detection limits in ground-water samples collected from shallow wells MW-3 and MW-8, or from deeper wells MW-6D, MW-9D, and MW-7Z.

1,1-Dichloroethene (1,1-DCE) was detected in six shallow wells at concentrations ranging from 0.0007 parts per million (ppm) (wells LF-22) to 0.290 ppm (well MW-6). A sample collected from deeper well MW-7D contained 0.003 ppm. This concentration is significantly lower than that reported for shallow well MW-7 (0.120 ppm), located within 10 feet of deeper well MW-7D. 1,1-DCE was detected at concentrations of 0.096 ppm and 0.210 ppm in shallow extraction wells EX-3 and EX-4, respectively.

Trichloroethene (TCE) was detected at 0.003 ppm in shallow monitoring well LF-23 and shallow extraction well EX-3. TCE was not detected in the other shallow or deeper wells sampled during the current monitoring event.

Tetrachloroethene (PCE) was detected at 0.002 ppm in shallow monitoring wells MW-5) and at 0.0006 ppm and 0.006 ppm in off-site wells LF-22 and LF-23, respectively. Higher concentrations of PCE were detected in shallow extraction wells EX-3 (0.037 ppm) and EX-4 (0.011 ppm). PCE was not detected in the remaining shallow or deeper wells sampled during the current monitoring event.

1,1,1-Trichloroethane (1,1,1-TCA) was detected at concentrations ranging from 0.001 ppm (MW-5) to 0.045 ppm

(MW-6) in six shallow wells (MW-5, MW-6, MW-7, MW-9, EX-3 and EX-4). 1,1,1-TCA was not detected in deeper wells.

5.2 Total Petroleum Hydrocarbons

TPHd was detected in the two samples analyzed during this monitoring event, at concentrations ranging from 0.080 ppm (well MW-1) to 0.300 ppm (well MW-2).

TPHo was not present above the detection limit (0.200 ppm) in the samples analyzed during this monitoring period.

TPHg was detected at 3.50 ppm in well MW-2.

BTEX was not present above method detection limits (0.0005 ppm) in well MW-1. The sample collected from well MW-2 contained benzene (0.045 ppm), toluene (0.005 ppm), ethylbenzene (0.110 ppm), and total xylenes (0.350 ppm).

6.0 SUMMARY

Ground-water gradient and flow direction measured in February 1995 are consistent with the ground-water flow direction previously reported for the Site (Levine·Fricke 1993a, b, c, d). Additionally, the direction of shallow ground-water flow beneath the western portion of the Site is being influenced by the ground-water extraction wells and extraction trench at the Site, as shown in Figure 3.

Analytical results for ground-water samples collected in February 1995 are similar to results previously reported for the Site during 1992 and 1993 (Table 2). Results indicate that the plume of VOC-affected ground water likely extends to the north between wells MW-3 and MW-6 and to the south between wells MW-7 and MW-8. The plume extends approximately 800 feet southwest (downgradient) of well MW-6 toward the extraction wells and trench, and is approximately 300 feet wide. Analytical results for samples from well MW-2 indicate that TPHg-affected ground water is migrating onto the property from the east.

Based on ground-water elevations in area wells, the extraction system is effectively capturing VOC-affected ground water and inhibiting off-site migration of affected ground water.

7.0 ACTIVITIES PROPOSED FOR APRIL THROUGH JUNE 1995

Ground-water monitoring activities planned for April through June 1995 include water-level measurements and quarterly ground-water sampling. The sampling schedule is summarized in Table 3. It is anticipated that a report summarizing those activities will be submitted to the Alameda County Health Care Services Agency by July 31, 1995.

REFERENCES

Levine•Fricke, Inc. 1992a. Containment Plan for Total Petroleum Hydrocarbon-Affected Soils, Yerba Buena Project Site, Emeryville and Oakland, California. March 10.

——. 1992b. Soil Remediation Activities Report, Former Ransome Property, Yerba Buena Project Site, Emeryville, California. December 21.

——. 1993a. Quarterly Monitoring Report for July 1 through September 30, 1993, Area A and the South-Central Portion of Area B, Yerba Buena/East Baybridge Center Project Site, Emeryville and Oakland, California. October 29.

——. 1993b. Quarterly Monitoring Report for July 1 through September 30, 1993, Former Bashland Property, Emeryville, California. October 29.

——. 1993c. Quarterly Monitoring Report for July 1 through September 30, 1993, Former Bay Area Warehouse Property, Emeryville, California. October 29.

——. 1993d. Quarterly Monitoring Report for July 1 through September 30, 1993, Former Ransome Property Yerba Buena/East Baybridge Project Site, Emeryville, California. October 29.

——. 1994a. Soils Management Plan for Petroleum Hydrocarbon-Affected Soils, Yerba Buena/East Baybridge Center, Emeryville and Oakland, California. November 30.

——. 1994b. Ground-Water Monitoring Plan, East Baybridge Center, Emeryville and Oakland, California. December 19.

TABLE 1
WELL CONSTRUCTION AND GROUND-WATER ELEVATION DATA
EAST BAYBRIDGE CENTER
EMERYVILLE AND OAKLAND, CALIFORNIA

Well Number	Well Elevation (1)	Well Depth (2)	Screened Interval (2)	Date Measured	Depth to Water	Ground-Water Elevation (3)
Shallow Wells						
MW-1	27.47	30	15-30	12-Sep-94	14.88	12.59
				30-Nov-94	14.61	12.86
				16-Feb-95	14.73	12.74
MW-2	37.23	18	8-18	12-Sep-94	8.00	29.23
				30-Nov-94	6.84	30.39
				16-Feb-95	6.84	30.39
MW-3	32.05	25	14-25	12-Sep-94	9.88	22.17
				30-Nov-94	9.96	22.09
				16-Feb-95	9.24	22.81
MW-4	24.28	25	12-25	12-Sep-94	17.01	7.27
				30-Nov-94	16.15	8.13
				16-Feb-95	16.38	7.90
MW-5	22.19	21.5	11.5-21.5	12-Sep-94	17.15	5.04
				30-Nov-94	15.94	6.25
				16-Feb-95	16.45	5.74
MW-6	28.54	21.5	11.5-21.5	12-Sep-94	12.58	15.96
				30-Nov-94	12.75	15.79
				16-Feb-95	12.17	16.37
MW-7	26.29	23.5	13.5-23.5	12-Sep-94	11.60	14.69
				30-Nov-94	11.53	14.76
				16-Feb-95	10.82	15.47
MW-8	24.40	20.5	10.5-20.5	12-Sep-94	9.96	14.44
				30-Nov-94	9.96	14.44
				16-Feb-95	9.68	14.72
MW-9	24.17	26	14-26	12-Sep-94	19.70	4.47
				30-Nov-94	17.65	6.52
				16-Feb-95	18.85	5.32
LF-22	17.99	20	10-20	12-Sep-94	11.96	6.03
				30-Nov-94	9.69	8.30
				16-Feb-95	10.45	7.54
LF-23	17.99	20	10-20	12-Sep-94	12.24	5.75
				30-Nov-94	10.05	7.94
				16-Feb-95	11.10	6.89
Extraction Wells						
EX-1	23.51	NA	NA	12-Sep-94	24.83	-1.32
				30-Nov-94	19.16	4.35
EX-2	20.03	NA	NA	12-Sep-94	20.11	-0.08
				30-Nov-94	15.68	4.35

TABLE 1
WELL CONSTRUCTION AND GROUND-WATER ELEVATION DATA
EAST BAYBRIDGE CENTER
EMERYVILLE AND OAKLAND, CALIFORNIA

Well Number	Well Elevation (1)	Well Depth (2)	Screened Interval (2)	Date Measured	Depth to Water	Ground-Water Elevation (3)
EX-3	20.96	24	7.5-24	12-Sep-94	22.33	-1.37
				30-Nov-94	15.50	5.46
				16-Feb-95	17.80	3.16
EX-4	24.40	25	8-25	12-Sep-94	22.61	1.79
				30-Nov-94	20.70	3.70
				16-Feb-95	20.55	3.85
Deeper Wells						
MW-6D	28.48	45	32-40	12-Sep-94	11.09	17.39
				30-Nov-94	11.46	17.02
				16-Feb-95	10.67	17.81
MW-7D	26.27	40	27-40	12-Sep-94	11.32	14.95
				30-Nov-94	11.30	14.97
				16-Feb-95	11.01	15.26
MW-9D	24.17	45	32-45	12-Sep-94	18.38	5.79
				30-Nov-94	16.35	7.82
				16-Feb-95	16.43	7.74
Deep Well						
MW-7Z	25.96	65	50-65	12-Sep-94	11.78	14.18
				30-Nov-94	10.76	15.20
				16-Feb-95	9.16	16.80

Checked by JCK

Notes:
(1) Well elevation is in feet mean sea level
as surveyed by Nolte and Associates in August 1994.
(2) Well depth and screened interval are in feet below ground surface
as measured at the time of well installation.
(3) Water level elevation is in feet mean sea level.
NA denotes not applicable, well associated with extraction trench.
NM denotes water level not measured.

TABLE 2
QUARTERLY SUMMARY OF GROUND-WATER QUALITY DATA
EAST BAYBRIDGE CENTER
EMERYVILLE AND OAKLAND, CALIFORNIA
(concentrations expressed in parts per million)

Well ID	Notes	Date	Lab	TPH(g)	TPH(d)	TPH(o)	benzene	toluene	ethyl-benzene	total xylenes	TCE	1,1,1-TCA	PCE	1,1-DCE	1,1-DCA	1,2-DCA
Shallow Wells (20 to 25 feet below grade)																
MW-1		13-Sep-94	AEN	<0.005	0.300	<0.500	<0.0005	<0.0005	<0.0005	<0.0005	NA	NA	NA	NA	NA	NA
		30-Nov-94	AEN	NA	0.100	<0.200	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		17-Feb-95	AEN	<0.050	0.080	<0.200	<0.0005	<0.0005	<0.0005	<0.002	NA	NA	NA	NA	NA	NA
MW-2		01-Dec-94	AEN	7.10	NA	NA	0.065	<0.010	0.130	0.470	NA	NA	NA	NA	NA	NA
		17-Feb-95	AEN	3.50	0.300	<0.200	0.045	0.005	0.110	0.350	NA	NA	NA	NA	NA	NA
MW-3		12-Sep-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		01-Dec-94	AEN	NA	0.070	<0.200	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MW-4		01-Dec-94	AEN	NA	0.090	<0.200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-5		13-Sep-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	0.001	0.0007	0.003	0.002	<0.0005
		01-Dec-94	AEN	NA	0.050	<0.200	NA	NA	NA	NA	<0.0005	0.0007	0.0005	0.004	0.003	<0.0005
		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	0.001	0.002	0.008	0.003	<0.0005
MW-6	(2)	13-Sep-94	AEN	NA	NA	NA	NA	NA	NA	NA	0.0005	0.041	<0.0005	0.280	0.005	0.001
	(6)	01-Dec-94	AEN	NA	0.080	NA	NA	NA	NA	NA	0.0006	0.041	<0.0005	0.300	0.004	<0.0005
		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	NA	<0.003	0.039	<0.003	0.280	0.003	<0.003
duplicate		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	NA	<0.003	0.045	<0.003	0.290	0.004	<0.003
MW-7		12-Sep-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	0.017	<0.0005	0.160	0.003	0.0009
		30-Nov-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	0.016	<0.0005	0.170	0.003	<0.0005
		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	NA	<0.003	0.011	<0.003	0.120	<0.003	<0.003
MW-8	(3)	13-Sep-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	<0.0005
		02-Dec-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MW-9		12-Sep-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	0.017	<0.0005	0.120	0.0005	0.006
Duplicate		12-Sep-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	0.015	<0.0005	0.120	0.0005	0.009
		30-Nov-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	0.016	<0.0005	0.150	0.0005	<0.0005
Duplicate		30-Nov-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	0.016	<0.0005	0.160	0.0005	<0.0005
		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	NA	<0.003	0.014	<0.003	0.120	<0.003	<0.003
LF-22		12-Jul-91	ANA	NA	NA	NA	NA	NA	NA	NA	0.0007	0.012	0.0017	0.053	0.0063	0.0016
		07-Jan-92	ANA	NA	NA	NA	NA	NA	NA	NA	<0.0005	0.009	0.0037	0.041	0.0054	0.0011
		16-Apr-92	ANA	NA	NA	NA	NA	NA	NA	NA	<0.0005	0.0026	0.0018	0.015	0.0021	<0.0005
	(1)	23-Jul-92	ANA	NA	NA	NA	NA	NA	NA	NA	<0.0005	0.0034	0.0014	0.027	0.0052	<0.0005
		20-Oct-92	ANA	NA	NA	NA	NA	NA	NA	NA	0.00078	0.0013	0.00066	0.014	0.004	<0.0005
		25-May-93	ANA	NA	NA	NA	NA	NA	NA	NA	<0.0005	0.00084	0.00058	0.0061	0.0024	<0.0005
		13-Jul-93	ANA	NA	NA	NA	NA	NA	NA	NA	0.00069	0.00095	0.00088	0.0077	0.0033	<0.0005
	(4)	13-Sep-94	AEN	NA	NA	NA	NA	NA	NA	NA	0.004	<0.0005	0.008	0.003	0.001	0.0007
		01-Dec-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	0.0006	0.0009	<0.0005
		17-Feb-95	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	0.0006	0.0007	0.001	<0.0005
LF-23		12-Jul-91	ANA	NA	NA	NA	NA	NA	NA	NA	0.0039	0.0009	0.027	0.0012	0.011	0.0009
		07-Jan-92	ANA	NA	NA	NA	NA	NA	NA	NA	0.007	0.0023	0.056	0.0034	0.012	0.0013
		16-Apr-92	ANA	NA	NA	NA	NA	NA	NA	NA	0.0036	0.00068	0.020	0.0044	0.0044	0.0011

TABLE 2
QUARTERLY SUMMARY OF GROUND-WATER QUALITY DATA
EAST BAYBRIDGE CENTER
EMERYVILLE AND OAKLAND, CALIFORNIA
(concentrations expressed in parts per million)

Well ID	Notes	Date	Lab	TPH(g)	TPH(d)	TPH(o)	benzene	toluene	ethyl- benzene	total xylenes	TCE	1,1,1-TCA	PCE	1,1-DCE	1,1-DCA	1,2-DCA
		23-Jul-92	ANA	NA	NA	NA	NA	NA	NA	NA	0.0038	0.0013	0.029	0.0061	0.0044	0.0014
		20-Oct-92	ANA	NA	NA	NA	NA	NA	NA	NA	0.0033	0.00054	0.023	0.0047	0.002	0.0015
		25-May-93	ANA	NA	NA	NA	NA	NA	NA	NA	0.0042	0.00065	0.016	0.0035	0.0017	0.0019
		13-Jul-93	ANA	NA	NA	NA	NA	NA	NA	NA	0.0081	0.0015	0.018	0.0074	0.0033	0.0051
		13-Sep-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	0.0006	0.002	0.003	0.0007
	(7)	01-Dec-94	AEN	NA	NA	NA	NA	NA	NA	NA	0.004	<0.0005	0.008	0.0006	<0.0005	<0.0005
	(8)	17-Feb-95	AEN	NA	NA	NA	NA	NA	NA	NA	0.003	<0.0005	0.006	<0.0005	<0.0005	<0.0005
Shallow Extraction Wells (20 to 30 feet below grade)																
EX-3	(5)	14-Sep-94	AEN	NA	NA	NA	NA	NA	NA	NA	0.004	0.014	0.042	0.100	0.005	0.001
		02-Dec-94	AEN	NA	0.100	<0.200	NA	NA	NA	NA	0.004	0.015	0.045	0.140	0.005	<0.0005
		17-Feb-95	AEN	NA	<0.050	<0.200	NA	NA	NA	NA	0.003	0.014	0.037	0.096	0.005	<0.0005
EX-4		14-Sep-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	0.025	0.010	0.220	0.006	0.001
		02-Dec-94	AEN	NA	0.090	<0.200	NA	NA	NA	NA	<0.0005	0.020	0.011	0.240	0.006	<0.0005
		17-Feb-95	AEN	NA	<0.050	<0.200	NA	NA	NA	NA	<0.003	0.017	0.011	0.210	0.004	<0.003
Deeper Wells (40 to 45 feet below grade)																
MW-6D		13-Sep-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	0.003	<0.0005	0.0005
		01-Dec-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MW-7D		13-Sep-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	0.003	<0.0005	<0.0005
		30-Nov-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	0.003	<0.0005	<0.0005
		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	0.003	<0.0005	<0.0005
MW-9D		12-Sep-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		30-Nov-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Deep Well (65 feet below grade)																
MW-7Z		13-Sep-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		30-Nov-94	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
		16-Feb-95	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Trip Blanks																
		17-Feb-95	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Field Blanks																
LF-22		17-Feb-95	AEN	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Data entered by KAC/9 March 95. Data proofed by REG and QA/QC by REG.

Key to abbreviations:
TPH(g) = Total petroleum hydrocarbons as gasoline
TPH(d) = Total petroleum hydrocarbons as diesel
TPH(o) = Total petroleum hydrocarbons as oil
TCE = Trichloroethene
1,1,1-TCA = 1,1,1-Trichloroethane
PCE = Tetrachloroethene
1,1-DCE = 1,1-Dichloroethene
1,1-DCA = 1,1-Dichloroethane
1,2-DCA = 1,2-Dichloroethane

TABLE 2
QUARTERLY SUMMARY OF GROUND-WATER QUALITY DATA
EAST BAYBRIDGE CENTER
EMERYVILLE AND OAKLAND, CALIFORNIA
(concentrations expressed in parts per million)

Well ID	Notes	Date	Lab	TPH(g)	TPH(d)	TPH(o)	benzene	toluene	ethyl-benzene	total xylenes	TCE	1,1,1-TCA	PCE	1,1-DCE	1,1-DCA	1,2-DCA

Notes:

(1) 0.00081 ppm vinyl chloride detected.
(2) 0.002 ppm chloroform detected.
(3) 0.0008 ppm chloroform detected.
(4) 0.002 ppm chloroform detected.
(5) 0.0008 ppm cis-1,2-DCE detected.
(6) 0.002 ppm chloroform detected.
(7) 0.0002 ppm chloroform, 0.002 ppm cis-1,2-DCE detected.
(8) 0.002 ppm chloroform, 0.002 ppm cis-1,2-DCE detected.

AEN = American Environmental Network in Pleasant Hill, California
ANA = Inchcape Testing Anametrix, Inc., in San Jose, California
NA = parameter not analyzed

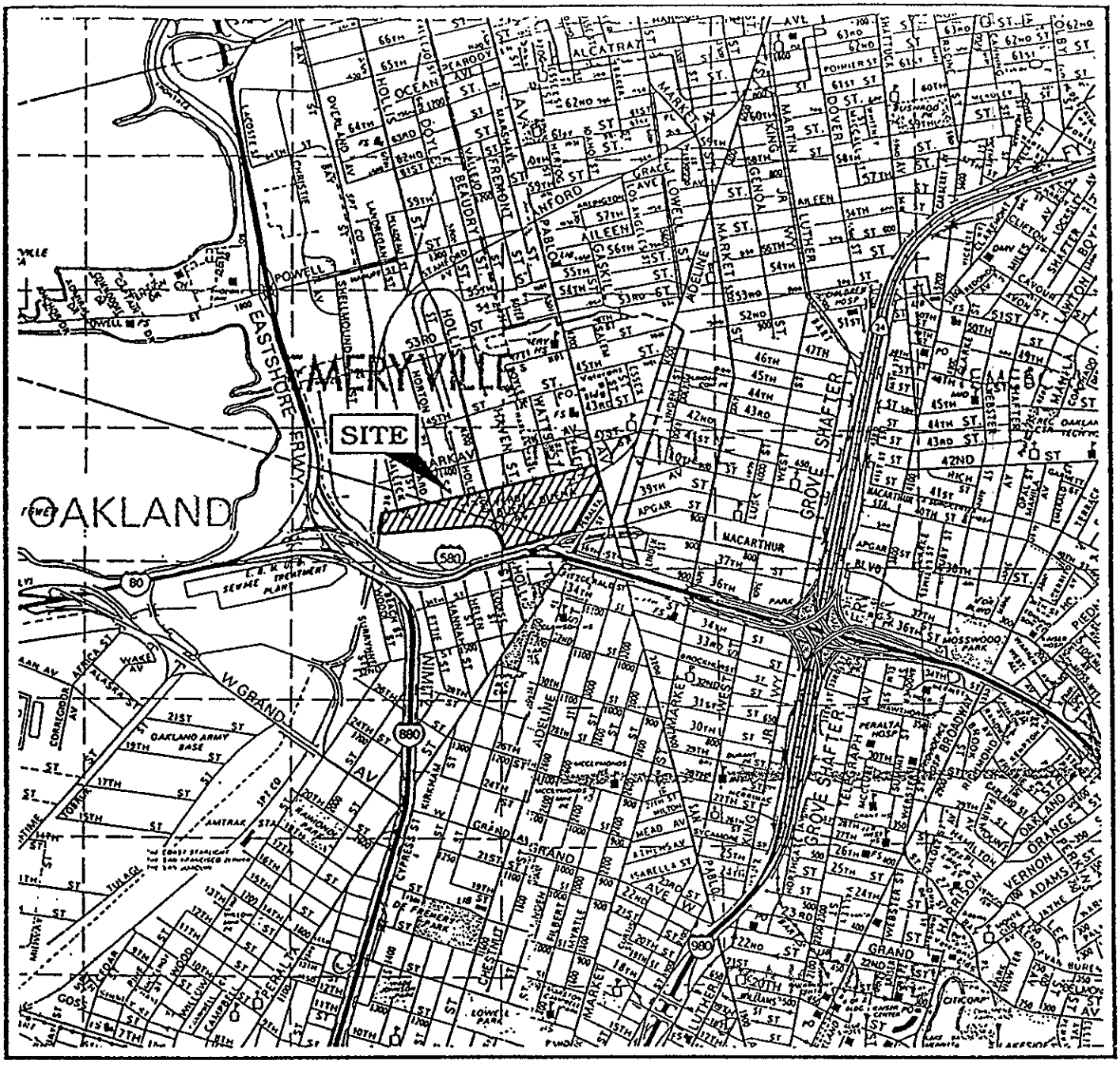
TABLE 3
GROUND-WATER SAMPLING SCHEDULE
East Baybridge Center
Emeryville and Oakland, California

Quarterly Period	Area	Well Depth	Well Identification	Analysis
APRIL through JUNE 1995	Area A	20' to 25'	MW-2	TPHg, TPHd, BTEX
			MW-3, MW-5, MW-6, MW-7,	TPHd, TPHo, VOCs
			MW-8, MW-9, LF-22, LF-23	VOCs
			EX-3 & EX-4	TPHd, TPHo, VOCs
		40' to 45'	MW-6D, MW-7D, MW-9D	VOCs
		60'	MW-7Z	VOCs
	Area B	30'	MW-1	TPHg, BTEX, TPHd, TPHo
	Area C	20' to 25'	LF-13	VOCs
			Area C wells MW-10R, MW-12R, MW-31R, and MW-32R are scheduled to be installed in mid- to late-1995.	

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

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

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



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

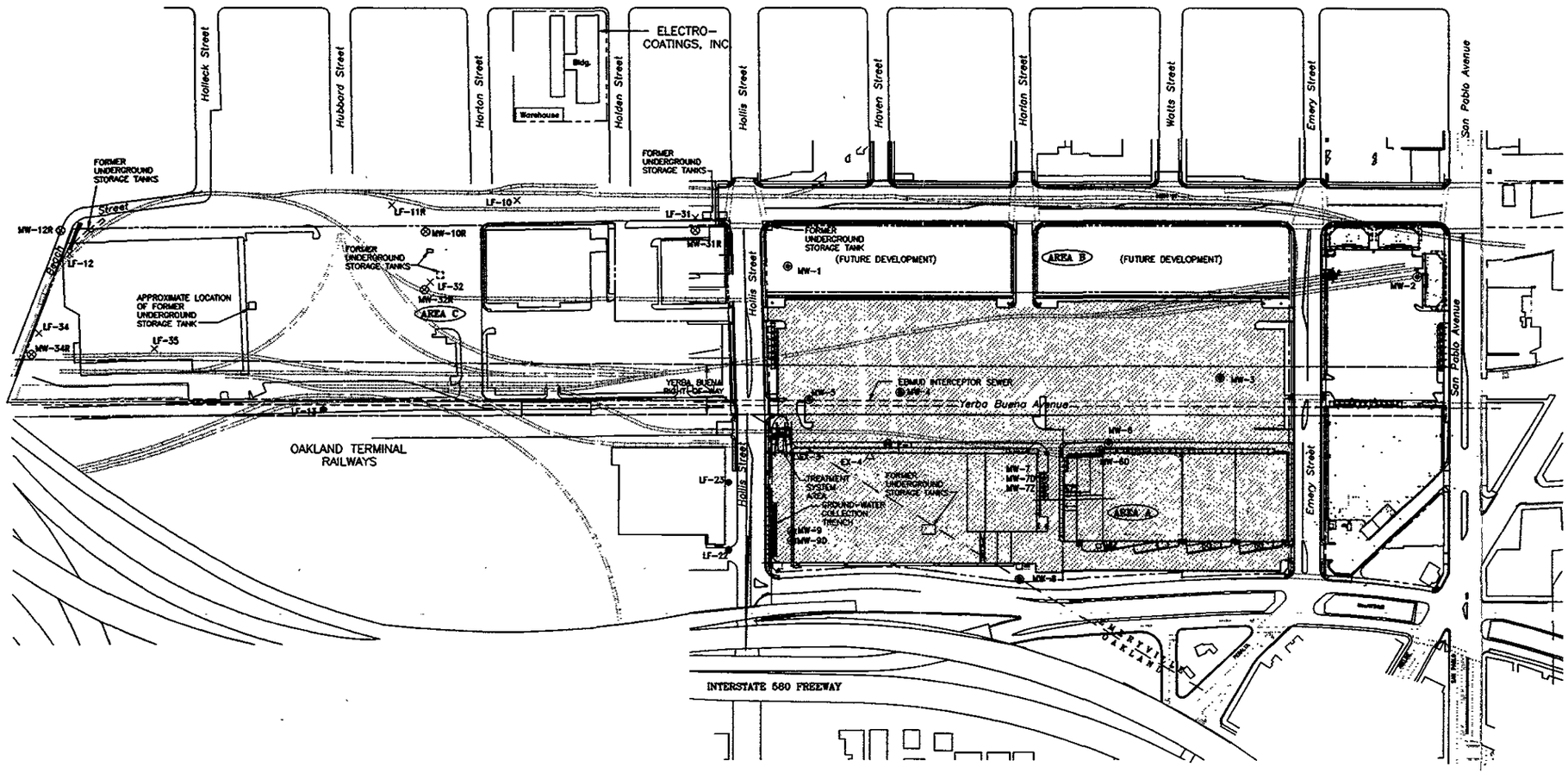
Figure 1 : SITE LOCATION MAP
YERBA BUENA PROJECT SITE

Project No. 1649

LEVINE • FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

:\649ALS-SITE91-nyt

0 150 300 FEET



EXPLANATION

- ◉ MONITORING WELL LOCATION
- △ EXTRACTION WELL
- ⊗ PROPOSED MONITORING WELL LOCATION
- × ABANDONED GROUND WATER MONITORING WELL
- ——— APPROXIMATE PROPERTY LINE

APPROXIMATE LOCATION OF PETROLEUM-AFFECTED SOIL CONTAINED ON SITE

	REVISION	DESIGN	DRAWN	CHECKED	DATE

SCALE
DESIGN :
DRAWN :
CHECKED

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS
Emeryville, California

CATELLUS DEVELOPMENT CORPORATION

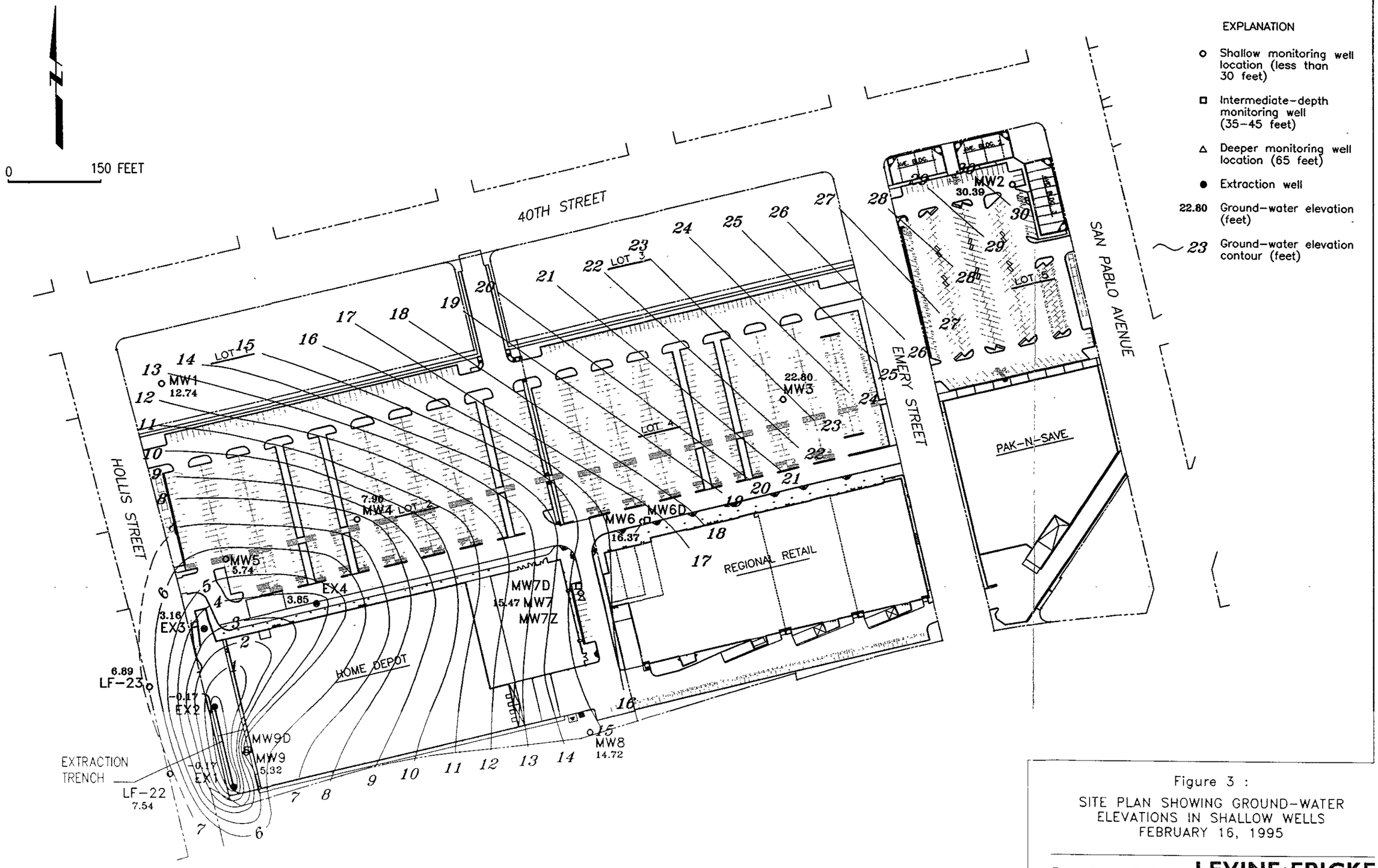
YERBA BUENA/EAST BAYBRIDGE DEVELOPMENT

Figure 2
SITE PLAN SHOWING LOCATIONS OF GROUND-WATER MONITORING WELLS AND UNDERGROUND STORAGE TANKS

Project No. 1649
Date APR. 94
Sheet of

DRAWING CODE C:\ACAD12\1649\SITEPL18.DWG/GM

1649G013.REG:EM 032095



EXPLANATION

- ○ Shallow monitoring well location (less than 30 feet)
- □ Intermediate-depth monitoring well (35–45 feet)
- △ Deeper monitoring well location (65 feet)
- ● Extraction well
- 22.80 Ground-water elevation (feet)
- 23 Ground-water elevation contour (feet)

Figure 3 :

SITE PLAN SHOWING GROUND-WATER ELEVATIONS IN SHALLOW WELLS FEBRUARY 16, 1995

Project No 1649

LEVINE·FRICKE
ENGINEERS, HYDROGEOLOGISTS, & APPLIED SCIENTISTS

1649B052 REG:EM 031795

APPENDIX A

FIELD PROCEDURES

QUARTERLY GROUND-WATER SAMPLING

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 centrifugal pump or a bailer until indicator parameter readings (pH, specific conductance, and temperature) stabilized. Indicator parameters were measured using portable field instruments and measurements were recorded on water-quality sampling forms. Purging and sampling equipment was steam cleaned before use at each well. Purged ground water was pumped into the on-site treatment system.

After each 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 American Environmental Network, a state-certified laboratory, under strict chain-of-custody protocol. For quality assurance/quality control measures, a duplicate sample was collected from well MW-9 and analyzed for VOCs using EPA Method 8010. Laboratory certificates are presented in Appendix C.

APPENDIX B

WATER-QUALITY SAMPLING SHEETS

WATER-QUALITY SAMPLING INFORMATION

Project No.: 1649.02 Date: 2/17/95

Project Name: EAST BAY BRIDGE Sample No.: EX-3

Sample Location: EX-3 ☐ FB: ____

Samplers Name: JCK DRJ ☐ DUP: ____

Sampling Plan Prepared By: ____

Sampling Method: PURGE + SAMPLE AT TAP IN SYSTEM

☐ Centrifugal Pump ☐ Disposable Bailer

☐ Submersible Pump ☐ Teflon Bailer

☐ Hand Bail ☐ ____ (Other)

Analyses Requested	Number and Types of Bottle used
TPHd + O	2 L GLASS AMBER
EPA 8010	3 VOA

Method of Shipment: AEN (Lab Name) ☒ Courier ____ ☐ Hand Deliver:

Well Number: EX-3 Well Diameter: ____

Depth of Water: ____ ☐ 2" (0.16 Gallon/Feet)

Well Depth: ____ ☐ 4" (0.65 Gallon/Feet

Height of Water Column: ____ ☐ 5" (1.02 Gallon/Feet)

Volume in Well: ____ ☐ 6" (1.47 Gallon/Feet)

80% DTW ____

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
1:55		1		17.6	6.66	1045		SAMPLE

WTR.QLTY.SMPLNG.INFO.22JUL94.IYL

Inlet Depth: ____

Comments: ____

(Recommended Method For Purging Well)

WATER-QUALITY SAMPLING INFORMATION

Project No.: 1649.02

Project Name: EAST BAY BRIDGE

Sample Location: EX-4

Samplers Name: JCK DRJ

Sampling Plan Prepared By: REG

Sampling Method: PURGE + SAMPLE @ PORT IN SYSTEM

Date: 2/17/95

Sample No.: EX-4

☐ FB: ____

☐ DUP: ____

☐ Centrifugal Pump ☐ Disposable Bailer

☐ Submersible Pump ☐ Teflon Bailer

☐ Hand Bail ☐ ____ (Other)

Analyses Requested	Number and Types of Bottle used
EPA 8010	3 VOA
TPHd+o	2 L GLASS

Method of Shipment: AEN (Lab Name)

☒ Courier ____

☐ Hand Deliver:

Well Number: ____

Depth of Water: ____

Well Depth: ____

Height of Water Column: ____

Volume in Well: ____

Well Diameter: ____

☐ 2" (0.16 Gallon/Feet)

☐ 4" (0.65 Gallon/Feet

☐ 5" (1.02 Gallon/Feet)

☐ 6" (1.47 Gallon/Feet)

80% DTW ____

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
2105		1		17.7	6.65	1039		SAMPLE
~~2110~~								

Inlet Depth: ____

Comments: ____

(Recommended Method For Purging Well)

WTR.QLTY.SMPLNG.INFO.22JUL94RYL

WATER-QUALITY SAMPLING INFORMATION

Project No.: 1649.02

Project Name: EAST BAY BRIDGE

Sample Location: MW-1

Samplers Name: JCK DRJ

Sampling Plan Prepared By: REG

Sampling Method:

Date: 2/17/95

Sample No.: MW-1

☐ FB:

☐ DUP:

☐ Centrifugal Pump ☐ Disposable Bailer

☐ Submersible Pump ☒ Teflon Bailer

☒ Hand Bail ☐ _____ (Other)

Analyses Requested	Number and Types of Bottle used
~~EPA 8~~	
TPH-G BTEX	3 VOA
TPH-D+O	2 L. AMBER

Method of Shipment: AEN (Lab Name)

☒ Courier

☐ Hand Deliver:

Well Number: MW-1

Depth of Water: 15.73

Well Depth: 32.29

Height of Water Column: 16.56

Volume in Well: 2.65

Well Diameter:

☒ 2" (0.16 Gallon/Feet)

☐ 4" (0.65 Gallon/Feet

☐ 5" (1.02 Gallon/Feet)

☐ 6" (1.47 Gallon/Feet)

32.29
15.73
16.56
.16
9936
1656
2.6496

80% DTW _____

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
10:33								START
10:40		3		17.2	6.79	918		TURBID
10:46		6		17.1	6.80	960		TURBID
10:54		9		17.2	6.76	851		Turbid
11:00	1592							SAMPLE

Inlet Depth: _____

Comments: _____

(Recommended Method For Purging Well)

WTR.QLTY.SMPLNG.INFO.22JUL94RYL

WATER-QUALITY SAMPLING INFORMATION

Project No.: 1649.02 Date: 2/17/95

Project Name: EAST BAY BRIDGE Sample No.: MW-2

Sample Location: MW-2 ☐ FB: ____

Samplers Name: JCK DRJ ☐ DUP: ____

Sampling Plan Prepared By: REG

Sampling Method: ____

☐ Centrifugal Pump ☐ Disposable Bailer

☐ Submersible Pump ☒ Teflon Bailer

☒ Hand Bail ☐ ____ (Other)

Analyses Requested	Number and Types of Bottle used
TPH-g BTEX	3 VOA
TPHd	2 L. GL.

Method of Shipment

____ (Lab Name) ☐ Courier ____

☐ Hand Deliver:

Well Number: MW-2 Well Diameter: ____

Depth of Water: 6.84 ☐ 2" (0.16 Gallon/Feet)

Well Depth: 18.28 ☐ 4" (0.65 Gallon/Feet

Height of Water Column: 11.44 ☐ 5" (1.02 Gallon/Feet)

Volume in Well: 1.83 ☐ 6" (1.47 Gallon/Feet)

80% DTW 9.13

18.28 − 6.84 = 11.44

11.44 × .16 = 1.83

11.44 × .8 = 9.152

6864 + 1144 = 18304

18.28 − 9.15 = 9.13

6.84 × .8 = 5.472

18.28 − 5.47 = 12.81

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
19								SAMPLE
11:29		2		18.0	6.58	1179		TURBID
:25		4		18.1	6.50	1153		TURBID
11:29		6		18.1	6.46	1149		TURBID; LT SHEEN
35	7.00							SAMPLE

Inlet Depth: ____

Comments: ____

(Recommended Method For Purging Well)

WTR.QLTY.SMPLNG.INFO.22/01/94RYL

WATER-QUALITY SAMPLING INFORMATION

Project No.: 1649.02

Project Name: EAST BAY BRIDGE

Sample Location: MW-3

Samplers Name: JCK DRJ

Sampling Plan Prepared By: REG

Sampling Method:

Date: 2/16/95

Sample No.: MW-3

☐ FB:

☐ DUP:

☐ Centrifugal Pump ☐ Disposable Bailer

☐ Submersible Pump ☒ Teflon Bailer

☒ Hand Bail ☐ _____ (Other)

Analyses Requested: EPA 8010

Number and Types of Bottle used: 3 VOA

Method of Shipment: AEN (Lab Name)

☒ Courier

☐ Hand Deliver:

Well Number:

Depth of Water: 9.24

Well Depth: 25.10

Height of Water Column: 15.86

Volume in Well: 2.64

Well Diameter:

☐ 2" (0.16 Gallon/Feet)

☐ 4" (0.65 Gallon/Feet

☐ 5" (1.02 Gallon/Feet)

☐ 6" (1.47 Gallon/Feet)

25.10
9.24
15.86
.16
9516
1586
2.6376

15.86
.8
12.648

25.10
12.648
12.452

80% DTW 12.45

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
1531						~~1007~~		START
1531	8	3		19.2	6.86	1013		Turbid
1540	8	6		19.5	6.82	1016		Turbid
1543		9		19.5	6.81	1015		TURBID
1545								
(1600)	12.41							SAMPLE

Inlet Depth:

Comments:

(Recommended Method For Purging Well)

WTR.QLTY.SMPLNG.INFO.22JUL94.RYL

WATER-QUALITY SAMPLING INFORMATION

Project No.: 1649.02

Project Name: EAST BAY BRIDGE

Sample Location: MW-5

Samplers Name: JCK DRJ

Sampling Plan Prepared By: REG

Sampling Method: ____

Date: 2/16/95

Sample No.: MW-5

☐ FB: ____

☐ DUP: ____

☐ Centrifugal Pump ☐ Disposable Bailer

☐ Submersible Pump ☒ Teflon Bailer

☒ Hand Bail ☐ ____ (Other)

Analyses Requested: EPA 8010

Number and Types of Bottle used: 3 VOA

Method of Shipment: AEN (Lab Name)

☒ Courier ____

☐ Hand Deliver:

Well Number: MW-5

Depth of Water: 16.45

Well Depth: 20.80

Height of Water Column: ____

Volume in Well: ~~1.0~~ .70

Well Diameter:

☐ 2" (0.16 Gallon/Feet)

☐ 4" (0.65 Gallon/Feet

☐ 5" (1.02 Gallon/Feet)

☐ 6" (1.47 Gallon/Feet)

80% DTW ____

20.80
16.45
4.35
.16
2610
435
.6960

4.35 × .8 = 3480

20.80 − 3.48 = 17.32

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
:07								START
16:10		1		19.7	7.00	922		TURBID
:13		2		18.8	6.96	952		TURBID
16:16		3		19.0	6.91	958		TURBID
:25	17.00							SAMPLE

Inlet Depth: ____

Comments: ____

(Recommended Method For Purging Well)

WTR.QLTY.SMPLNG.INFO.22JUL94RYL

WATER-QUALITY SAMPLING INFORMATION

Project No.: 1649.02

Project Name: EAST BAY BRIDGE

Sample Location: MW-6

Samplers Name: JCK DRJ

Sampling Plan Prepared By: REG

Sampling Method:

Date: 2/16/95

Sample No.: MW-6

☐ FB:

☐ DUP:

- ☐ Centrifugal Pump
- ☐ Submersible Pump
- ☒ Hand Bail
- ☐ Disposable Bailer
- ☒ Teflon Bailer
- ☐ _____ (Other)

Analyses Requested: EPA 8010

Number and Types of Bottle used: 3 VOA

21.40
10.67
10.73
.16
6438
1073
1.7168

Method of Shipment: AEN (Lab Name)

☒ Courier

☐ Hand Deliver:

Well Number: MW-6

Depth of Water: 10.67

Well Depth: 21.40

Height of Water Column: 10.73

Volume in Well: 1.72

Well Diameter:

- ☒ 2" (0.16 Gallon/Feet)
- ☐ 4" (0.65 Gallon/Feet
- ☐ 5" (1.02 Gallon/Feet)
- ☐ 6" (1.47 Gallon/Feet)

80% DTW: _____

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
14:51								START
14:56		2		19.1	6.76	1179		TURBID
15:02		4		19.1	6.79	1196		TURBID
15:06		6		19.0	6.74	1204		TURBID
15:10								SAMPLE
16:10								DUPLICATE

Inlet Depth: _____

Comments: _____

(Recommended Method For Purging Well)

WTRQLTY.SMPLNG.INFO.2211U94RYL

WATER-QUALITY SAMPLING INFORMATION

Project No.: 1649.02 Date: 2/16/95

Project Name: EAST BAY BRIDGE Sample No.: MW-6D

Sample Location: MW-6D ☐ FB:

Samplers Name: JCK DRJ ☐ DUP:

Sampling Plan Prepared By: REG

Sampling Method:

☐ Centrifugal Pump ☐ Disposable Bailer

☐ Submersible Pump ☐ Teflon Bailer

☒ Hand Bail ☐ ____ (Other)

Analyses Requested: EPA 8010

Number and Types of Bottle used: 3 VOA

Method of Shipment: AEN (Lab Name)

☒ Courier

☐ Hand Deliver:

Well Number: MW-6D

Depth of Water: 12.17

Well Depth: 39.80

Height of Water Column: 27.73

Volume in Well: 4.45

Well Diameter:

☐ 2" (0.16 Gallon/Feet)

☐ 4" (0.65 Gallon/Feet

☐ 5" (1.02 Gallon/Feet)

☐ 6" (1.47 Gallon/Feet)

39.80
12.17
27.73
.16
16738
2773
4.4468

27.73
.8
22184

39.80
22.18
17.62

80% DTW 17.62

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
14:25								START
14:20								OFF SWITCH TO BAILER
14:30		5		18.9	8.14	630		~~CLEAR~~ SL. TURBID
14:31						~~567~~		TAP BAILING
937		10		19.1	8.71	567		Turbid
1447		15		18.8	8.77	548		Turbid
507	19.35							
15:15	17.02							SAMPLE

Inlet Depth:

Comments: 2" SUB PUMP

(Recommended Method For Purging Well)

WTR.QLTY.SMPLNG.INFO.22JUL94.FYL

WATER-QUALITY SAMPLING INFORMATION

Project No.: 1649.02 Date: 2/16/95

Project Name: EAST BAY BRIDGE Sample No.: MW-7

Sample Location: MW-7 ☐ FB: ____

Samplers Name: JCK ☐ DUP: ____

Sampling Plan Prepared By: REG

Sampling Method: ____

☐ Centrifugal Pump ☐ Disposable Bailer

☐ Submersible Pump ☒ Teflon Bailer

☒ Hand Bail ☐ ____ (Other)

Analyses Requested	Number and Types of Bottle used
EPA 8010	3 VOA

Method of Shipment

AEN (Lab Name) ☒ Courier ____

☐ Hand Deliver:

Well Number: MW-7 Well Diameter: ____

Depth of Water: 10.82 ☐ 2" (0.16 Gallon/Feet)

Well Depth: 23.30 ☐ 4" (0.65 Gallon/Feet

Height of Water Column: 12.48 ☐ 5" (1.02 Gallon/Feet)

Volume in Well: 2.00 ☐ 6" (1.47 Gallon/Feet)

80% DTW 13.32

23.30
10.82
12.48
.16
7488
1248
1.9968

12.48 × .8 = 9.984

23.30 − 9.98 = 13.32

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
13:46								START
13:52		2		18.7	6.83	908		TURBID
13:56		4		18.8	6.77	917		TURBID
14:00		6		18.8	6.75	980		TURBID
14:05	10.98							SAMPLE

Inlet Depth: ____

Comments: ____

(Recommended Method For Purging Well)

WATER-QUALITY SAMPLING INFORMATION

Project No.: 1649.02
Project Name: EAST BAY BRIDGE
Sample Location: MW-7D
Samplers Name: JCK DRJ REG
Sampling Plan Prepared By: ____
Sampling Method: ____

Date: 2/16/95
Sample No.: MW-7D
☐ FB: ____
☐ DUP: ____

☐ Centrifugal Pump ☐ Disposable Bailer
☐ Submersible Pump ☒ Teflon Bailer
☒ Hand Bail ☐ ____ (Other)

Analyses Requested: EPA 8010
Number and Types of Bottle used: 3 VOA

Method of Shipment: AEN (Lab Name)
☒ Courier ____
☐ Hand Deliver:

39.90
11.01
28.89
.16
17334
2889
4.6224

Well Number: MW-7D
Depth of Water: 11.01
Well Depth: 39.90
Height of Water Column: ____
Volume in Well: 4.62

Well Diameter:
☒ 2" (0.16 Gallon/Feet)
☐ 4" (0.65 Gallon/Feet
☐ 5" (1.02 Gallon/Feet)
☐ 6" (1.47 Gallon/Feet)

80% DTW ____

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
13:17								START
1:23		5		18.7	6.89	848		Turbid
1:27		10		18.7	6.83	869		Turbid
1:32		15		18.7	6.83	878		Turbid
1340	13:35	11.15						SAMPLE

Inlet Depth: ____
Comments: centrifical pump
(Recommended Method For Purging Well)

WTR.QLTY.SMPLNG.INFO.22JUL94RYL

WATER-QUALITY SAMPLING INFORMATION

Project No.: 1649.02
Project Name: EAST BAY BRIDGE
Sample Location: MW-7Z
Samplers Name: JCK DRJ
Sampling Plan Prepared By: REG
Sampling Method:

Date: 2/16/95
Sample No.: MW-7Z
☐ FB:
☐ DUP:

☐ Centrifugal Pump ☐ Disposable Bailer
☒ Submersible Pump ☒ Teflon Bailer
☐ Hand Bail ☐ _____ (Other)

Analyses Requested: EPA 8010
Number and Types of Bottle used: 3 VOA

Method of Shipment
AEN (Lab Name)
☒ Courier
☐ Hand Deliver:

64.70
9.14
5556
.16
33336
5556
88896

55.56 × .8 = 44448
64.70 − 44.45 = 2025

Well Number: MW-7Z
Depth of Water: 9.14
Well Depth: 64.70
Height of Water Column:
Volume in Well: 8.89

Well Diameter:
☒ 2" (0.16 Gallon/Feet)
☐ 4" (0.65 Gallon/Feet
☐ 5" (1.02 Gallon/Feet)
☐ 6" (1.47 Gallon/Feet)

80% DTW 20.25

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
12:32								START
12:33		9		18.8	7.10	837		SL. TURBID
12:34	DEWATER	13						OFF
12:37								ON
1241		18		19.7	6.88	807		TURBID
1248		27		19.6	6.87	803		--D TURBID
13:00	18.92							SAMPLE

Inlet Depth:

Comments:
(Recommended Method For Purging Well)

WTRQLTY.SMPLNG.INFO.22JUL94RYL

WATER-QUALITY SAMPLING INFORMATION

Project No.: 1649.02

Project Name: EAST BAY BRIDGE

Sample Location: MW-8

Samplers Name: JCC DRJ

Sampling Plan Prepared By: JCC REG

Sampling Method:

Date: 2/16/95

Sample No.: MW-8

☐ FB:

☐ DUP:

☐ Centrifugal Pump ☐ Disposable Bailer

☐ Submersible Pump ☒ Teflon Bailer

☒ Hand Bail ☐ _____ (Other)

Analyses Requested: EPA 8010

Number and Types of Bottle used: 3 VOA

Method of Shipment: AEN (Lab Name)

☒ Courier

☐ Hand Deliver:

Well Number: MW-8

Depth of Water: 9.68

Well Depth: 20.20

Height of Water Column: 10.52

Volume in Well: 1.68

Well Diameter:

☐ 2" (0.16 Gallon/Feet)

☐ 4" (0.65 Gallon/Feet

☐ 5" (1.02 Gallon/Feet)

☐ 6" (1.47 Gallon/Feet)

20.20
9.68
10.52
.16
6.312
10.52
1.683 2

10.52 20.20
.8 8.42
8.416 11.78

80% DTW 11.78

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
11:05								START
11:07		2		17.0	6.91	1858		TURBID
11:14		4		17.0	6.86	1819		TURBID
11:20		6		17.0	6.83	1796		TURBID
11:25								SAMPLE

Inlet Depth:

Comments:

(Recommended Method For Purging Well)

WTRQLTY.SMPLNGINFO 2/21/94 RYL

WATER-QUALITY SAMPLING INFORMATION

Project No.: 1649.02

Project Name: EAST BAY BRIDGE

Sample Location: MW-9 ~~DRS~~

Samplers Name: JCK DRJ

Sampling Plan Prepared By: JCK

Sampling Method: ____

Date: 2/16/95

Sample No.: MW-9

☐ FB: ____

☐ DUP: ____

☐ Centrifugal Pump ☐ Disposable Bailer

☐ Submersible Pump ☒ Teflon Bailer

☒ Hand Bail ☐ ____ (Other)

Analyses Requested: EPA 8010

Number and Types of Bottle used: 3 VOA

Method of Shipment: ANALYTEK (Lab Name)

☒ Courier ____

☐ Hand Deliver:

Well Number: ~~EW-1~~ MW-9

Depth of Water: 18.85

Well Depth: 25.82

Height of Water Column: 6.97

Volume in Well: 1.12

Well Diameter:

☐ 2" (0.16 Gallon/Feet)

☐ 4" (0.65 Gallon/Feet

☐ 5" (1.02 Gallon/Feet)

☐ 6" (1.47 Gallon/Feet)

25.82
18.85
6.97
.16
4182
697
1.1152

6.97 25.82
.8 5.58
5.576 20.24

80% DTW 20.24

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
10:27								START
10:29		1.5		18.7	6.84	1036		Turbid
10:31		3.0		18.5	6.83	1045		Turbid
10:34		4.5		18.6	6.85	1048		Turbid
10:40	19.01							SAMPLE

Inlet Depth: ____

Comments: ____

(Recommended Method For Purging Well)

WATER-QUALITY SAMPLING INFORMATION

Project No.: 1649:02

Project Name: EAST BAY BRIDGE

Sample Location: MW-9D

Samplers Name: JCK DRJ

Sampling Plan Prepared By: JCK

Sampling Method:

Date: 2/16/95

Sample No.: MW-9D

☐ FB:

☐ DUP:

☒ Centrifugal Pump ☐ Disposable Bailer

☐ Submersible Pump ☒ Teflon Bailer

☐ Hand Bail ☐ _____ (Other)

Analyses Requested: EPA 8010

Number and Types of Bottle used: 3 VOA

Method of Shipment: ~~ANALYTICAL~~ AEN (Lab Name)

☒ Courier

☐ Hand Deliver:

Well Number: MW-9D

Depth of Water: 16.43

Well Depth: 44.80

Height of Water Column: 28.37

Volume in Well: 4.54

Well Diameter:

☐ 2" (0.16 Gallon/Feet)

☐ 4" (0.65 Gallon/Feet

☐ 5" (1.02 Gallon/Feet)

☐ 6" (1.47 Gallon/Feet)

80% DTW _____

44.80
16.43
28.37
.16
17022
2837
4.5392

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
10:03								START
10:06		5		18.1	7.09	880		MOD TURBID
10:07		10		18.5	6.97	897		MOD TURBID
10:08		15		18.7	6.94	914		SL. TURBID
10:15	16.56							

Inlet Depth: _____

Comments: _____

(Recommended Method For Purging Well)

WTR.QLTY.SMPLNG.INFO.22JUL94RYL

WATER-QUALITY SAMPLING INFORMATION

Project No.: 1649.02

Project Name: EAST BAY BRIDGE

Sample Location: LF-22

Samplers Name: JCK DRJ

Sampling Plan Prepared By: REG

Sampling Method:

Date: 2/17/95

Sample No.: LF-22

☒ FB: LF-22-FB

☐ DUP:

☒ Centrifugal Pump ☐ Disposable Bailer

☐ Submersible Pump ☒ Teflon Bailer

☐ Hand Bail ☐ _____ (Other)

Analyses Requested: EPA 8010

Number and Types of Bottle used: 3 VOA

Method of Shipment: AEN (Lab Name)

☒ Courier

☐ Hand Deliver:

Well Number: LF-22

Depth of Water: 10.45

Well Depth: 19.65

Height of Water Column: 9.20

Volume in Well: 5.98

Well Diameter:

☐ 2" (0.16 Gallon/Feet)

☐ 4" (0.65 Gallon/Feet

☐ 5" (1.02 Gallon/Feet)

☐ 6" (1.47 Gallon/Feet)

80% DTW 12.29

19.65
10.45
9.20
.65
4600
5520
5.9800

9.20
.8
7360

19.65
7.36
1229

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
:20								START
9:25		6		17.0	6.94	1159		Clear
:28		12		17.0	6.84	1197		Clear
9:32		18		17.3	7.07	1210		Mod Turbid
:35	DEWATER	19						PUMP OFF
9:70					~~6.89~~			ON
:42		24		17.3	6.99	1186		Mod Turbid
10:10								BAILER BLANK
0:15	12.12							SAMPLE

Inlet Depth:

Comments:

(Recommended Method For Purging Well)

WTR.QLTY.SMPLNG.INFO.22JUL94RYL

WATER-QUALITY SAMPLING INFORMATION

Project No.: 1649.02 Date: 2/17/95

Project Name: EAST BAY BRIDGE Sample No.: LF·23

Sample Location: LF·23 ☐ FB:

Samplers Name: JCK DRJ ☐ DUP:

Sampling Plan Prepared By: REG

Sampling Method:

☒ Centrifugal Pump ☐ Disposable Bailer

☐ Submersible Pump ☒ Teflon Bailer

☐ Hand Bail ☐ _____ (Other)

Analyses Requested: EPA 8010

Number and Types of Bottle used: 3 VOA

Method of Shipment: AEN (Lab Name) ☒ Courier ☐ Hand Deliver:

Well Number: LF·23

Depth of Water: 11.22

Well Depth: 18.5

Height of Water Column: 7.28

Volume in Well: 4.73

Well Diameter:

☐ 2" (0.16 Gallon/Feet)

☐ 4" (0.65 Gallon/Feet

☐ 5" (1.02 Gallon/Feet)

☐ 6" (1.47 Gallon/Feet)

18.50
11.22
7.28
.65
3640
4368
47320

7.28 18.50
.8 5.82
5.824 1268

80% DTW 12.68

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
:55								START
8:57		5		16.5	7.12	740		8 CLEAR
8:58		10		16.6	6.98	772		CLEAR
9:00		15		16.7	6.94	839		CLEAR
.05	12.56							SAMPLE

Inlet Depth:

Comments: (Recommended Method For Purging Well)

WTR.QLTY.SMPLNG.INFO.2/JUL94.RTL

APPENDIX C

LABORATORY CERTIFICATES

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

LEVINE-FRICKE
1900 POWELL ST. 12TH FL.
EMERYVILLE, CA 94608

ATTN: RON GOLOUBOW
CLIENT PROJ. ID: 1649.02
CLIENT PROJ. NAME: EAST BAYBRIDGE
C.O.C. NUMBER: 013419

REPORT DATE: 03/10/95
DATE(S) SAMPLED: 02/16/95-02/17/95
DATE RECEIVED: 02/17/95
AEN WORK ORDER: 9502243

PROJECT SUMMARY:

On February 17, 1995, this laboratory received 16 water sample(s).

Client requested sample(s) be analyzed for organic parameters. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

RECEIVED MAR 13 1995

Larry Klein
Laboratory Director

LEVINE-FRICKE

SAMPLE ID: MW-9
AEN LAB NO: 9502243-01
AEN WORK ORDER: 9502243
CLIENT PROJ. ID: 1649.02

DATE SAMPLED: 02/16/95
DATE RECEIVED: 02/17/95
REPORT DATE: 03/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	**EPA 8010**				
Bromodichloromethane	75-27-4	ND	3	ug/L	02/24/95
Bromoform	75-25-2	ND	3	ug/L	02/24/95
Bromomethane	74-83-9	ND	10	ug/L	02/24/95
Carbon Tetrachloride	56-23-5	ND	3	ug/L	02/24/95
Chlorobenzene	108-90-7	ND	3	ug/L	02/24/95
Chloroethane	75-00-3	ND	10	ug/L	02/24/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	3	ug/L	02/24/95
Chloroform	67-66-3	ND	3	ug/L	02/24/95
Chloromethane	74-87-3	ND	10	ug/L	02/24/95
Dibromochloromethane	124-48-1	ND	3	ug/L	02/24/95
1,2-Dichlorobenzene	95-50-1	ND	3	ug/L	02/24/95
1,3-Dichlorobenzene	541-73-1	ND	3	ug/L	02/24/95
1,4-Dichlorobenzene	106-46-7	ND	3	ug/L	02/24/95
Dichlorodifluoromethane	75-71-8	ND	10	ug/L	02/24/95
1,1-Dichloroethane	75-34-3	ND	3	ug/L	02/24/95
1,2-Dichloroethane	107-06-2	ND	3	ug/L	02/24/95
1,1-Dichloroethene	75-35-4	120 *	3	ug/L	02/24/95
cis-1,2-Dichloroethene	156-59-2	ND	3	ug/L	02/24/95
trans-1,2-Dichloroethene	156-60-5	ND	3	ug/L	02/24/95
1,2-Dichloropropane	78-87-5	ND	3	ug/L	02/24/95
cis-1,3-Dichloropropene	10061-01-5	ND	3	ug/L	02/24/95
trans-1,3-Dichloropropene	10061-02-6	ND	3	ug/L	02/24/95
Methylene Chloride	75-09-2	ND	3	ug/L	02/24/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	3	ug/L	02/24/95
Tetrachloroethene	127-18-4	ND	3	ug/L	02/24/95
1,1,1-Trichloroethane	71-55-6	14 *	3	ug/L	02/24/95
1,1,2-Trichloroethane	79-00-5	ND	3	ug/L	02/24/95
Trichloroethene	79-01-6	ND	3	ug/L	02/24/95
Trichlorofluoromethane	75-69-4	ND	10	ug/L	02/24/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	3	ug/L	02/24/95
Vinyl Chloride	75-01-4	ND	10	ug/L	02/24/95

Reporting limits elevated due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

LEVINE-FRICKE

SAMPLE ID: MW-9D
AEN LAB NO: 9502243-02
AEN WORK ORDER: 9502243
CLIENT PROJ. ID: 1649.02

DATE SAMPLED: 02/16/95
DATE RECEIVED: 02/17/95
REPORT DATE: 03/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	02/24/95
Bromoform	75-25-2	ND	0.5	ug/L	02/24/95
Bromomethane	74-83-9	ND	2	ug/L	02/24/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	02/24/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	02/24/95
Chloroethane	75-00-3	ND	2	ug/L	02/24/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	02/24/95
Chloroform	67-66-3	ND	0.5	ug/L	02/24/95
Chloromethane	74-87-3	ND	2	ug/L	02/24/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	02/24/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	02/24/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	02/24/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	02/24/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	02/24/95
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	02/24/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	02/24/95
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	02/24/95
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	02/24/95
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	02/24/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	02/24/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	02/24/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	02/24/95
Methylene Chloride	75-09-2	ND	0.5	ug/L	02/24/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	02/24/95
Tetrachloroethene	127-18-4	ND	0.5	ug/L	02/24/95
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	02/24/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	02/24/95
Trichloroethene	79-01-6	ND	0.5	ug/L	02/24/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	02/24/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	02/24/95
Vinyl Chloride	75-01-4	ND	2	ug/L	02/24/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

LEVINE-FRICKE

SAMPLE ID: MW-7
AEN LAB NO: 9502243-03
AEN WORK ORDER: 9502243
CLIENT PROJ. ID: 1649.02

DATE SAMPLED: 02/16/95
DATE RECEIVED: 02/17/95
REPORT DATE: 03/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	3	ug/L	02/25/95
Bromoform	75-25-2	ND	3	ug/L	02/25/95
Bromomethane	74-83-9	ND	10	ug/L	02/25/95
Carbon Tetrachloride	56-23-5	ND	3	ug/L	02/25/95
Chlorobenzene	108-90-7	ND	3	ug/L	02/25/95
Chloroethane	75-00-3	ND	10	ug/L	02/25/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	3	ug/L	02/25/95
Chloroform	67-66-3	ND	3	ug/L	02/25/95
Chloromethane	74-87-3	ND	10	ug/L	02/25/95
Dibromochloromethane	124-48-1	ND	3	ug/L	02/25/95
1,2-Dichlorobenzene	95-50-1	ND	3	ug/L	02/25/95
1,3-Dichlorobenzene	541-73-1	ND	3	ug/L	02/25/95
1,4-Dichlorobenzene	106-46-7	ND	3	ug/L	02/25/95
Dichlorodifluoromethane	75-71-8	ND	10	ug/L	02/25/95
1,1-Dichloroethane	75-34-3	ND	3	ug/L	02/25/95
1,2-Dichloroethane	107-06-2	ND	3	ug/L	02/25/95
1,1-Dichloroethene	75-35-4	120 *	3	ug/L	02/25/95
cis-1,2-Dichloroethene	156-59-2	ND	3	ug/L	02/25/95
trans-1,2-Dichloroethene	156-60-5	ND	3	ug/L	02/25/95
1,2-Dichloropropane	78-87-5	ND	3	ug/L	02/25/95
cis-1,3-Dichloropropene	10061-01-5	ND	3	ug/L	02/25/95
trans-1,3-Dichloropropene	10061-02-6	ND	3	ug/L	02/25/95
Methylene Chloride	75-09-2	ND	3	ug/L	02/25/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	3	ug/L	02/25/95
Tetrachloroethene	127-18-4	ND	3	ug/L	02/25/95
1,1,1-Trichloroethane	71-55-6	11 *	3	ug/L	02/25/95
1,1,2-Trichloroethane	79-00-5	ND	3	ug/L	02/25/95
Trichloroethene	79-01-6	ND	3	ug/L	02/25/95
Trichlorofluoromethane	75-69-4	ND	10	ug/L	02/25/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	3	ug/L	02/25/95
Vinyl Chloride	75-01-4	ND	10	ug/L	02/25/95

Reporting limits elevated due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

LEVINE-FRICKE

SAMPLE ID: MW-8
AEN LAB NO: 9502243-04
AEN WORK ORDER: 9502243
CLIENT PROJ. ID: 1649.02

DATE SAMPLED: 02/16/95
DATE RECEIVED: 02/17/95
REPORT DATE: 03/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	**EPA 8010**				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	02/24/95
Bromoform	75-25-2	ND	0.5	ug/L	02/24/95
Bromomethane	74-83-9	ND	2	ug/L	02/24/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	02/24/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	02/24/95
Chloroethane	75-00-3	ND	2	ug/L	02/24/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	02/24/95
Chloroform	67-66-3	ND	0.5	ug/L	02/24/95
Chloromethane	74-87-3	ND	2	ug/L	02/24/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	02/24/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	02/24/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	02/24/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	02/24/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	02/24/95
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	02/24/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	02/24/95
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	02/24/95
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	02/24/95
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	02/24/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	02/24/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	02/24/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	02/24/95
Methylene Chloride	75-09-2	ND	0.5	ug/L	02/24/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	02/24/95
Tetrachloroethene	127-18-4	ND	0.5	ug/L	02/24/95
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	02/24/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	02/24/95
Trichloroethene	79-01-6	ND	0.5	ug/L	02/24/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	02/24/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	02/24/95
Vinyl Chloride	75-01-4	ND	2	ug/L	02/24/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

LEVINE-FRICKE

SAMPLE ID: MW-7D
AEN LAB NO: 9502243-05
AEN WORK ORDER: 9502243
CLIENT PROJ. ID: 1649.02

DATE SAMPLED: 02/16/95
DATE RECEIVED: 02/17/95
REPORT DATE: 03/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	**EPA 8010**				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	02/24/95
Bromoform	75-25-2	ND	0.5	ug/L	02/24/95
Bromomethane	74-83-9	ND	2	ug/L	02/24/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	02/24/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	02/24/95
Chloroethane	75-00-3	ND	2	ug/L	02/24/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	02/24/95
Chloroform	67-66-3	ND	0.5	ug/L	02/24/95
Chloromethane	74-87-3	ND	2	ug/L	02/24/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	02/24/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	02/24/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	02/24/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	02/24/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	02/24/95
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	02/24/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	02/24/95
1,1-Dichloroethene	75-35-4	3 *	0.5	ug/L	02/24/95
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	02/24/95
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	02/24/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	02/24/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	02/24/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	02/24/95
Methylene Chloride	75-09-2	ND	0.5	ug/L	02/24/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	02/24/95
Tetrachloroethene	127-18-4	ND	0.5	ug/L	02/24/95
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	02/24/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	02/24/95
Trichloroethene	79-01-6	ND	0.5	ug/L	02/24/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	02/24/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	02/24/95
Vinyl Chloride	75-01-4	ND	2	ug/L	02/24/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

LEVINE-FRICKE

SAMPLE ID: MW-7Z
AEN LAB NO: 9502243-06
AEN WORK ORDER: 9502243
CLIENT PROJ. ID: 1649.02

DATE SAMPLED: 02/16/95
DATE RECEIVED: 02/17/95
REPORT DATE: 03/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	02/24/95
Bromoform	75-25-2	ND	0.5	ug/L	02/24/95
Bromomethane	74-83-9	ND	2	ug/L	02/24/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	02/24/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	02/24/95
Chloroethane	75-00-3	ND	2	ug/L	02/24/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	02/24/95
Chloroform	67-66-3	ND	0.5	ug/L	02/24/95
Chloromethane	74-87-3	ND	2	ug/L	02/24/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	02/24/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	02/24/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	02/24/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	02/24/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	02/24/95
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	02/24/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	02/24/95
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	02/24/95
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	02/24/95
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	02/24/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	02/24/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	02/24/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	02/24/95
Methylene Chloride	75-09-2	ND	0.5	ug/L	02/24/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	02/24/95
Tetrachloroethene	127-18-4	ND	0.5	ug/L	02/24/95
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	02/24/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	02/24/95
Trichloroethene	79-01-6	ND	0.5	ug/L	02/24/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	02/24/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	02/24/95
Vinyl Chloride	75-01-4	ND	2	ug/L	02/24/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

LEVINE-FRICKE

SAMPLE ID: MW-3
AEN LAB NO: 9502243-07
AEN WORK ORDER: 9502243
CLIENT PROJ. ID: 1649.02

DATE SAMPLED: 02/16/95
DATE RECEIVED: 02/17/95
REPORT DATE: 03/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	02/24/95
Bromoform	75-25-2	ND	0.5	ug/L	02/24/95
Bromomethane	74-83-9	ND	2	ug/L	02/24/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	02/24/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	02/24/95
Chloroethane	75-00-3	ND	2	ug/L	02/24/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	02/24/95
Chloroform	67-66-3	ND	0.5	ug/L	02/24/95
Chloromethane	74-87-3	ND	2	ug/L	02/24/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	02/24/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	02/24/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	02/24/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	02/24/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	02/24/95
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	02/24/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	02/24/95
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	02/24/95
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	02/24/95
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	02/24/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	02/24/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	02/24/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	02/24/95
Methylene Chloride	75-09-2	ND	0.5	ug/L	02/24/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	02/24/95
Tetrachloroethene	127-18-4	ND	0.5	ug/L	02/24/95
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	02/24/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	02/24/95
Trichloroethene	79-01-6	ND	0.5	ug/L	02/24/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	02/24/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	02/24/95
Vinyl Chloride	75-01-4	ND	2	ug/L	02/24/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

LEVINE-FRICKE

SAMPLE ID: MW-6
AEN LAB NO: 9502243-08
AEN WORK ORDER: 9502243
CLIENT PROJ. ID: 1649.02

DATE SAMPLED: 02/16/95
DATE RECEIVED: 02/17/95
REPORT DATE: 03/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	3	ug/L	02/25/95
Bromoform	75-25-2	ND	3	ug/L	02/25/95
Bromomethane	74-83-9	ND	10	ug/L	02/25/95
Carbon Tetrachloride	56-23-5	ND	3	ug/L	02/25/95
Chlorobenzene	108-90-7	ND	3	ug/L	02/25/95
Chloroethane	75-00-3	ND	10	ug/L	02/25/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	3	ug/L	02/25/95
Chloroform	67-66-3	ND	3	ug/L	02/25/95
Chloromethane	74-87-3	ND	10	ug/L	02/25/95
Dibromochloromethane	124-48-1	ND	3	ug/L	02/25/95
1,2-Dichlorobenzene	95-50-1	ND	3	ug/L	02/25/95
1,3-Dichlorobenzene	541-73-1	ND	3	ug/L	02/25/95
1,4-Dichlorobenzene	106-46-7	ND	3	ug/L	02/25/95
Dichlorodifluoromethane	75-71-8	ND	10	ug/L	02/25/95
1,1-Dichloroethane	75-34-3	3 *	3	ug/L	02/25/95
1,2-Dichloroethane	107-06-2	ND	3	ug/L	02/25/95
1,1-Dichloroethene	75-35-4	280 *	3	ug/L	02/25/95
cis-1,2-Dichloroethene	156-59-2	ND	3	ug/L	02/25/95
trans-1,2-Dichloroethene	156-60-5	ND	3	ug/L	02/25/95
1,2-Dichloropropane	78-87-5	ND	3	ug/L	02/25/95
cis-1,3-Dichloropropene	10061-01-5	ND	3	ug/L	02/25/95
trans-1,3-Dichloropropene	10061-02-6	ND	3	ug/L	02/25/95
Methylene Chloride	75-09-2	ND	3	ug/L	02/25/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	3	ug/L	02/25/95
Tetrachloroethene	127-18-4	ND	3	ug/L	02/25/95
1,1,1-Trichloroethane	71-55-6	39 *	3	ug/L	02/25/95
1,1,2-Trichloroethane	79-00-5	ND	3	ug/L	02/25/95
Trichloroethene	79-01-6	ND	3	ug/L	02/25/95
Trichlorofluoromethane	75-69-4	ND	10	ug/L	02/25/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	3	ug/L	02/25/95
Vinyl Chloride	75-01-4	ND	10	ug/L	02/25/95

Reporting limits elevated due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

LEVINE-FRICKE

SAMPLE ID: MW-6-DUP
AEN LAB NO: 9502243-09
AEN WORK ORDER: 9502243
CLIENT PROJ. ID: 1649.02

DATE SAMPLED: 02/16/95
DATE RECEIVED: 02/17/95
REPORT DATE: 03/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	3	ug/L	02/25/95
Bromoform	75-25-2	ND	3	ug/L	02/25/95
Bromomethane	74-83-9	ND	10	ug/L	02/25/95
Carbon Tetrachloride	56-23-5	ND	3	ug/L	02/25/95
Chlorobenzene	108-90-7	ND	3	ug/L	02/25/95
Chloroethane	75-00-3	ND	10	ug/L	02/25/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	3	ug/L	02/25/95
Chloroform	67-66-3	ND	3	ug/L	02/25/95
Chloromethane	74-87-3	ND	10	ug/L	02/25/95
Dibromochloromethane	124-48-1	ND	3	ug/L	02/25/95
1,2-Dichlorobenzene	95-50-1	ND	3	ug/L	02/25/95
1,3-Dichlorobenzene	541-73-1	ND	3	ug/L	02/25/95
1,4-Dichlorobenzene	106-46-7	ND	3	ug/L	02/25/95
Dichlorodifluoromethane	75-71-8	ND	10	ug/L	02/25/95
1,1-Dichloroethane	75-34-3	4 *	3	ug/L	02/25/95
1,2-Dichloroethane	107-06-2	ND	3	ug/L	02/25/95
1,1-Dichloroethene	75-35-4	290 *	3	ug/L	02/25/95
cis-1,2-Dichloroethene	156-59-2	ND	3	ug/L	02/25/95
trans-1,2-Dichloroethene	156-60-5	ND	3	ug/L	02/25/95
1,2-Dichloropropane	78-87-5	ND	3	ug/L	02/25/95
cis-1,3-Dichloropropene	10061-01-5	ND	3	ug/L	02/25/95
trans-1,3-Dichloropropene	10061-02-6	ND	3	ug/L	02/25/95
Methylene Chloride	75-09-2	ND	3	ug/L	02/25/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	3	ug/L	02/25/95
Tetrachloroethene	127-18-4	ND	3	ug/L	02/25/95
1,1,1-Trichloroethane	71-55-6	45 *	3	ug/L	02/25/95
1,1,2-Trichloroethane	79-00-5	ND	3	ug/L	02/25/95
Trichloroethene	79-01-6	ND	3	ug/L	02/25/95
Trichlorofluoromethane	75-69-4	ND	10	ug/L	02/25/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	3	ug/L	02/25/95
Vinyl Chloride	75-01-4	ND	10	ug/L	02/25/95

Reporting limits elevated due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

LEVINE-FRICKE

SAMPLE ID: MW-5
AEN LAB NO: 9502243-10
AEN WORK ORDER: 9502243
CLIENT PROJ. ID: 1649.02

DATE SAMPLED: 02/16/95
DATE RECEIVED: 02/17/95
REPORT DATE: 03/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	02/24/95
Bromoform	75-25-2	ND	0.5	ug/L	02/24/95
Bromomethane	74-83-9	ND	2	ug/L	02/24/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	02/24/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	02/24/95
Chloroethane	75-00-3	ND	2	ug/L	02/24/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	02/24/95
Chloroform	67-66-3	ND	0.5	ug/L	02/24/95
Chloromethane	74-87-3	ND	2	ug/L	02/24/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	02/24/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	02/24/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	02/24/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	02/24/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	02/24/95
1,1-Dichloroethane	75-34-3	3 *	0.5	ug/L	02/24/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	02/24/95
1,1-Dichloroethene	75-35-4	8 *	0.5	ug/L	02/24/95
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	02/24/95
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	02/24/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	02/24/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	02/24/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	02/24/95
Methylene Chloride	75-09-2	ND	0.5	ug/L	02/24/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	02/24/95
Tetrachloroethene	127-18-4	2 *	0.5	ug/L	02/24/95
1,1,1-Trichloroethane	71-55-6	1 *	0.5	ug/L	02/24/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	02/24/95
Trichloroethene	79-01-6	ND	0.5	ug/L	02/24/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	02/24/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	02/24/95
Vinyl Chloride	75-01-4	ND	2	ug/L	02/24/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

LEVINE-FRICKE

SAMPLE ID: MW-6D
AEN LAB NO: 9502243-11
AEN WORK ORDER: 9502243
CLIENT PROJ. ID: 1649.02

DATE SAMPLED: 02/16/95
DATE RECEIVED: 02/17/95
REPORT DATE: 03/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	02/24/95
Bromoform	75-25-2	ND	0.5	ug/L	02/24/95
Bromomethane	74-83-9	ND	2	ug/L	02/24/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	02/24/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	02/24/95
Chloroethane	75-00-3	ND	2	ug/L	02/24/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	02/24/95
Chloroform	67-66-3	ND	0.5	ug/L	02/24/95
Chloromethane	74-87-3	ND	2	ug/L	02/24/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	02/24/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	02/24/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	02/24/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	02/24/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	02/24/95
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	02/24/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	02/24/95
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	02/24/95
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	02/24/95
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	02/24/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	02/24/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	02/24/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	02/24/95
Methylene Chloride	75-09-2	ND	0.5	ug/L	02/24/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	02/24/95
Tetrachloroethene	127-18-4	ND	0.5	ug/L	02/24/95
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	02/24/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	02/24/95
Trichloroethene	79-01-6	ND	0.5	ug/L	02/24/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	02/24/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	02/24/95
Vinyl Chloride	75-01-4	ND	2	ug/L	02/24/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

LEVINE-FRICKE

SAMPLE ID: LF-23
AEN LAB NO: 9502243-12
AEN WORK ORDER: 9502243
CLIENT PROJ. ID: 1649.02

DATE SAMPLED: 02/17/95
DATE RECEIVED: 02/17/95
REPORT DATE: 03/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	02/24/95
Bromoform	75-25-2	ND	0.5	ug/L	02/24/95
Bromomethane	74-83-9	ND	2	ug/L	02/24/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	02/24/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	02/24/95
Chloroethane	75-00-3	ND	2	ug/L	02/24/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	02/24/95
Chloroform	67-66-3	2 *	0.5	ug/L	02/24/95
Chloromethane	74-87-3	ND	2	ug/L	02/24/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	02/24/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	02/24/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	02/24/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	02/24/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	02/24/95
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	02/24/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	02/24/95
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	02/24/95
cis-1,2-Dichloroethene	156-59-2	2 *	0.5	ug/L	02/24/95
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	02/24/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	02/24/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	02/24/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	02/24/95
Methylene Chloride	75-09-2	ND	0.5	ug/L	02/24/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	02/24/95
Tetrachloroethene	127-18-4	6 *	0.5	ug/L	02/24/95
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	02/24/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	02/24/95
Trichloroethene	79-01-6	3 *	0.5	ug/L	02/24/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	02/24/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	02/24/95
Vinyl Chloride	75-01-4	ND	2	ug/L	02/24/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

LEVINE-FRICKE

SAMPLE ID: LF-22
AEN LAB NO: 9502243-13
AEN WORK ORDER: 9502243
CLIENT PROJ. ID: 1649.02

DATE SAMPLED: 02/17/95
DATE RECEIVED: 02/17/95
REPORT DATE: 03/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	02/24/95
Bromoform	75-25-2	ND	0.5	ug/L	02/24/95
Bromomethane	74-83-9	ND	2	ug/L	02/24/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	02/24/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	02/24/95
Chloroethane	75-00-3	ND	2	ug/L	02/24/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	02/24/95
Chloroform	67-66-3	ND	0.5	ug/L	02/24/95
Chloromethane	74-87-3	ND	2	ug/L	02/24/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	02/24/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	02/24/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	02/24/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	02/24/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	02/24/95
1,1-Dichloroethane	75-34-3	1 *	0.5	ug/L	02/24/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	02/24/95
1,1-Dichloroethene	75-35-4	0.7 *	0.5	ug/L	02/24/95
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	02/24/95
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	02/24/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	02/24/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	02/24/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	02/24/95
Methylene Chloride	75-09-2	ND	0.5	ug/L	02/24/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	02/24/95
Tetrachloroethene	127-18-4	0.6 *	0.5	ug/L	02/24/95
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	02/24/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	02/24/95
Trichloroethene	79-01-6	ND	0.5	ug/L	02/24/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	02/24/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	02/24/95
Vinyl Chloride	75-01-4	ND	2	ug/L	02/24/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

LEVINE-FRICKE

SAMPLE ID: MW-1
AEN LAB NO: 9502243-14
AEN WORK ORDER: 9502243
CLIENT PROJ. ID: 1649.02

DATE SAMPLED: 02/17/95
DATE RECEIVED: 02/17/95
REPORT DATE: 03/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	02/27/95
Toluene	108-88-3	ND	0.5	ug/L	02/27/95
Ethylbenzene	100-41-4	ND	0.5	ug/L	02/27/95
Xylenes, Total	1330-20-7	ND	2	ug/L	02/27/95
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	02/27/95
#Extraction for TPH	EPA 3510	-		Extrn Date	02/27/95
TPH as Diesel	GC-FID	0.08 *	0.05	mg/L	03/01/95
TPH as Oil	GC-FID	ND	0.2	mg/L	03/01/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

LEVINE-FRICKE

SAMPLE ID: LF-22-BB
AEN LAB NO: 9502243-15
AEN WORK ORDER: 9502243
CLIENT PROJ. ID: 1649.02

DATE SAMPLED: 02/17/95
DATE RECEIVED: 02/17/95
REPORT DATE: 03/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	02/23/95
Bromoform	75-25-2	ND	0.5	ug/L	02/23/95
Bromomethane	74-83-9	ND	2	ug/L	02/23/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	02/23/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	02/23/95
Chloroethane	75-00-3	ND	2	ug/L	02/23/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	02/23/95
Chloroform	67-66-3	ND	0.5	ug/L	02/23/95
Chloromethane	74-87-3	ND	2	ug/L	02/23/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	02/23/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	02/23/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	02/23/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	02/23/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	02/23/95
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	02/23/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	02/23/95
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	02/23/95
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	02/23/95
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	02/23/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	02/23/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	02/23/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	02/23/95
Methylene Chloride	75-09-2	ND	0.5	ug/L	02/23/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	02/23/95
Tetrachloroethene	127-18-4	ND	0.5	ug/L	02/23/95
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	02/23/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	02/23/95
Trichloroethene	79-01-6	ND	0.5	ug/L	02/23/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	02/23/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	02/23/95
Vinyl Chloride	75-01-4	ND	2	ug/L	02/23/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

LEVINE-FRICKE

SAMPLE ID: MW-2
AEN LAB NO: 9502243-16
AEN WORK ORDER: 9502243
CLIENT PROJ. ID: 1649.02

DATE SAMPLED: 02/17/95
DATE RECEIVED: 02/17/95
REPORT DATE: 03/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	45 *	0.5	ug/L	02/27/95
Toluene	108-88-3	5 *	0.5	ug/L	02/27/95
Ethylbenzene	100-41-4	110 *	0.5	ug/L	02/27/95
Xylenes, Total	1330-20-7	350 *	2	ug/L	02/27/95
Purgeable HCs as Gasoline	5030/GCFID	3.5 *	0.05	mg/L	02/27/95
#Extraction for TPH	EPA 3510	-		Extrn Date	02/27/95
TPH as Diesel	GC-FID	0.3 *	0.05	mg/L	03/01/95
TPH as Oil	GC-FID	ND	0.2	mg/L	03/01/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9502243

CLIENT PROJECT ID: 1649.02

Quality Control Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9502243
DATE EXTRACTED: 02/27/95
INSTRUMENT: C
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
03/01/95	MW-1	14	85
03/01/95	MW-2	16	87
QC Limits:			73-129

DATE EXTRACTED: 02/22/95
DATE ANALYZED: 02/25/95
SAMPLE SPIKED: DI WATER
INSTRUMENT: C

Method Spike Recovery Summary

Analyte	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Diesel	1.68	91	1	65-103	12

AEN LAB NO: 0227-BLANK
DATE EXTRACTED: 02/27/95
DATE ANALYZED: 03/01/95

Method Blank

	Result (mg/L)	Reporting Limit (mg/L)
Diesel	ND	0.05
Oil	ND	0.2

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9502243
AEN LAB NO: 0227-BLANK
DATE ANALYZED: 02/27/95
MATRIX: WATER

Method Blank

	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Benzene	71-43-2	ND	0.5
Toluene	108-88-3	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
Xylenes, Total	1330-20-7	ND	2
HCs as Gasoline		ND mg/L	0.05 mg/L

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9502243
INSTRUMENT: H
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
02/27/95	MW-1	14	100
02/27/95	MW-2	16	105
QC Limits:			92-109

DATE ANALYZED: 02/27/95
SAMPLE SPIKED: 9502243-14
INSTRUMENT: H

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	18.2	96	4	85-109	17
Toluene	52.8	96	5	87-111	16
Hydrocarbons as Gasoline	500	100	16	66-117	19

QUALITY CONTROL DATA

METHOD: EPA 8010

AEN JOB NO: 9502243
DATE ANALYZED: 02/23/95
AEN LAB NO: 0223-BLANK
INSTRUMENT: G
MATRIX: WATER

Method Blank

Analyte	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Bromodichloromethane	75-27-4	ND	0.5
Bromoform	75-25-2	ND	0.5
Bromomethane	74-83-9	ND	2
Carbon Tetrachloride	56-23-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
Chloroethane	75-00-3	ND	2
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	2
Dibromochloromethane	124-48-1	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Dichlorodifluoromethane	75-71-8	ND	2
1,1-Dichloroethane	75-34-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.5
1,1-Dichloroethene	75-35-4	ND	0.5
cis-1,2-Dichloroethene	156-59-2	ND	0.5
trans-1,2-Dichloroethene	156-60-5	ND	0.5
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.5
Methylene Chloride	75-09-2	ND	2
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.5
Trichloroethene	79-01-6	ND	0.5
Trichlorofluoromethane	75-69-4	ND	2
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	0.5
Vinyl Chloride	75-01-4	ND	2

QUALITY CONTROL DATA

METHOD: EPA 8010

AEN JOB NO: 9502243
DATE ANALYZED: 02/24/95
AEN LAB NO: 0224-BLANK
INSTRUMENT: G
MATRIX: WATER

Method Blank

Analyte	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Bromodichloromethane	75-27-4	ND	0.5
Bromoform	75-25-2	ND	0.5
Bromomethane	74-83-9	ND	2
Carbon Tetrachloride	56-23-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
Chloroethane	75-00-3	ND	2
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	2
Dibromochloromethane	124-48-1	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Dichlorodifluoromethane	75-71-8	ND	2
1,1-Dichloroethane	75-34-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.5
1,1-Dichloroethene	75-35-4	ND	0.5
cis-1,2-Dichloroethene	156-59-2	ND	0.5
trans-1,2-Dichloroethene	156-60-5	ND	0.5
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.5
Methylene Chloride	75-09-2	ND	2
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.5
Trichloroethene	79-01-6	ND	0.5
Trichlorofluoromethane	75-69-4	ND	2
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	0.5
Vinyl Chloride	75-01-4	ND	2

QUALITY CONTROL DATA

METHOD: EPA 8010

AEN JOB NO: 9502243
DATE ANALYZED: 02/25/95
AEN LAB NO: 0225-BLANK
INSTRUMENT: G
MATRIX: WATER

Method Blank

Analyte	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Bromodichloromethane	75-27-4	ND	0.5
Bromoform	75-25-2	ND	0.5
Bromomethane	74-83-9	ND	2
Carbon Tetrachloride	56-23-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
Chloroethane	75-00-3	ND	2
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	2
Dibromochloromethane	124-48-1	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Dichlorodifluoromethane	75-71-8	ND	2
1,1-Dichloroethane	75-34-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.5
1,1-Dichloroethene	75-35-4	ND	0.5
cis-1,2-Dichloroethene	156-59-2	ND	0.5
trans-1,2-Dichloroethene	156-60-5	ND	0.5
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.5
Methylene Chloride	75-09-2	ND	2
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.5
Trichloroethene	79-01-6	ND	0.5
Trichlorofluoromethane	75-69-4	ND	2
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	0.5
Vinyl Chloride	75-01-4	ND	2

QUALITY CONTROL DATA

METHOD: EPA 8010

AEN JOB NO: 9502243
INSTRUMENT: G
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery: Bromochloro-methane	Percent Recovery: 1-Bromo-3-chloro-propane
02/24/95	MW-9	01	117	118
02/24/95	MW-9D	02	107	111
02/25/95	MW-7	03	115	115
02/24/95	MW-8	04	115	120
02/24/95	MW-7D	05	114	114
02/24/95	MW-7Z	06	110	117
02/24/95	MW-3	07	112	118
02/25/95	MW-6	08	111	114
02/25/95	MW-6-DUP	09	112	117
02/24/95	MW-5	10	114	111
02/24/95	MW-6D	11	110	117
02/24/95	LF-23	12	112	111
02/24/95	LF-22	13	114	117
02/23/95	LF-22-BB	15	105	117
QC Limits:			78-153	74-143

DATE ANALYZED: 02/22/95
SAMPLE SPIKED: 9502163-02
INSTRUMENT: G

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits: Percent Recovery	QC Limits: RPD
1,1-Dichloroethene	50	102	2	40-130	18
Trichloroethene	50	113	1	67-136	17
Chlorobenzene	50	98	2	59-123	15

*** END OF REPORT ***

R-31

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

9502243

Project No.: 1649.02	Field Logbook No.:	Date: 2/17/95	Serial No.: № 013419
Project Name: EAST BAY BRIDGE	Project Location: EMERYVILLE, CA.		
Sampler (Signature): J.C.			Samplers: JCK DRJ

SAMPLES						ANALYSES								
SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	EPA 8010	TPHS BTEX	TPHd	TPHo	HOLD	RUSH	REMARKS
MW-9	2/16/95	10:40	01A-C	3	H2O			X						STD TAT
MW-9D		10:15	02A-C					X						
MW-7		14:05	03A-C					X						
MW-8		11:25	04A-C					X						
MW-7D		13:35	05A-C					X						RESULTS TO RON GOLOUBOW
MW-7Z		13:00	06A-C					X						
MW-3		15:45	07A-C					X						
MW-6		15:10	08A-C					X						
MW-6-DUP		16:10	09A-C					X						
MW-5		16:25	10A-C					X						
MW-6D		15:15	11A-C					X						
LF-23	2/17/95	9:05	12A-C	3				X						
LF-22		10:15	13A-C	3				*						* Analysis per client by phone 2/21 - DSH
MW-1		11:00	14A-E	5					X	X	X			
LF-22-BB		10:10	15A-C	3				X	~~X~~	~~X~~	~~X~~			
MW-2		11:35	16A-E						X	X				

RELINQUISHED BY: (Signature) J.C.	DATE 2/17/95	TIME 17:00	RECEIVED BY: (Signature) Michael E. Mueller	DATE 2/17/95	TIME 17:00
RELINQUISHED BY: (Signature) Michael E. Mueller	DATE 2/17/95	TIME 18:45	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature) Denise Harrington	DATE 2/17/95	TIME 1845
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

Sample Collector:
LEVINE-FRICKE
1900 Powell Street, 12th Floor
Emeryville, California 94608
(510) 652-4500

Analytical Laboratory:
AEJ
PLEASANTHILL

Shipping Copy (White) Lab Copy (Green) File Copy (Yellow) Field Copy (Pink)

FORM NO. 86/COC/ARF

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

LEVINE-FRICKE
1900 POWELL ST. 12TH FL.
EMERYVILLE, CA 94608

ATTN: RON GOLOUBOW
CLIENT PROJ. ID: 1649.02
CLIENT PROJ. NAME: EAST BAYBRIDGE
C.O.C. NUMBER: 013420

REPORT DATE: 03/10/95
DATE(S) SAMPLED: 02/17/95
DATE RECEIVED: 02/17/95
AEN WORK ORDER: 9502244

PROJECT SUMMARY:

On February 17, 1995, this laboratory received 3 water sample(s).

Client requested sample(s) be analyzed for organic parameters. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

RECEIVED MAR 13 1995

LEVINE-FRICKE

SAMPLE ID: EX-3
AEN LAB NO: 9502244-01
AEN WORK ORDER: 9502244
CLIENT PROJ. ID: 1649.02

DATE SAMPLED: 02/17/95
DATE RECEIVED: 02/17/95
REPORT DATE: 03/10/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3510	-		Extrn Date	02/27/95
TPH as Diesel	GC-FID	ND	0.05	mg/L	03/01/95
TPH as Oil	GC-FID	ND	0.2	mg/L	03/01/95
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	02/25/95
Bromoform	75-25-2	ND	0.5	ug/L	02/25/95
Bromomethane	74-83-9	ND	2	ug/L	02/25/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	02/25/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	02/25/95
Chloroethane	75-00-3	ND	2	ug/L	02/25/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	02/25/95
Chloroform	67-66-3	ND	0.5	ug/L	02/25/95
Chloromethane	74-87-3	ND	2	ug/L	02/25/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	02/25/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	02/25/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	02/25/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	02/25/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	02/25/95
1,1-Dichloroethane	75-34-3	5 *	0.5	ug/L	02/25/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	02/25/95
1,1-Dichloroethene	75-35-4	96 *	0.5	ug/L	02/27/95
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	02/25/95
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	02/25/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	02/25/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	02/25/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	02/25/95
Methylene Chloride	75-09-2	ND	0.5	ug/L	02/25/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	02/25/95
Tetrachloroethene	127-18-4	37 *	0.5	ug/L	02/25/95
1,1,1-Trichloroethane	71-55-6	14 *	0.5	ug/L	02/25/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	02/25/95
Trichloroethene	79-01-6	3 *	0.5	ug/L	02/25/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	02/25/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	02/25/95
Vinyl Chloride	75-01-4	ND	2	ug/L	02/25/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

LEVINE-FRICKE

SAMPLE ID: EX-4
AEN LAB NO: 9502244-02
AEN WORK ORDER: 9502244
CLIENT PROJ. ID: 1649.02

DATE SAMPLED: 02/17/95
DATE RECEIVED: 02/17/95
REPORT DATE: 03/10/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3510	-		Extrn Date	02/27/95
TPH as Diesel	GC-FID	ND	0.05	mg/L	03/01/95
TPH as Oil	GC-FID	ND	0.2	mg/L	03/01/95
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	3	ug/L	02/25/95
Bromoform	75-25-2	ND	3	ug/L	02/25/95
Bromomethane	74-83-9	ND	10	ug/L	02/25/95
Carbon Tetrachloride	56-23-5	ND	3	ug/L	02/25/95
Chlorobenzene	108-90-7	ND	3	ug/L	02/25/95
Chloroethane	75-00-3	ND	10	ug/L	02/25/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	3	ug/L	02/25/95
Chloroform	67-66-3	ND	3	ug/L	02/25/95
Chloromethane	74-87-3	ND	10	ug/L	02/25/95
Dibromochloromethane	124-48-1	ND	3	ug/L	02/25/95
1,2-Dichlorobenzene	95-50-1	ND	3	ug/L	02/25/95
1,3-Dichlorobenzene	541-73-1	ND	3	ug/L	02/25/95
1,4-Dichlorobenzene	106-46-7	ND	3	ug/L	02/25/95
Dichlorodifluoromethane	75-71-8	ND	10	ug/L	02/25/95
1,1-Dichloroethane	75-34-3	4 *	3	ug/L	02/25/95
1,2-Dichloroethane	107-06-2	ND	3	ug/L	02/25/95
1,1-Dichloroethene	75-35-4	210 *	3	ug/L	02/25/95
cis-1,2-Dichloroethene	156-59-2	ND	3	ug/L	02/25/95
trans-1,2-Dichloroethene	156-60-5	ND	3	ug/L	02/25/95
1,2-Dichloropropane	78-87-5	ND	3	ug/L	02/25/95
cis-1,3-Dichloropropene	10061-01-5	ND	3	ug/L	02/25/95
trans-1,3-Dichloropropene	10061-02-6	ND	3	ug/L	02/25/95
Methylene Chloride	75-09-2	ND	3	ug/L	02/25/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	3	ug/L	02/25/95
Tetrachloroethene	127-18-4	11 *	3	ug/L	02/25/95
1,1,1-Trichloroethane	71-55-6	17 *	3	ug/L	02/25/95
1,1,2-Trichloroethane	79-00-5	ND	3	ug/L	02/25/95
Trichloroethene	79-01-6	ND	3	ug/L	02/25/95
Trichlorofluoromethane	75-69-4	ND	10	ug/L	02/25/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	3	ug/L	02/25/95
Vinyl Chloride	75-01-4	ND	10	ug/L	02/25/95

LEVINE-FRICKE

SAMPLE ID: EX-4
AEN LAB NO: 9502244-02
AEN WORK ORDER: 9502244
CLIENT PROJ. ID: 1649.02

DATE SAMPLED: 02/17/95
DATE RECEIVED: 02/17/95
REPORT DATE: 03/10/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED

Reporting limits elevated for EPA 8010 due to high levels of target compounds; sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

LEVINE-FRICKE

SAMPLE ID: TRIP BLANK
AEN LAB NO: 9502244-03
AEN WORK ORDER: 9502244
CLIENT PROJ. ID: 1649.02

DATE SAMPLED:
DATE RECEIVED: 02/17/95
REPORT DATE: 03/10/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	02/25/95
Bromoform	75-25-2	ND	0.5	ug/L	02/25/95
Bromomethane	74-83-9	ND	2	ug/L	02/25/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	02/25/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	02/25/95
Chloroethane	75-00-3	ND	2	ug/L	02/25/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	02/25/95
Chloroform	67-66-3	ND	0.5	ug/L	02/25/95
Chloromethane	74-87-3	ND	2	ug/L	02/25/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	02/25/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	02/25/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	02/25/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	02/25/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	02/25/95
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	02/25/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	02/25/95
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	02/25/95
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	02/25/95
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	02/25/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	02/25/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	02/25/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	02/25/95
Methylene Chloride	75-09-2	ND	0.5	ug/L	02/25/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	02/25/95
Tetrachloroethene	127-18-4	ND	0.5	ug/L	02/25/95
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	02/25/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	02/25/95
Trichloroethene	79-01-6	ND	0.5	ug/L	02/25/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	02/25/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	02/25/95
Vinyl Chloride	75-01-4	ND	2	ug/L	02/25/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9502244

CLIENT PROJECT ID: 1649.02

Quality Control Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9502244
DATE EXTRACTED: 02/27/95
INSTRUMENT: C
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
03/01/95	EX-3	01	90
03/01/95	EX-4	02	90
QC Limits:			73-129

DATE EXTRACTED: 02/22/95
DATE ANALYZED: 02/25/95
SAMPLE SPIKED: DI WATER
INSTRUMENT: C

Method Spike Recovery Summary

Analyte	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Diesel	1.68	91	1	65-103	12

AEN LAB NO: 0227-BLANK
DATE EXTRACTED: 02/27/95
DATE ANALYZED: 03/01/95

Method Blank

	Result (mg/L)	Reporting Limit (mg/L)
Diesel	ND	0.05
Oil	ND	0.2

QUALITY CONTROL DATA

METHOD: EPA 8010

AEN JOB NO: 9502244
DATE ANALYZED: 02/25/95
AEN LAB NO: 0225-BLANK
INSTRUMENT: G
MATRIX: WATER

Method Blank

Analyte	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Bromodichloromethane	75-27-4	ND	0.5
Bromoform	75-25-2	ND	0.5
Bromomethane	74-83-9	ND	2
Carbon Tetrachloride	56-23-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
Chloroethane	75-00-3	ND	2
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	2
Dibromochloromethane	124-48-1	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Dichlorodifluoromethane	75-71-8	ND	2
1,1-Dichloroethane	75-34-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.5
1,1-Dichloroethene	75-35-4	ND	0.5
cis-1,2-Dichloroethene	156-59-2	ND	0.5
trans-1,2-Dichloroethene	156-60-5	ND	0.5
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.5
Methylene Chloride	75-09-2	ND	2
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.5
Trichloroethene	79-01-6	ND	0.5
Trichlorofluoromethane	75-69-4	ND	2
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	0.5
Vinyl Chloride	75-01-4	ND	2

QUALITY CONTROL DATA

METHOD: EPA 8010

AEN JOB NO: 9502244
INSTRUMENT: G
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery: Bromochloro-methane	Percent Recovery: 1-Bromo-3-chloro-propane
02/25/95	EX-3	01	113	116
02/25/95	EX-4	02	115	113
02/25/95	TRIP BLANK	03	114	115
QC Limits:			78-153	74-143

DATE ANALYZED: 02/23/95
SAMPLE SPIKED: 9502128-04
INSTRUMENT: G

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits: Percent Recovery	QC Limits: RPD
1,1-Dichloroethene	50	75	7	40-130	18
Trichloroethene	50	105	3	67-136	17
Chlorobenzene	50	89	2	59-123	15

*** END OF REPORT ***

B-1, B-3, S-1

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

9502244

Project No.: 1649.02	Field Logbook No.:	Date: 2/17/95	Serial No.: Nº 013420
Project Name: EAST BAY BRIDGE	Project Location: EMERYVILLE, CA		
Sampler (Signature): FCK			Samplers: JCK DRJ

SAMPLES						ANALYSES								
SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	TPHd	TPHo	EPA 8010		HOLD	RUSH	REMARKS
EX-3	2/17/95	1155	01A-E	5	H2O			X	X	X				
EX-4	↓	1205	02A-E	5	↓			X	X	X				
TRIPBLANK	12/16/95	08:00	03AB	2	↓					X				

RELINQUISHED BY: (Signature) FCK	DATE 2/17/95	TIME 17:00	RECEIVED BY: (Signature) Michael E. Mueller	DATE 2/17/95	TIME 17:00
RELINQUISHED BY: (Signature) Michael E. Mueller	DATE 2/17/95	TIME 18:45	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature) Denise Harrington	DATE 2/17/95	TIME 1845
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

Sample Collector:
LEVINE-FRICKE
1900 Powell Street, 12th Floor
Emeryville, California 94608
(510) 652-4500

Analytical Laboratory: AEN, PLEASANT HILL

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