Quarterly Monitoring Report for January 1 through March 31, 1994 Former Bay Area Warehouse Property Emeryville, California

April 29, 1994
1649.13

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

LEVINE·FRICKE

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ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

April 29, 1994

LF 1649.13

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

Subject: Quarterly Monitoring Report for January 1 through March 31, 1994, Former Bay Area Warehouse Property, Emeryville, California

Dear Ms. Hugo:

Enclosed is the ground-water investigation report and quarterly monitoring report for the period from January 1 through March 31, 1994, for the former Bay Area Warehouse (BAW) property, located in Emeryville, California. The report describes field activities conducted and presents the analytical results for ground-water samples collected during monitoring activities. This recent monitoring event completes one year of quarterly ground-water monitoring for well LF-32.

This report has been prepared on behalf of Catellus Development Corporation ("Catellus") in accordance with Levine•Fricke's work plan dated April 30, 1993, and submitted to the Alameda Health Care Services Agency (ACHA). As you are aware, this work was conducted in accordance with your October 13, 1992 letter to Mr. Charles Wellnitz of BAW, former tenant at the property and the owner and operator of the gasoline underground storage tank (UST) formerly located at the BAW property. Your October 13, 1992 letter to Mr. Wellnitz directed BAW to conduct a ground-water investigation at the BAW property to assess the possible effect of petroleum hydrocarbons from the former UST on shallow ground water in the vicinity of the tank excavation. Because BAW has failed and refused to perform any such investigation, Catellus, as the current owner of the BAW Property, was compelled to proceed with installation of the monitoring well.

Well LF-32 was installed downgradient from and within 10 feet of the former gasoline UST excavation in May 1993 to assess whether a possible release of petroleum hydrocarbons in the vicinity of the former UST has affected shallow ground water.

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Analytical results for ground-water samples collected from well LF-32 do not indicate the presence of benzene, toluene, ethylbenzene, or total xylenes, above laboratory detection limits (Table 1). Total petroleum hydrocarbons (TPH) as diesel and TPH as motor oil were detected at low concentrations of 0.890 parts per million (ppm) and 0.850 ppm, respectively, during this quarterly monitoring period.

While TPH as gasoline (TPHg) had not previously been detected in samples collected from well LF-32, the analytical laboratory reported TPHg at a concentration of 0.110 ppm in the primary and duplicate samples collected on March 11, 1994. However, the laboratory reported that the concentration of TPHg was primarily due to the presence of a heavier petroleum product of hydrocarbon range C9-C14, possibly diesel fuel. Upon further discussion with laboratory personnel, it appeared that the concentration of TPHg may have been the result of laboratory cross contamination. The sample analyzed before LF-32 contained a concentration of TPHg of 0.33 ppm. Therefore, well LF-32 was resampled on April 27, 1994. Analytical results of the sample collected on April 27 are consistent with previous results and do not indicate the presence of TPHg above laboratory detection limits.

As discussed in the meeting on April 25, 1994, among representatives of the ACHA, the Regional Water Quality Control Board (RWQCB), Catellus, and Levine·Fricke, a ground-water monitoring program will be developed that will monitor nonattainment areas within Area C. The former Bay Area Warehouse property, located in the eastern portion of Area C, may be designated as a nonattainment area. We propose to meet with the ACHA and the RWQCB to discuss in detail the ground-water monitoring program for Area C and the former Bay Area Warehouse property. It is anticipated that this monitoring program will be on a semiannual basis. Therefore, it is assumed that the next monitoring event for the former Bay Area Warehouse property will be conducted during the third quarter of 1994 (July through September).

Please call me if you have any questions or comments regarding this report.

Sincerely,

Jenifer Beatty

Jenifer Beatty
Senior Project Hydrogeologist

cc: Richard Hiett, RWQCB
Kimberly Brandt, Catellus
Pat Cashman, Catellus

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April 29, 1994 LF 1649.13

**QUARTERLY MONITORING REPORT FOR
JANUARY 1 THROUGH MARCH 31, 1994
FORMER BAY AREA WAREHOUSE PROPERTY
EMERYVILLE, CALIFORNIA**

1.0 INTRODUCTION

This report describes analytical results for monitoring activities conducted at the former Bay Area Warehouse (BAW) property located in Area C of the Yerba Buena/East Baybridge Center Project Site in Emeryville, California (Figure 1). Monitoring activities were conducted by Levine·Fricke, Inc., on behalf of Catellus Development Corporation in accordance with the work plan dated April 30, 1993 (Levine·Fricke 1993), and submitted to the Alameda County Health Care Services Agency (ACHA).

2.0 BACKGROUND AND PREVIOUS INVESTIGATIONS

On November 20, 1991, a gasoline underground storage tank (UST) was removed from the BAW property by consultants retained by BAW. A Levine·Fricke geologist was present to collect a sample of the fuel product contained in the UST before the UST was removed and to observe removal of the UST. The product sample was submitted to Friedman & Bruya of Seattle, Washington, for fuel characterization analysis. Results reported by Friedman & Bruya indicated that the product was gasoline with trace amounts of weathered diesel.

Tank removal activities are described in the December 1991 "Report of Findings, Underground Storage Tank Removal," prepared by the consultants for BAW and submitted to the ACHA.

Results presented in that report indicated that benzene was not detected in any soil samples collected by BAW from the UST excavation, and that total petroleum hydrocarbon (TPH) as gasoline (TPHg) concentrations in these soil samples were 3 parts per million (ppm) or less. Results for the grab ground-water sample collected from the UST excavation by BAW indicated the presence of benzene and TPHg at concentrations of 0.24 ppm and 8.8 ppm, respectively. Soil and ground-water samples were not submitted for laboratory analysis of TPH as diesel (TPHd).

On October 13, 1992, the ACHA sent a letter to Mr. Charles Wellnitz of BAW, directing BAW to conduct a ground-water investigation at the BAW property to assess the possible effect of petroleum hydrocarbons from the former UST on shallow ground water in the vicinity of the tank excavation. Because BAW has refused to perform any such investigation, Catellus was compelled to proceed with installation of the monitoring well. Levine·Fricke installed monitoring well LF-32 on May 20, 1993, within 10 feet downgradient from the former tank excavation (Figure 2).

3.0 QUARTERLY MONITORING ACTIVITIES CONDUCTED DURING JANUARY 1 THROUGH MARCH 31, 1994

A quarterly monitoring program was implemented at BAW in May 1993 in accordance with Levine·Fricke's work plan dated April 30, 1993 (Levine·Fricke 1993). The activities conducted and the results obtained are presented below.

3.1 Collection of Water-Level Measurements

Depth to water was measured in well LF-32 prior to sampling on March 11, 1994. Depth to water was also measured on March 16, 1994 in well LF-32, and in the other wells located in Area C: wells LF-10, LF-11R, LF-13, and LF-31. Measurements were collected using an electric water-level sounding probe to the nearest 0.01 foot, relative to the top of the PVC well casing.

3.2 Ground-Water Sampling and Laboratory Analysis

Before ground-water samples were collected, approximately three well casing volumes of water were purged from the well in accordance with procedures described in Appendix A. A copy of the water-quality sampling sheet showing parameter readings (pH, specific conductance, temperature) is included in Appendix B. After the well had been purged, ground-water samples were collected on March 11, 1994. For quality assurance/quality control purposes, a duplicate sample (LF-132) and bailer blank sample (LF-32-BB) were collected.

Ground-water samples were submitted to Anametrix, Inc., of San Jose, California, a state-certified laboratory, and analyzed for TPHg and benzene, toluene, ethylbenzene and xylenes (BTEX) using modified EPA Method 8015/8020, TPHd and TPH as motor oil (TPHmo) using EPA Method 3510 GCFID.

In addition, ground-water samples were analyzed for volatile organic compounds (VOCs) using EPA Method 8010 to assess the extent of VOC-affected ground water in Area C, which appears to have migrated on site from an off-site source located north of the property. The VOC data will be used in a health risk assessment currently being prepared for Area C.

As discussed below in Section 3.3, well LF-32 was resampled, using the procedures described in Appendix A, on April 27 for analysis of TPHg. The water quality sampling sheet for this activity is included in Appendix B.

3.3 Results of Monitoring Activities

The depth to water measured in well LF-32 on March 16, 1994, was 5.52 feet below ground surface, which corresponds to a ground-water elevation of 6.39 feet above mean sea level. This represents a decrease in ground-water elevation of 0.54 feet relative to December 1993 data (Levine·Fricke 1994). Depth to water measured in all of Area C on March 16, 1994, ranged from 5.35 feet below ground surface (bgs) in wells LF-10 and LF-13, to 6.21 feet bgs in well LF-11R. As indicated in Figure 2, ground-water elevation data collected on March 16, 1994, indicate ground-water flow direction beneath Area C is generally toward the southwest under an average hydraulic gradient of 0.008 foot per foot. Ground-water flow direction beneath the former BAW property and Area C has historically been to the west-southwest.

Analytical results for ground-water samples collected from well LF-32 do not indicate the presence of BTEX above laboratory detection limits (Table 1). TPHd and TPHmo were detected at low concentrations of 0.890 ppm and 0.850 ppm, respectively.

While TPHg had not previously been detected in samples collected from well LF-32, the analytical laboratory reported TPHg at a concentration of 0.110 ppm in the primary and duplicates samples collected on March 11, 1994. However, the laboratory reported that the TPHg concentration was primarily due to the presence of a heavier petroleum product of hydrocarbon range C9-C14, possibly diesel fuel. Upon further discussion with laboratory personnel, it appeared that the TPHg concentration reported for the May 11 sample may have been the result of laboratory cross contamination. The sample analyzed before LF-32 contained concentration of TPHg of 0.33 ppm. Therefore, well LF-32 was resampled on April 27,

1994. Analytical results of the sample collected on April 27 are consistent with previous results and do not indicate the presence of TPHg above laboratory detection limits (Table 1).

TCE and 1,2-DCE were detected at concentrations of 0.0025 ppm (0.0026 ppm duplicate), and 0.0008 ppm (0.00088 ppm duplicate), respectively. However, as indicated in a letter dated April 28, 1994, from the Regional Water Quality Control Board (RWQCB) to Ms. Kimberly Brandt of Catellus, the RWQCB recognizes that VOCs detected in ground water in Area C appear to be from an off-site source.

Laboratory data sheets for ground-water samples are presented in Appendix C.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for ground-water samples collected from well LF-32 indicate that shallow ground water has not been significantly affected by petroleum hydrocarbons. TPHg and BTEX, which were previously detected at low concentrations in soil and ground-water samples collected during tank removal activities, have not been detected in ground-water samples collected from well LF-32 (with the exception of results reported for March 11, 1994, as described in Section 3.3).

As discussed in the meeting on April 25, 1994, among representatives of the ACHA, the Regional Water Quality Control Board (RWQCB), Catellus, and Levine•Fricke, a ground-water monitoring program will be developed that will monitor nonattainment areas within Area C. The former BAW property, located in the eastern portion of Area C, may be designated as a nonattainment area. We propose to meet with the ACHA and the RWQCB to discuss in detail the ground-water monitoring program for Area B and the former BAW property. It is anticipated that this monitoring program will be on a semiannual basis. Therefore, it is assumed that the next monitoring event for the former BAW property will be conducted during the third quarter of 1994 (July through September).

TABLE 1
CHEMICAL ANALYSIS RESULTS FOR MONITORING WELL LF-32
FORMER BAY AREA WAREHOUSE PROPERTY
(concentrations expressed in milligrams per liter [mg/l])

Date	Lab	Notes	TPHg	Benzene	Toluene	Ethyl -benzene	Total Xylenes	TPHd	TPHmo	TCE	1,2-DCE
26-May-93	ANA		0.050	<0.0005	<0.0005	<0.0005	<0.0005	0.440	NA	NA	NA
14-Jul-93	AEN		<0.050	<0.0005	<0.0005	<0.0005	<0.002	<0.050	NA	NA	NA
14-Jul-93	ANA		<0.050	<0.0005	<0.0005	<0.0005	<0.005	0.230	NA	NA	NA
09-Dec-93	ANA	(1)	<0.050	<0.0005	<0.0005	<0.0005	<0.005	0.660	0.360	NA	NA
11-Mar-94	ANA		0.110 *	<0.0005	<0.0005	<0.0005	<0.0005	0.890	0.850	0.0025	0.0008
duplicate	ANA		0.110 *	<0.0005	<0.0005	<0.0005	<0.0005	NA	NA	0.0026	0.00088
27-Apr-94	ANA		<0.05	NA	NA	NA	NA	NA	NA	NA	NA

Data entered by MEK/19-Apr-94. Data proofed by WEM.

Milligrams per liter is equivalent to parts per million.

NA = not analyzed
TPHg = total petroleum hydrocarbons as gasoline, analyzed using EPA Method 5030 GCFID
TPHd = extractable hydrocarbons as diesel, analyzed using EPA Method 3510 GCFID
TPHmo = total petroleum hydrocarbons as motor oil, analyzed using EPA Method 3510
TCE = Trichloroethene, analyzed using EPA Methd 8010
1,2-DCE = 1,2-dichloroethene, analyzed using EPA Method 8010
ANA = Anametrix, Inc., of San Jose, California
AEN = American Environmental Network of Pleasant Hill, California

(1) Total petroleum hydrocarbons as oil and grease were not reported above the laboratory detection limit of 5 ppm.

* According to the laboratory QA/QC summary, the concentration reported as gasoline is primarily due to the presence of a heavier petroleum product of hydrocarbon range C9-C14, possibly diesel fuel. However, it appears that the the TPHg detected is a result of cross contamination by the laboratory (see Section 3.3 in the text).

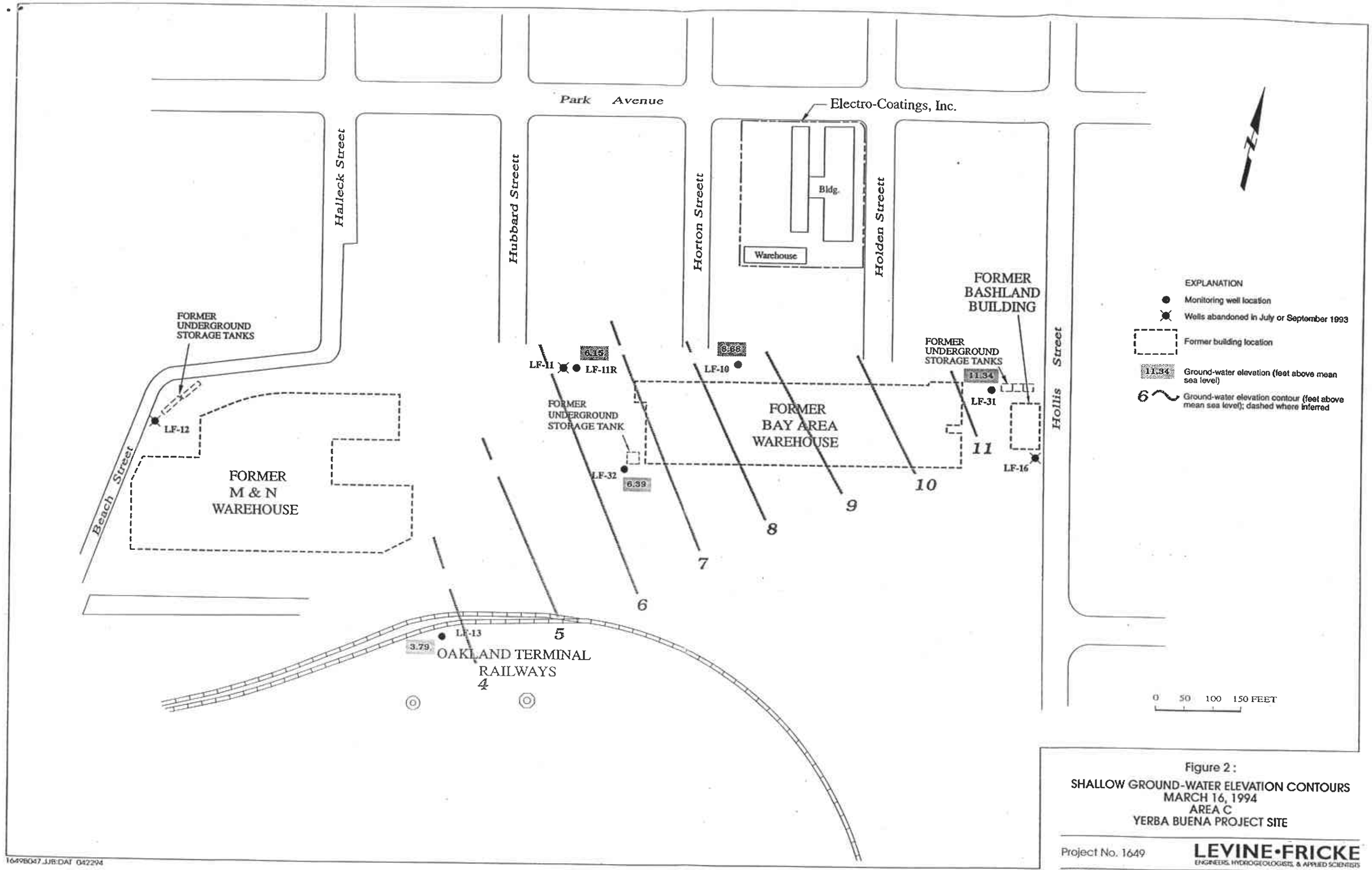

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Figure 2 :
SHALLOW GROUND-WATER ELEVATION CONTOURS
MARCH 16, 1994
AREA C
YERBA BUENA PROJECT SITE

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clay. All downhole drilling and sampling equipment were either steam cleaned or washed with Alconox detergent and water before use.

3.2 Soil Sampling and Chemical Analysis Results

Soil samples were field screened with a hand-held organic vapor meter (OVM) and described using the Unified Soil Classification System. Lithologic descriptions and OVM measurements were recorded in the field on a borehole log form, a copy of which is contained in Appendix A.

No OVM measurements greater than 1.0 ppm above background readings were recorded and no evidence of staining was observed for the soil samples collected during drilling. One soil sample was collected from just above the ground-water interface (LF-32-5) and submitted for laboratory analysis to American Environmental Network of Pleasant Hill, California. The soil sample was submitted for analysis of TPHg and benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Methods 8020/5030 GCFID; TPHd using EPA Method 3550 GCFID; and organic lead.

The analytical results for soil sample LF-32-5 did not indicate the presence of TPHg, BTEX, TPHd, or organic lead above laboratory detection limits. Laboratory data sheets are presented in Appendix B.

3.3 Monitoring Well Installation

A flush-threaded, 2-inch-diameter polyvinyl chloride (PVC) blank casing with factory-made slotted well screen (0.02-inch-wide slots) was installed into the completed borehole through the hollow augers. The screened interval in the well extends from approximately 3 to 18 feet bgs.

A filter pack consisting of Number 3 Monterey sand was poured into the annular space between the hollow auger and the slotted PVC well casing as the auger was gradually removed from the borehole. The filter pack extends approximately 6 inches above the top of the slotted PVC casing. Prehydrated bentonite slurry was placed above the sand pack to isolate the perforated interval from material above and prevent the entrance of grout into the sand pack. A cement-bentonite grout was then placed above the bentonite to the land surface to seal the remainder of the borehole interval from surface-water infiltration. The well was completed above

grade with a locking cap and a steel field monument set in concrete to protect the well from surface water and damage. Well construction data are presented in Appendix A.

4.0 QUARTERLY MONITORING ACTIVITIES CONDUCTED DURING APRIL 1 THROUGH JUNE 30, 1993

A quarterly monitoring program has been implemented at BAW in accordance with Levine·Fricke's work plan dated April 30, 1993 (Levine·Fricke 1993). The activities conducted and the results obtained are presented below.

4.1 Collection of Water-Level Measurements

The top-of-casing elevation of newly installed monitoring well LF-32 was surveyed to the nearest 0.01 foot by Nolte Associates of Walnut Creek, California, a licensed surveyor. Depth to water was measured using an electric water-level sounding probe to the nearest 0.01 foot, relative to the top of the PVC well casing. The depth to water measured in well LF-32 on May 24, 1993, was 6.35 feet bgs.

4.2 Well Development

Well LF-32 was developed on May 26, 1993, by overpumping and surging the well to remove sediment from around the screened interval and enhance hydraulic communication with the surrounding formation. Approximately 18 well casing volumes of ground water were removed from the well using a centrifugal pump. Parameters such as pH, temperature, specific conductance, quantity, and clarity of water withdrawn were measured and recorded during this process. Water-quality sampling sheets are included in Appendix C.

4.3 Ground-Water Sampling and Laboratory Analysis

Ground-water samples were collected immediately following well development using a clean Teflon bailer. Ground-water samples were submitted to Anametrix, Inc., of San Jose, California, a state-certified laboratory, and analyzed for TPHg and BTEX using modified EPA Method 8015/8020, TPHd using EPA Method 3510 GCFID, and organic lead.

Samples collected for analysis of TPHg and BTEX were placed into laboratory-supplied, 40-milliliter glass vials preserved with hydrochloric acid. The glass vials were filled to capacity, capped, and checked for trapped air bubbles. Samples collected for TPHd and organic lead analyses were

poured into laboratory-supplied 1-liter amber bottles. Samples were placed in an ice-chilled cooler immediately after collection for transportation under chain-of-custody protocols to a state-certified laboratory for chemical analysis.

4.4 Results of Monitoring Activities

Ground-water elevation measurements for BAW and vicinity are included on Figure 2, which presents ground-water elevation data and ground-water elevation contours for the entire Yerba Buena Project Site. Depth-to-water measurements collected on May 24, 1993, indicate that shallow ground-water flow beneath BAW is toward the southwest, with an average hydraulic gradient of approximately 0.009 ft/ft. These results are consistent with ground-water flow directions previously reported for this area of the Site.

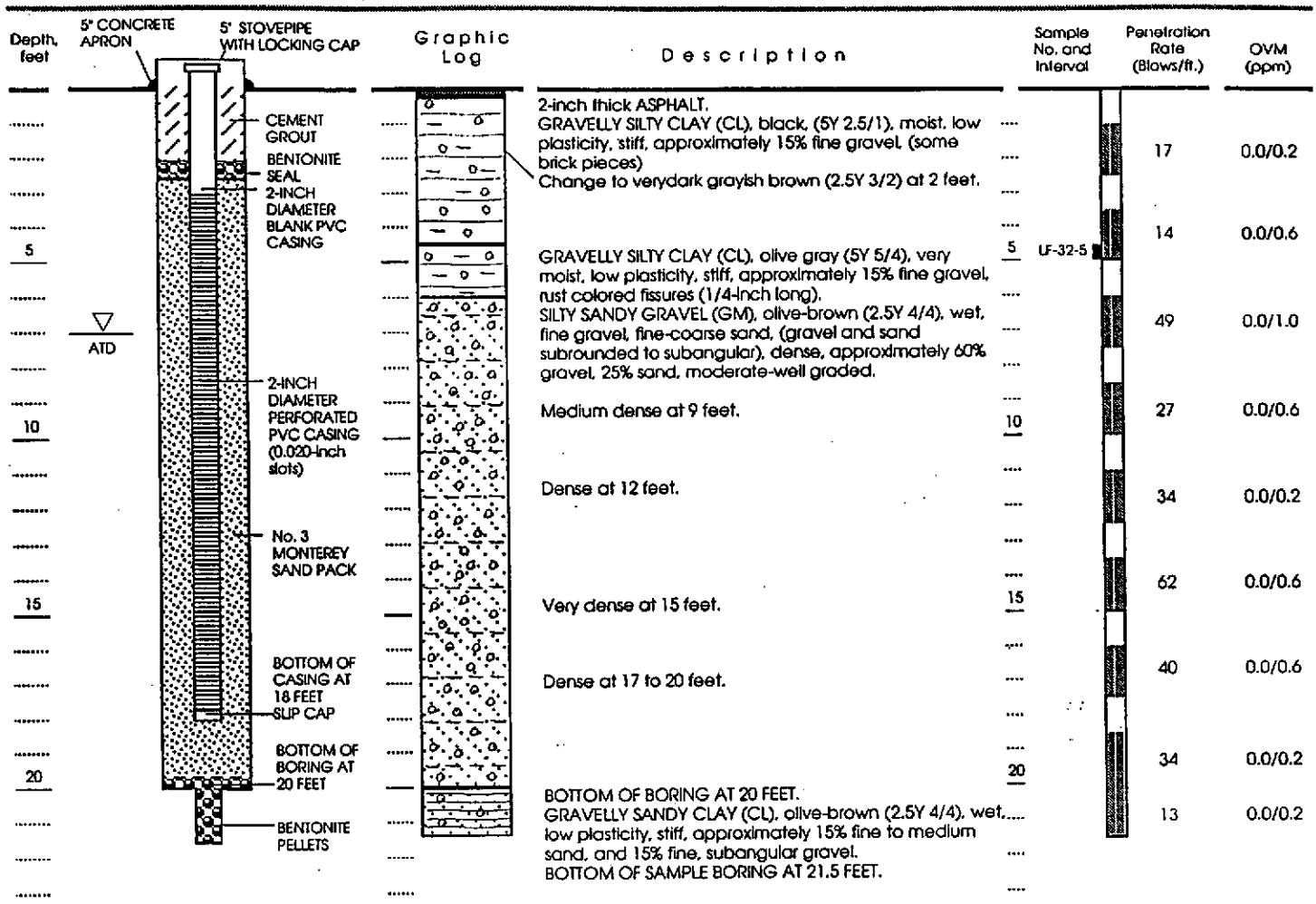
Analytical results for ground-water samples collected from newly installed well LF-32 do not indicate the presence of TPHg, BTEX, or organic lead. TPHd was detected at a concentration of 0.440 ppm. Laboratory data sheets for ground-water samples are presented in Appendix D.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for the soil sample collected from the boring for monitoring well LF-32 indicate that soil above the ground-water interface in the boring has not been affected by petroleum hydrocarbons. These results are consistent with OVM readings recorded during drilling.

Analytical results for ground-water samples collected from well LF-32 indicate that shallow ground water has not been significantly affected by petroleum hydrocarbons. TPHg and BTEX, which were previously detected at low concentrations in soil and ground-water samples collected during tank removal activities, were not identified above method detection limits in the ground-water samples collected from well LF-32. The detection of a low concentration of TPHd in ground water may be related to the trace amount of diesel detected in the product sample collected from the UST. Soil and ground-water samples collected during tank removal activities were not analyzed for the presence of TPHd.

Well LF-32 will continue to be monitored on a quarterly basis through March 1994 to assess the potential effects on shallow ground water from the possible release of petroleum hydrocarbons from the former UST.



EXPLANATION

- Clay
- Silt
- Sand
- Gravel

Well Permit No.: 93262
Date well drilled: MAY 20, 1993
LF Geologist: W.E.Madison
Sampling method: Split Spoon with Hammer
Drilling method: Hollow Stem Auger
Drilling company: Gregg Drilling
Driller: Chris St. Pierre
Boring size: 8"

- Split Spoon Sampler
- OVM (ppm) — Organic Vapor Meter reading in parts per million (ppm)
- ATD — Water level at time of drilling
- Sample retained for chemical analysis

Approved by: David J. Bunker R.G. 5300

Figure A1: WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-32

Cattelus/Yerba Buena
Project No. 1649.13

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