Quarterly Monitoring Report for the Period from October 1 through December 31, 1992

Former Ransome Property
Yerba Buena Project Site
Emeryville, California

January 29, 1993
1649.09

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

LEVINE·FRICKE

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ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

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January 29, 1993 LF 1649.09

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

Subject: Quarterly Monitoring Report for the Period from October 1 through December 31, 1992, Former Ransome Property, Yerba Buena Project Site, Emeryville, California

Dear Ms. Hugo:

The enclosed report presents results of quarterly ground-water monitoring conducted during the period from October 1 through December 31, 1992, at the Former Ransome Property on the Yerba Project Site in Emeryville, California. The monitoring was conducted and this report is submitted in accordance with Levine•Fricke's September 15, 1992 "Work Plan to Install One Monitoring Well and Conduct Quarterly Monitoring for the Former Ransome Property, Yerba Buena Project Site, Emeryville, California" prepared by Levine•Fricke, Inc., and submitted to and approved by the Alameda County Health Care Services Agency. This quarterly monitoring report includes a discussion of the installation, development, and sampling of newly installed well LF-29, as proposed in the September 15 work plan.

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

Sincerely,

James D. Levine, P.E.
President

Jenifer Beatty
Project Hydrogeologist

Enclosure

cc: Ric Notini, Catellus
Pat Cashman, Catellus
Kimberly Brandt, Catellus
Lester Feldman, RWQCB

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CERTIFICATION

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

Kathleen A. Isaacson
Senior Hydrogeologist
California Registered Geologist (5106)

1/29/93
Date

January 29, 1993 LF 1649.09

**QUARTERLY MONITORING REPORT for
THE PERIOD FROM OCTOBER 1, 1992 TO DECEMBER 31, 1992
FORMER RANSOME PROPERTY
YERBA BUENA PROJECT SITE
EMERYVILLE, CALIFORNIA**

1.0 INTRODUCTION

This report presents ground-water monitoring results for the period from October 1 through December 31, 1992, for the former Ransome Property, located at 4030 Hollis Street in Emeryville, California ("the Property"; Figure 1). Levine·Fricke, Inc. ("Levine·Fricke") conducted this work on behalf of Catellus Development Corporation ("Catellus") in accordance with Levine·Fricke's September 15, 1992 work plan entitled "Work Plan to Install One Monitoring Well and Conduct Quarterly Monitoring for the Former Ransome Property, Yerba Buena Project Site, Emeryville, California," submitted to and approved by the Alameda County Health Care Services Agency (ACHA).

In May 1992, Levine·Fricke directed the installation of five shallow ground-water monitoring wells in accordance with the April 15, 1992 Work Plan verbally approved by the RWQCB and the ACHA in a meeting on February 13, 1992 (Levine·Fricke 1992a). Levine·Fricke recommended in its investigation report that a quarterly monitoring program be implemented at the Property to monitor the possible future impacts of petroleum-affected soils on shallow ground water. In a meeting on June 22, 1992, with Mr. Lester Feldman of the RWQCB and Mr. Dennis Byrne of the ACHA, Mr. Feldman recommended that Catellus install an additional well near the former location of well W-1. This quarterly monitoring report presents a description of well installation, development, and sampling procedures for well LF-29, installed near former well W-1, and the results of the initial quarterly ground-water monitoring event.

2.0 ACTIVITIES CONDUCTED DURING THE QUARTERLY MONITORING PERIOD

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

- Ground-water monitoring well LF-29 was installed at the Property in the vicinity of former well W-1.
- Water levels were measured in wells LF-16, LF-24, LF-25, LF-26, LF-27, LF-28, and newly installed well LF-29.
- Ground-water samples were collected for chemical analyses from wells LF-16, LF-24, LF-25, LF-26, LF-27, LF-28, and LF-29.

2.1 Installation of Ground-Water Monitoring Well LF-29

Before drilling began, a monitoring well permit was obtained from Alameda County Flood Control and Water Conservation District, Zone 7.

On October 14, 1992, Spectrum Exploration, Inc., of Stockton, California, drilled and installed one ground-water monitoring well on the Property in the vicinity of former well W-1 (Figure 2) under the observation of a Levine·Fricke geologist. The soil boring was drilled using a hollow-stem auger drill rig to a total depth of 20 feet below the ground surface (bgs) in accordance with procedures described in Appendix A.

Soil samples were collected during drilling for lithologic description and were field screened for the presence of total petroleum hydrocarbons (TPH) as gaosline (TPHg) and benzene, toluene, ethylbenzene, and xylenes (BTEX) compounds using an organic vapor meter (OVM). OVM measurements were recorded during drilling and are presented on the lithologic logs included in Appendix B.

Sediments encountered during drilling generally consisted of gravelly sand to a depth of 4 feet bgs, underlain by silty clay, sandy silty clay, and gravelly sandy clay. Ground water was first encountered in the boring at approximately 15 feet bgs. Monitoring well LF-29 was constructed in the borehole using 2-inch-diameter polyvinyl chloride (PVC) blank well casing and well screen (0.020-inch slots). The screened interval extends from 8 feet bgs to 20 feet bgs. Table 1 summarizes well construction data. Well construction details are included in the lithologic logs for well LF-29 contained in Appendix B.

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

2.2 Water-Level Measurements and Ground-Water Sampling

Water levels were measured on October 20, 1992, in wells LF-16, LF-24, LF-25, LF-26, LF-27, LF-28, and LF-29 to the nearest 0.10 foot using an electric water-level sounding probe and recorded in the field. Ground-water samples were collected from these wells on October 22, 1992, using the procedures described in Appendix C.

Before a sample was collected from newly installed well LF-29, the well was developed in accordance with procedures described in Appendix A. Before ground-water samples were collected from the remaining wells, 3 to 4 well volumes of water were purged from each well in accordance with procedures described in Appendix C. After the wells had been purged, ground-water samples were collected using a clean Teflon bailer and sample containers were filled to overflowing by pouring ground water directly from the bailer. Water-quality sampling sheets are included in Appendix D.

Ground-water samples were submitted to Quanteq Laboratories, a California state-certified laboratory located in Pleasant Hill, California, for analyses of TPHg and BTEX using EPA Method 8020, 5030 GCFID; TPH as diesel (TPHd) using EPA Method 3510 GCFID; and O&G using Standard Method 5520C. Results of chemical analyses are discussed in Section 4.0.

3.0 GROUND-WATER ELEVATIONS AND FLOW DIRECTION

Table 1 presents a historical summary of depth-to-water measurements and ground-water elevation data collected at the Property. Depth to ground water measured on October 20, 1992, ranged from 7.43 feet bgs in well LF-16 to 14.40 feet bgs in wells LF-27 and LF-29. Ground-water elevations in shallow sediments are presented in Figure 2. These data generally indicate a west to southwesterly ground-water flow direction, with a gradient that ranges from 0.01 ft/ft between well LF-24 and LF-29 to 0.022 ft/ft between wells LF-26 and LF-27. The October 1992 results are consistent with the general ground-water flow direction previously reported for the Property.

4.0 GROUND-WATER QUALITY RESULTS

Analytical results for ground-water samples collected in October 1992 are presented on Figure 3. Historical ground-water quality data collected at the Site are summarized in

Table 2. Laboratory data sheets and chain-of-custody forms are presented in Appendix E.

Chemical analytical results were generally consistent with results reported for the Property in May 1992, which indicated low to nondetectable concentrations of petroleum hydrocarbons and BTEX compounds. No TPHg or BTEX compounds were detected in six of the seven wells sampled. Results for samples collected from well LF-29 indicated low concentrations (0.001 ppm or less) of benzene, ethylbenzene, and xylenes, and a concentration of 0.09 ppm TPHg (Table 2 and Figure 3).

TPHd was detected in three of the seven ground-water samples collected at concentrations of 0.4 ppm or less and O&G was detected in only one well (LF-25), at a concentration of 0.6 ppm.

These results are consistent with previous results reported for the Property and indicate that shallow ground water has not been significantly affected by petroleum-affected soils, which were removed from the Property by ARI and Levine·Fricke between June 1991 and September 1992 (Levine·Fricke 1992d).

5.0 PROJECT ACTIVITIES PROPOSED FOR THE PERIOD FROM JANUARY THROUGH MARCH 1993

The following activities are proposed for the first quarter 1993 (January 1 through March 31):

- monthly collection of depth-to-water measurements from in conjunction with the monitoring program for Areas A and B of the Yerba Buena Project Site
- collection of ground-water samples from wells LF-16 and LF-24 through LF-29 for analysis of TPHg, TPHd, BTEX, and O&G.

REFERENCES

Aqua Resources, Inc. 1991. Remedial investigation and closure plan for former corporation yard site, 4030 Hollis Street, Emeryville, California, prepared for Ransome Company, Inc. January.

California Regional Water Quality Control Board. 1990. Tri-regional board staff recommendations for preliminary evaluation and investigation of underground tank sites. August 10.

Kennedy/Jenks/Chilton. 1989. Baseline environmental assessment report, prepared for the Ransome Company. October.

Levine·Fricke, Inc. 1990. Phase I and Phase II environmental investigation, Yerba Buena project site, Emeryville, California. Report. Emeryville, California. August.

———. 1992a. Work plan for ground-water investigations, former Ransome property, Yerba Buena project site, Emeryville, California. Report. Emeryville, California. April 15.

———. 1992b. Ground-water investigations, Former Ransome Property, Yerba Buena Project Site, 4030 Hollis Street, Emeryville, California. August 4.

———. 1992c. Work plan to install one monitoring well and conduct quarterly monitoring, Former Ransome Property, Yerba Buena Project Site, Emeryville, California. September 15.

———. 1992d. Soil remediation activities report, Former Ransome Property, Yerba Buena Project Site, Emeryville, California. December 2.

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

Well Number	Well Elevation	Well Depth (feet)	Screened Interval (feet)	Date Measured	Depth to Water	Ground-Water Elevation
LF-16	17.47	20	5-20	23-Feb-90	5.98	11.49
				06-Jan-92	6.04	11.43
				15-Apr-92	6.40	11.07
				14-May-92	6.46	11.01
				22-Jul-92	6.68	10.79
				20-Oct-92	7.43	10.04
LF-24	21.97	20	7-20	14-May-92	9.75	12.22
				28-May-92	9.86	12.11
				22-Jul-92	10.13	11.84
				20-Oct-92	10.91	11.06
LF-25	23.00	15	5-15	14-May-92	7.02	15.98
				28-May-92	7.34	15.66
				22-Jul-92	8.38	14.62
				20-Oct-92	9.11	13.89
LF-26	26.82	20	8-20	14-May-92	10.55	16.27
				28-May-92	10.87	15.95
				22-Jul-92	11.70	15.12
				20-Oct-92	12.67	14.15
LF-27	22.76	20	8-20	14-May-92	12.87	9.89
				28-May-92	13.10	9.66
				22-Jul-92	13.55	9.21
				20-Oct-92	14.40	8.36
LF-28	20.54	20	7-20	14-May-92	9.00	11.54
				28-May-92	9.02	11.52
				22-Jul-92	9.41	11.13
				20-Oct-92	10.04	10.50
LF-29	29.82	20	8-20	20-Oct-92	14.40	15.42

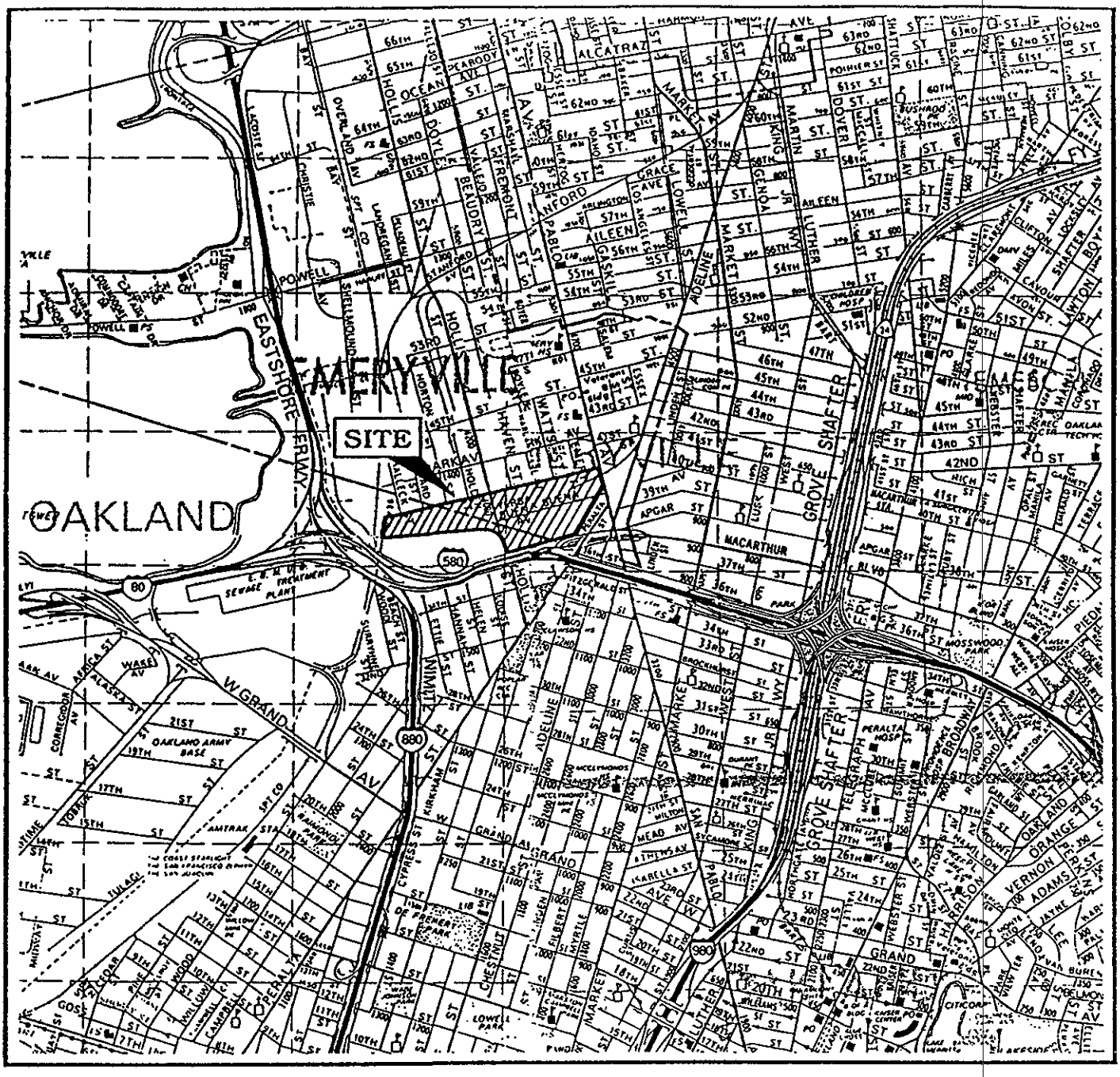
TABLE 2
GROUND-WATER QUALITY DATA
FORMER RANSOME PROPERTY
YERBA BUENA PROJECT SITE
EMERYVILLE, CALIFORNIA
(concentrations expressed in parts per million [ppm])

Well Number	Date	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Oil and Grease	Hydrocarbons	Diesel
LF-16	14-May-92	<0.05	<0.0003	<0.0003	<0.0003	<0.001	6.6	6.3	NA
	28-May-92	<0.05	<0.0003	<0.0003	<0.0003	<0.001	<0.5	<0.5	0.05
	22-Oct-92	<0.05	<0.0003	<0.0003	<0.0003	<0.001	<0.5	NA	0.05
LF-24	14-May-92	<0.05	<0.0003	<0.0003	<0.0003	<0.001	<0.5	<0.5	NA
	28-May-92	<0.05	<0.0003	<0.0003	<0.0003	<0.001	<0.5	<0.5	0.98
	22-Oct-92	<0.05	<0.0003	<0.0003	<0.0003	<0.001	<0.5	NA	0.3
LF-25	14-May-92	<0.05	0.0004	0.0004	<0.0003	<0.001	4	2	NA
	duplicate	<0.05	0.0004	0.0004	<0.0003	<0.001	5.6	3	NA
	28-May-92	<0.05	<0.0003	<0.0003	<0.0003	<0.001	2	1	0.2
	duplicate	<0.05	<0.0003	<0.0003	<0.0003	<0.001	NA	NA	NA
	22-Oct-92	<0.05	<0.0003	<0.0003	<0.0003	<0.001	0.6	NA	0.4
LF-26	14-May-92	<0.05	<0.0003	<0.0003	<0.0003	<0.001	<0.5	<0.5	NA
	28-May-92	<0.05	<0.0003	0.002	<0.0003	<0.001	<0.5	<0.5	0.1
	22-Oct-92	<0.05	<0.0003	<0.0003	<0.0003	<0.001	<0.5	NA	<0.05
LF-27	14-May-92	<0.05	0.0004	0.002	<0.0003	0.002	<0.5	<0.5	NA
	28-May-92	<0.05	<0.0003	<0.0003	<0.0003	<0.001	<0.5	<0.5	0.1
	22-Oct-92	<0.05	<0.0003	<0.0003	<0.0003	<0.001	<0.5	NA	<0.05
LF-28	14-May-92	<0.05	<0.0003	<0.0003	<0.0003	<0.001	<0.5	<0.5	NA
	28-May-92	<0.05	<0.0003	0.001	<0.0003	<0.001	<0.5	<0.5	0.3
	22-Oct-92	<0.05	<0.0003	<0.0003	<0.0003	<0.001	<0.5	NA	<0.05
LF-29	22-Oct-92	0.09	0.001	<0.0003	0.0004	0.001	<0.5	NA	<0.05
LF-25-FB	14-May-92	<0.05	<0.0003	<0.0003	<0.0003	<0.001	NA	NA	NA
	28-May-92	<0.05	<0.0003	<0.0003	<0.0003	<0.001	NA	NA	NA

Notes:

TPHg - Total petroleum hydrocarbons as gasoline.
Diesel - Extractable hydrocarbons as diesel
NA - not analyzed
FB - field blank

Samples were analyzed by Quanteq Laboratories of Pleasant Hill, California.



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

Figure 1 : SITE LOCATION MAP
YERBA BUENA PROJECT SITE

Project No. 1649

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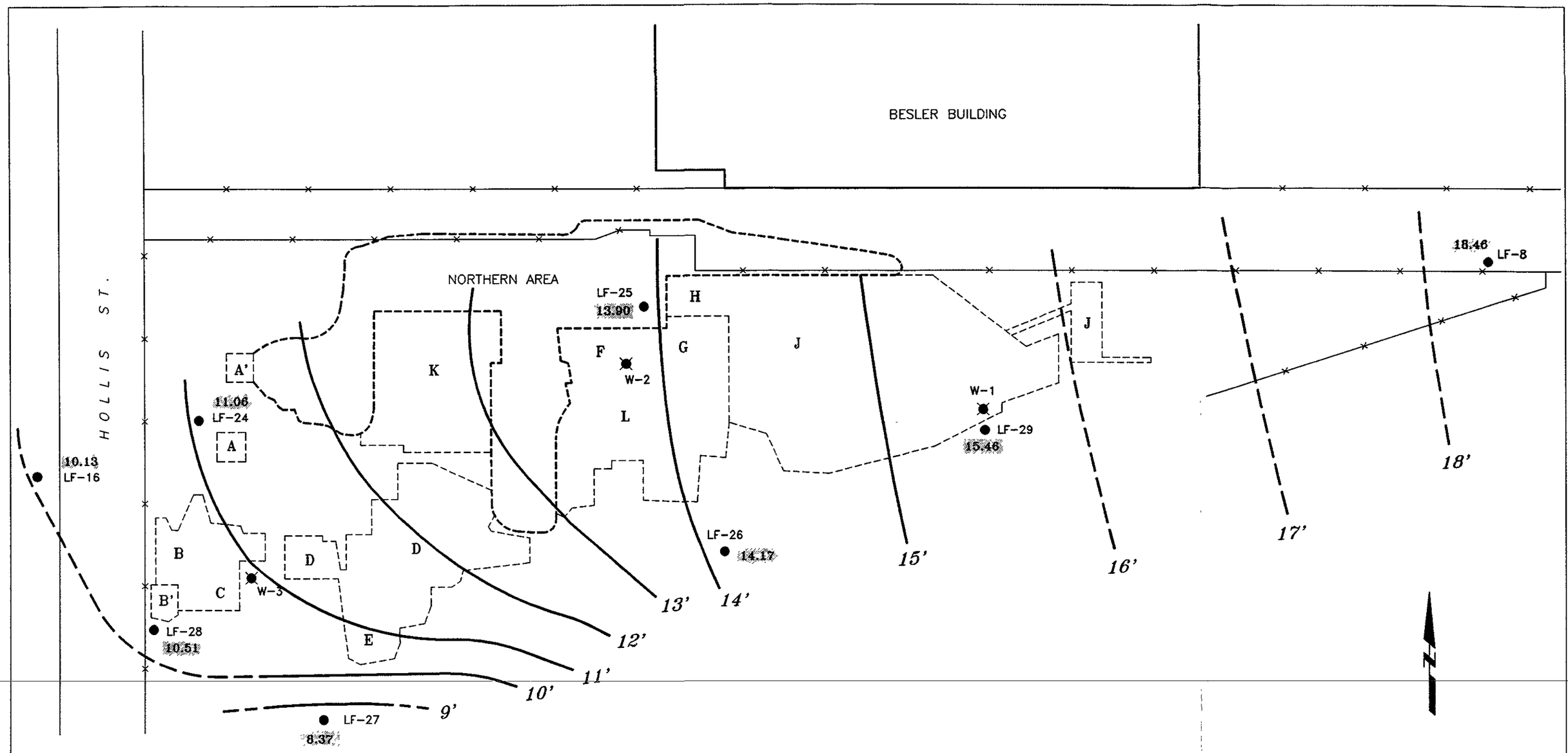

EXPLANATION

- Northern area excavation boundary completed by Levine-Fricke
- A — Excavations completed by Aqua Resources, Inc
- Abandoned shallow monitoring well installed by Aqua Resources, Inc.
- Shallow monitoring well location
- 13.90 — Ground-water elevation (feet)
- 12' — Ground-water elevation contour (feet)

Figure 2 :
SHALLOW GROUND-WATER ELEVATION CONTOUR MAP, OCTOBER 20, 1992
FORMER RANSOME PROPERTY

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1649G001 JJB EM 01'493

BESLER BUILDING

HOLLIS ST.

NORTHERN AREA

5/14/92	5/28/92	10/22/92	
ND/ND	ND/ND	ND	TPH (g)
0.0004/0.0004	ND/ND	ND	B
0.0004/0.0004	ND/ND	ND	T
ND/ND	ND/ND	ND	E
ND/ND	ND/ND	ND	X
NA/NA	0.2/NA	0.4	TPH (d)
4/5.6	2/NA	0.6	Oil
2/3	1/NA	NA	TRH

5/14/92	5/28/92	10/22/92	
ND	ND	ND	TPH (g)
ND	ND	ND	B
ND	ND	ND	T
ND	ND	ND	E
ND	ND	ND	X
ND	0.98	0.9	TPH (d)
ND	ND	ND	Oil
NA	ND	NA	TRH

11/90	3/91	7/17/91	
ND	0.460	0.460	TPH (g)
ND	0.024	0.015	B
ND	0.025	0.0011	T
ND	0.033	0.024	E
ND	0.043	0.033	X
100	ND	ND	TPH (d)
NA	ND	ND	Oil

11/90	3/91	7/17/91	
ND	2.10	0.220	TPH (g)
ND	0.270	0.045	B
ND	0.260	0.0025	T
ND	0.051	0.0033	E
ND	0.250	0.0053	X
0.082	ND	ND	TPH (d)
NA	0.400	ND	Oil

11/90	3/91	7/17/91	
ND	ND	ND	TPH (g)
ND	ND	ND	B
ND	ND	ND	T
ND	ND	ND	E
ND	ND	ND	X
0.088	1.90	ND	TPH (d)
NA	1.70	ND	Oil

5/14/92	5/28/92	10/22/92	
ND	ND	ND	TPH (g)
ND	ND	ND	B
ND	ND	ND	T
ND	ND	ND	E
ND	ND	ND	X
NA	0.05	0.05	TPH (d)
6.6	ND	ND	Oil
6.3	ND	NA	TRH

5/14/92	5/28/92	10/22/92	
ND	ND	ND	TPH (g)
ND	ND	ND	B
ND	0.001	ND	T
ND	ND	ND	E
ND	ND	ND	X
NA	0.3	ND	TPH (d)
ND	ND	ND	Oil
ND	ND	NA	TRH

5/14/92	5/28/92	10/22/92	
ND	ND	ND	TPH (g)
0.0004	ND	ND	B
0.002	ND	ND	T
ND	ND	ND	E
0.002	ND	ND	X
NA	0.1	ND	TPH (d)
ND	ND	ND	Oil
ND	ND	NA	TRH

5/14/92	5/28/92	10/22/92	
ND	ND	ND	TPH (g)
ND	ND	ND	B
ND	0.002	ND	T
ND	ND	ND	E
ND	ND	ND	X
NA	0.1	ND	TPH (d)
ND	ND	ND	Oil
ND	ND	NA	TRH

10/22/92	
0.09	TPH (g)
0.001	B
ND	T
0.0004	E
0.001	X
ND	TPH (d)
ND	Oil

LF-8 LF-16 LF-24 LF-25 LF-26 LF-27 LF-28 LF-29

W-1 W-2 W-3

A A' B' C D E F G H J K L

N

0 20 40 60 FEET

EXPLANATION

- Northern area excavation boundary completed by Levine•Fricke
- [A] Excavation completed by Aqua Resources, Inc.
- Abandoned shallow monitoring wells installed by Aqua Resources
- ● Shallow monitoring well location
- 0.0004/0.0004 Duplicate sample

7/17-91 — Date sample was taken

0.460 TPH (g) — Total Petroleum Hyrocarbons as gasoline
0.024 B — Benzene
0.025 T — Toluene
0.033 E — Ethylbenzene
0.043 X — Xylenes
ND TPH (d) — Total Petroleum Hydrocarbons as diesel
ND Oil — Oil

Chemical compound
Concentration in parts per million (ppm)

ND Not detected above method detection limits

NA Not analyzed

Figure 3 :

HISTORICAL GROUND-WATER QUALITY DATA ppm
FORMER RANSOME COMPANY PROPERTY

Project No. 1649 07

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1649S004 WEM EM/jsm 120492

APPENDIX A

PROCEDURES USED DURING INSTALLATION AND DEVELOPMENT OF MONITORING WELL LF-29

PROCEDURES USED DURING INSTALLATION AND DEVELOPMENT OF MONITORING WELL LF-29

DRILLING

On October 14, 1992, Spectrum Exploration of Stockton, California, a licensed well-drilling contractor, drilled one soil boring under the direction of a Levine·Fricke geologist. The soil boring was drilled using a truck-mounted drill rig equipped with nominal 4.25-inch-inside-diameter hollow-stem augers to a depth of 20 feet below ground surface (bgs).

During drilling, soil samples were collected to a total depth of 21.5 feet bgs for lithologic description by pushing a modified California split-spoon sampler ahead of the auger into undisturbed soil. Soil cores were described using the Unified Soil Classification System and recorded on a lithologic log (Appendix B). A field organic vapor meter (OVM) was used to help select samples for possible chemical analyses. Based on low or nondetect OVM measurements recorded in the field, no soil samples were submitted for chemical analyses. OVM measurements are presented on the lithologic log for the well (Appendix B).

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

WELL INSTALLATION

Shallow ground-water monitoring well LF-29 was installed in the completed boring by inserting 2-inch-diameter, flush-threaded, solid and slotted (0.020-inch) well casing through the hollow-stem auger to the bottom of the boring. The well was installed to a depth of 20 feet bgs. The screened interval extends from 8 feet bgs to 20 feet bgs. Ground water was first encountered in the soil boring at 15 feet bgs.

A filter pack consisting of Number 2/12 sand was poured into the annular space between the hollow-stem auger and the slotted polyvinyl chloride (PVC) well casing as the auger was gradually removed from the borehole. The filter pack was installed to approximately 2 feet above the top of the slotted casing. A 1-foot-thick layer of bentonite was placed on top of the filter pack and the remainder of the annular space was

sealed with neat cement grout containing approximately 3 percent bentonite. At the ground surface, a 5-foot-long by 8-inch-diameter round, steel "stovepipe" well box was installed to approximately 3 feet above ground surface to protect the well. Well construction details are presented on the lithologic log presented in Appendix B.

On October 21, 1992, the elevation of the top of the PVC casing for well LF-29 was surveyed to the nearest 0.01 foot relative to a known reference point by Nolte Associates of Walnut Creek and San Jose, California, a licensed surveyor.

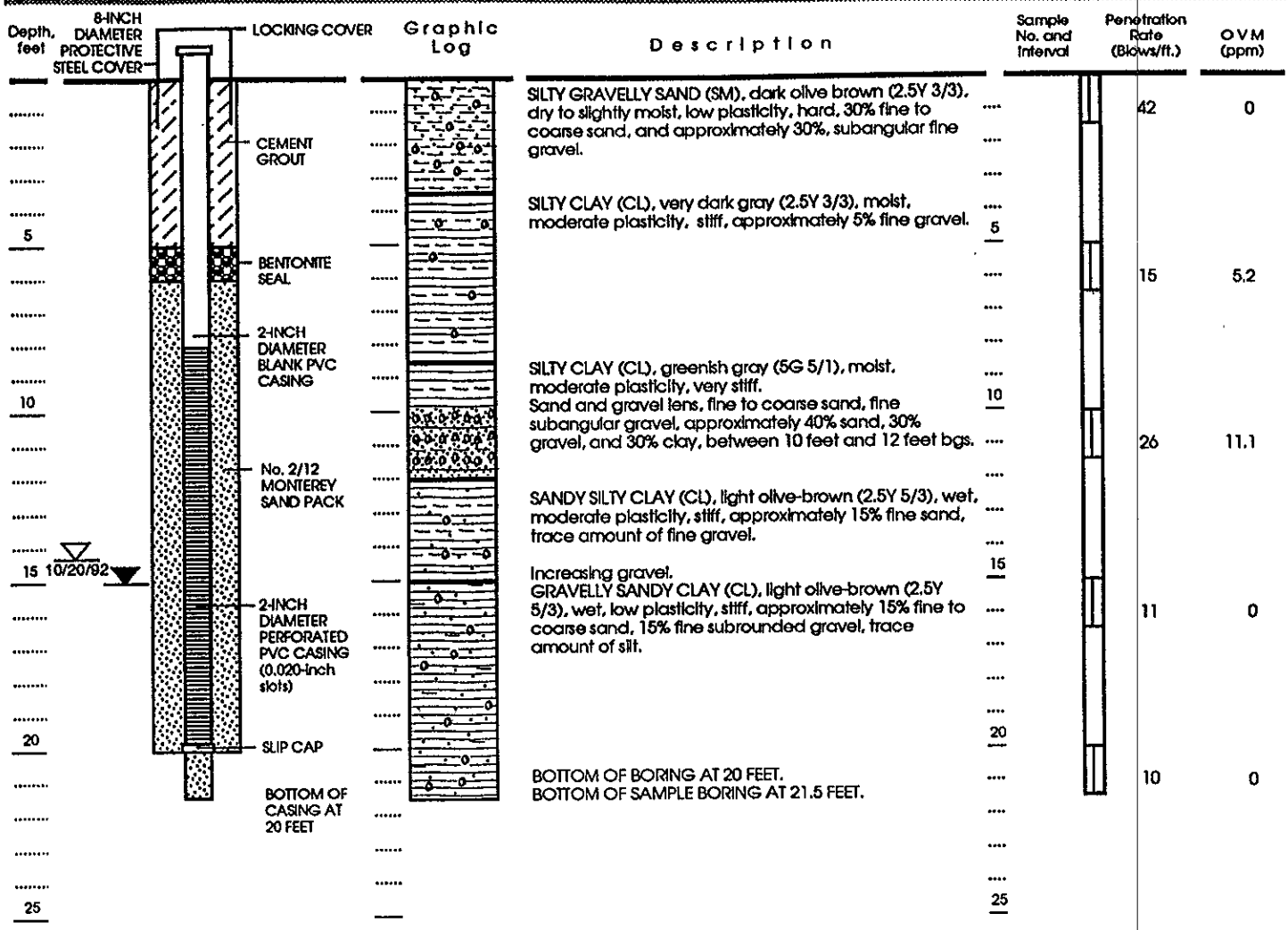
WELL DEVELOPMENT

On October 22, 1992, newly installed well LF-29 was developed to remove fine particles near the slotted casing and improve hydraulic communication between the well and the surrounding formation.

The well was developed by purging approximately 20 well casing volumes of water from the well using a centrifugal pump and clean hose. The well was purged until indicator parameters (specific conductance, pH, and temperature) had stabilized, thereby indicating complete removal of static water from the well. During purging, indicator parameters were recorded on water-quality sampling sheets, copies of which are included in Appendix C. A ground-water samples was collected from well LF-29 using the procedures described in Appendix C.

APPENDIX B

LITHOLOGIC WELL LOG AND WELL CONSTRUCTION DATA FOR MONITORING WELL LF-29



EXPLANATION

- Clay
- Silt
- Sand
- Gravel

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

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

Approved by: Kathleen Macrae RG # 5106

Figure : WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-29

Project No. 1649.09

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WEM24NOV92MP

APPENDIX C

GROUND-WATER SAMPLING PROCEDURES

GROUND-WATER SAMPLING PROCEDURES

Ground-water samples were collected from newly installed well LF-29 and existing wells LF-16, LF-24, LF-25, LF-26, LF-27, and LF-28 on October 22, 1992. Well LF-29 was developed before a ground-water sample was collected using the procedures described in Appendix A. The existing wells were purged by removing three well casing volumes of water from each well using a clean Teflon bailer or a centrifugal pump and clean hose. Wells were purged until indicator readings had stabilized.

After purging, ground-water samples were collected using a clean Teflon bailer and poured directly into three 40-milliliter, HCl-preserved, glass volatile organic analysis (VOA) vials, and into three 1-liter amber bottles preserved with HCl. Before the ground-water sample was collected from well LF-25, one field blank (LF-25-FB) was collected for quality control/quality assurance (QA/QC) purposes by pouring laboratory-supplied distilled water into a clean Teflon bailer and filling three 40-milliliter VOA bottles with the water from the bailer. Additionally, a duplicate sample was collected for chemical analysis from well LF-25 (labeled LF-125) for QA/QC purposes.

Immediately after collection, samples were labeled and placed in an ice-chilled cooler. Ground-water samples were delivered under strict chain-of-custody protocol to Quanteq Laboratories of Pleasant Hill, California. Ground-water samples were analyzed for TPHg and BTEX using EPA Methods 8020 and 5030 GCFID; for TPHd using EPA Method 3510 GCFID; and for O&G using Standard Method 5520C. Copies of the laboratory certificates are presented in Appendix E.

The Teflon bailers were washed with Alconox, a laboratory-grade detergent, and water, rinsed, and steam cleaned before use in each well. Centrifugal pump hoses were also steam cleaned before use in each well.

Purged water (generated during well development and sample collection) was temporarily stored on site in labeled, 55-gallon drums.

APPENDIX D

WATER-QUALITY SAMPLING SHEETS

LEVINE • FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Yerba Buena — Project No. 1649.09

Date 10-22-92 — Sample No. LF-16

Samplers Name SCH JCK

Sampling Location E'ville / Bashland

Sampling Method Cent. pump / Teflon bailer

Analyses Requested 8015/8020 GCs/BTEX; 5520C O&G; TPH diesel

Number and Types of Sample Bottles used 3 VOA/HCl; 3 amber/HCl

Method of Shipment Couriers

GROUND WATER		SURFACE WATER	
Well No.	LF-16	Stream Width	
Well Diameter (in.)	4	Stream Depth	
Depth to Water, Static (ft)	7.40	Stream Velocity	
Water in Well Box	no	Rained recently ?	
Well Depth (ft)	19.40	Other	
Height of Water Column in Well	12.00		
Water Volume in Well	7.80 ≈ 8		

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

19.40
7.40
12.00
65
6000
72000
780

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1410								Start
1412		8	21.8	6.86	532			V. Sl. turbid
1414		16	21.8	6.82	568			" /stop/dewatered
1421								Start
1423		21						Off/dewatered
1432	15.70							Start
1434		25	21.5	7.02	544			Sl. turbid
1454	12.93							Start
1456		32	21.1	7.00	541			Sl. turbid /stop/dry
1500								sample LF-16
1509	15.85							

Suggested Method for Purging Well

LEVINE • FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Yerba Buena — Project No.: 1649.09

Date: 10.22.97 — Sample No.: LF.24

Samplers Name: SCH JCK

Sampling Location: E'ville / Ransome

Sampling Method: Hand bail / Teflon bailer

Analyses Requested: 8015/8020 GCS/BTEX; 5520C O&G; Diesel

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

Method of Shipment: Courier

GROUND WATER

Well No.: LF.24

Well Diameter (in.): 2

Depth to Water, Static (ft): 10.90

Water in Well Box:

Well Depth (ft): 22.0

Height of Water Column in Well: 11.10

Water Volume in Well: 1.78 = 2

SURFACE WATER

Stream Width:

Stream Depth:

Stream Velocity:

Rained recently ?:

Other:

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

22.00
10.90
11.10
16
6660
11100
1.78

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1334								Start
1338		2	20.0	6.96	863			Mod. turbid
1341		4	20.0	6.86	872			turbid
1343		6	19.8	6.91	870			" / Stop
1345								Sample LF.24
1351	11.31							

Suggested Method for Purging Well:

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: YERBA BUENA — Project No. 1649.09

Date: 10/22/92 — Sample No. LF-25; LF-~~25~~ ~~DUP~~ 125; LF-25-FB

Samplers Name: JCK SCH

Sampling Location: LF-25

Sampling Method: HAND BAIL/TEFLON BAILER

Analyses Requested: 5520, DIESEL, 8015/8020 (GAS+BTEX)

Number and Types of Sample Bottles used: 3 L.GL., 3 VOA

Method of Shipment: COURIER

GROUND WATER

Well No.: LF-25

Well Diameter (in.): 2

Depth to Water, Static (ft): 9.12

Water in Well Box:

Well Depth (ft): 17.10

Height of Water Column in Well: 7.98

Water Volume in Well: ~~.96~~ 1.28

SURFACE WATER

Stream Width:

Stream Depth:

Stream Velocity:

Rained recently ?:

Other:

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

17.10
9.12
7.98
.16
~~1596~~
~~798~~
~~.9576~~
4788
798
1.2768

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1050								FIELD BLANK
1054								START
1056		1	20.5	6.78	1091			TURBID
10:57		2	20.3	6.82	1083			"
10:59		3	20.0	6.78	1073			TURBID
11:01		4	19.9	6.78	1046			TURBID
11:05	12.11							SAMPLE
12:05								DUPLICATE

Suggested Method for Purging Well

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Yerba Buena — Project No.: 1649.09

Date: 10.22.92 — Sample No.: LF-26

Samplers Name: SCH JCK

Sampling Location: E'ville / Ransome

Sampling Method: Hand Bail / Teflon bailers

Analyses Requested: 8015/8020 GCS/BTEX; Diesel; 5520 of G

Number and Types of Sample Bottles used: 3 40A/HCl; 3 amber C/HCl

Method of Shipment: Courier

21.80
12.70
9.10
16
5760
9100
14.56

LOCATION MAP

GROUND WATER

Well No.: LF-26

Well Diameter (in.): 2

Depth to Water, Static (ft): 12.70

Water in Well Box:

Well Depth (ft): 21.80

Height of Water Column in Well: 9.10

Water Volume in Well: 1.46 ≈ 1.5

SURFACE WATER

Stream Width:

Stream Depth:

Stream Velocity:

Rained recently ?:

Other:

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1131								start
1133		1.5	20.2	6.74	785			turbid
1135		3.0	20.5	6.70	761			"
1138		4.5	20.5	6.71	748			" /stop
1140								sample LF-26
1146	12.71							

Suggested Method for Purging Well:

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Yerba Buena — Project No. 1649.09

Date 10-22-92 — Sample No. LF-27

Samplers Name SCH JCK

Sampling Location E'ville/Ransome

Sampling Method Hand bail

Analyses Requested 8015/8020 GAS/BTEX; 5520C O+G; Diesel

Number and Types of Sample Bottles used 3 VOA/HCl; 3 amber 1/HCl

Method of Shipment Courier

GROUND WATER

Well No. LF-27

Well Diameter (in.) 2

Depth to Water, Static (ft) 14.41

Water in Well Box

Well Depth (ft) 21.92

Height of Water Column in Well 7.51

Water Volume in Well 1.20 ≅ 1.25

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently ?

Other

(2)-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

21.92
14.41
7.51
16
4506
7510
1.202

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1152								start
1154		1.25	20.7	7.01	805			turbid
1155		2.50	20.5	6.92	788			"
1158		4.5	20.0	6.87	782			" /stop
1200								Sample LF-27
1205	16.22							

Suggested Method for Purging Well

LEVINE • FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Yerba Buena — Project No. 1649.09

Date 10·22·92 — Sample No. LF·28

Samplers Name SCH JCK

Sampling Location E'ville / Ransome

Sampling Method Hand Bail / Teflon bailer

Analyses Requested 8015/8020 GCS/BTEX; 5520 B&F; 8046; Diesel

Number and Types of Sample Bottles used 3 VOA/HCl; 3 amber L/HCl

Method of Shipment Courier

GROUND WATER

Well No. LF·28

Well Diameter (in.) 2

Depth to Water, Static (ft) 10.00

Water in Well Box

Well Depth (ft) 21.70

Height of Water Column in Well 11.76

Water Volume in Well 1.87 × 2

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently ?

Other

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

21.70
10.00
11.70
16
7020
11700
1.87

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1259								Start
1301		2	20.2	6.97	896			turbid
1304		4	20.0	6.92	866			"
1306		6	19.7	6.86	840			"/Stop
1310								Sample LF·28
1313	12.87							

Suggested Method for Purging Well

Development + Sampling

LEVINE • FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Yerba Buena — Project No. 1649.09

Date 10.22.92 — Sample No. LF-29

Samplers Name SCH JCK

Sampling Location E'ville / Ransome

Sampling Method Cent. pump / Teflon bail

Analyses Requested 8015/8020 Gas/BTEX; 5520C O&G; Diesel

Number and Types of Sample Bottles used 3 VOA/HCl; 3 amber L/HCl

Method of Shipment Courier

GROUND WATER

Well No. LF-29

Well Diameter (in.) 2

Depth to Water, Static (ft) 14.41

Water in Well Box NO

Well Depth (ft) 22.10

Height of Water Column in Well 7.69

Water Volume in Well 1.23 ≈ 1.5

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently ?

Other

(2)-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

22.10
14.41
7.69
16
4614
7690
1.230

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1520								Start
1521		#5	21.0	6.74	818			V. turbid/off/dewatered
1523	~15.3							Start
1524		9	20.9	6.65	804			V. turbid
1527		13						off/dewatered
1530								Start
1531		17	20.6	6.68	786			Turbid/off
1538								Start
1540		21	21.0	6.68	795			turbid
1542		24	21.0	6.69	792			"
1546		30						Mod Turbid/off
1550								Sample LF-29
1600	14.68							

Suggested Method for Purging Well

APPENDIX E

LABORATORY DATA SHEETS AND CHAIN-OF-CUSTODY FORM FOR GROUND-WATER SAMPLE ANALYSES

Quanteq Laboratories

An Ecologics Company

FORMERLY MED-TOX

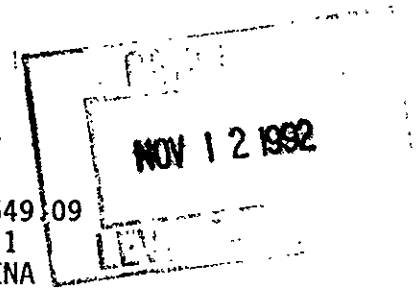
Certificate of Analysis

DOHS CERTIFICATION NO. E772

AIHA ACCREDITATION NO. 332

LEVINE-FRICKE
1900 POWELL STREET
12TH FLOOR
EMERYVILLE, CA 94608
ATTN: JENNIFER BEATTY

CLIENT PROJECT ID: 164909
C.O.C. SERIAL NO: 9711
PROJ. NAME: YERBA BUENA



REPORT DATE: 11/10/92

DATE SAMPLED: 10/22/92

DATE RECEIVED: 10/23/92

QUANTEQ JOB NO: 9210179

PROJECT SUMMARY:

On October 23, 1992, this laboratory received nine (9) water samples. Samples were received at the proper temperature and in appropriate containers.

Client requested seven (7) samples be analyzed for Oil and Grease by Method 5520C, Total Petroleum Hydrocarbons as Diesel and Gasoline, Benzene, Toluene, Ethylbenzene and Total Xylenes. Two (2) samples were placed on hold.

Sample identification, methodologies, results and dates analyzed are summarized on the following pages.

Oil was also detected in samples LF-25, LF-28 and LF-24 (9210179-02F,06F,07F) by EPA Method 3510 GCFID.

All laboratory quality control parameters were found to be within established limits. Batch QC data is included at the end of this report.

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

Larry Klein
Laboratory Manager

Results FAXed 11/03/92

LEVINE-FRICKE

DATE SAMPLED: 10/22/92
DATE RECEIVED: 10/23/92
CLIENT PROJECT ID: 1649.09

REPORT DATE: 11/10/92
QUANTEQ JOB NO: 9210179

Client Sample Id.	Quanteq Lab Id.	Extractable Hydrocarbons as Diesel (mg/L)	Oil & Grease (mg/L)
LF-25	02D	---	0.6
LF-25	02F	0.4 *	---
LF-26	04D	---	ND
LF-26	04F	ND	---
LF-27	05D	---	ND
LF-27	05F	ND	---
LF-28	06D	---	ND
LF-28	06F	ND *	---
LF-24	07D	---	ND
LF-24	07F	0.3 *	---
LF-16	08D	---	ND
LF-16	08F	0.05	---
LF-29	09D	---	ND
LF-29	09F	ND	---
Detection Limit		0.05	0.5
Method:		3510 GCFID	5520C
Instrument:		C	IR
Date Extracted:		10/26/92	10/27/92
Date Analyzed:		10/28/92	10/29/92

ND = Not Detected

* Oil also detected by this method.

LEVINE-FRICKE

SAMPLE ID: LF-25
CLIENT PROJ. ID: 1649.09
DATE SAMPLED: 10/22/92
DATE RECEIVED: 10/23/92
REPORT DATE: 11/10/92

QUANTEQ LAB NO: 9210179-02A
QUANTEQ JOB NO: 9210179
DATE ANALYZED: 10/23/92
INSTRUMENT: F

BTEX AND HYDROCARBONS (WATER MATRIX)
METHOD: EPA 8020, 5030 GCFID

COMPOUND	CAS #	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Benzene	71-43-2	ND	0.3
Toluene	108-88-2	ND	0.3
Ethylbenzene	100-41-4	ND	0.3
Xylenes, Total	1330-20-7	ND	1
PURGEABLE HYDROCARBONS AS:			
Gasoline		ND mg/L	0.05 mg/L

ND = Not Detected

LEVINE-FRICKE

SAMPLE ID: LF-26
CLIENT PROJ. ID: 1649.09
DATE SAMPLED: 10/22/92
DATE RECEIVED: 10/23/92
REPORT DATE: 11/10/92

QUANTEQ LAB NO: 9210179-04A
QUANTEQ JOB NO: 9210179
DATE ANALYZED: 10/23/92
INSTRUMENT: F

BTEX AND HYDROCARBONS (WATER MATRIX)
METHOD: EPA 8020, 5030 GCFID

COMPOUND	CAS #	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Benzene	71-43-2	ND	0.3
Toluene	108-88-2	ND	0.3
Ethylbenzene	100-41-4	ND	0.3
Xylenes, Total	1330-20-7	ND	1
PURGEABLE HYDROCARBONS AS:			
Gasoline		ND mg/L	0.05 mg/L

ND = Not Detected

LEVINE-FRICKE

SAMPLE ID: LF-27
CLIENT PROJ. ID: 1649.09
DATE SAMPLED: 10/22/92
DATE RECEIVED: 10/23/92
REPORT DATE: 11/10/92

QUANTEQ LAB NO: 9210179-05A
QUANTEQ JOB NO: 9210179
DATE ANALYZED: 10/23/92
INSTRUMENT: F

BTEX AND HYDROCARBONS (WATER MATRIX)
METHOD: EPA 8020, 5030 GCFID

COMPOUND	CAS #	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Benzene	71-43-2	ND	0.3
Toluene	108-88-2	ND	0.3
Ethylbenzene	100-41-4	ND	0.3
Xylenes, Total	1330-20-7	ND	1
PURGEABLE HYDROCARBONS AS:			
Gasoline		ND mg/L	0.05 mg/L

ND = Not Detected

LEVINE-FRICKE

SAMPLE ID: LF-28
CLIENT PROJ. ID: 1649.09
DATE SAMPLED: 10/22/92
DATE RECEIVED: 10/23/92
REPORT DATE: 11/10/92

QUANTEQ LAB NO: 9210179-06A
QUANTEQ JOB NO: 9210179
DATE ANALYZED: 10/23/92
INSTRUMENT: F

BTEX AND HYDROCARBONS (WATER MATRIX)
METHOD: EPA 8020, 5030 GCFID

COMPOUND	CAS #	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Benzene	71-43-2	ND	0.3
Toluene	108-88-2	ND	0.3
Ethylbenzene	100-41-4	ND	0.3
Xylenes, Total	1330-20-7	ND	1
PURGEABLE HYDROCARBONS AS:			
Gasoline		ND mg/L	0.05 mg/L

ND = Not Detected

LEVINE-FRICKE

SAMPLE ID: LF-24
CLIENT PROJ. ID: 1649.09
DATE SAMPLED: 10/22/92
DATE RECEIVED: 10/23/92
REPORT DATE: 11/10/92

QUANTEQ LAB NO: 9210179-07A
QUANTEQ JOB NO: 9210179
DATE ANALYZED: 10/26/92
INSTRUMENT: F

BTEX AND HYDROCARBONS (WATER MATRIX)
METHOD: EPA 8020, 5030 GCFID

COMPOUND	CAS #	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Benzene	71-43-2	ND	0.3
Toluene	108-88-2	ND	0.3
Ethylbenzene	100-41-4	ND	0.3
Xylenes, Total	1330-20-7	ND	1
PURGEABLE HYDROCARBONS AS:			
Gasoline		ND mg/L	0.05 mg/L

ND = Not Detected

LEVINE-FRICKE

SAMPLE ID: LF-16
CLIENT PROJ. ID: 1649.09
DATE SAMPLED: 10/22/92
DATE RECEIVED: 10/23/92
REPORT DATE: 11/10/92

QUANTEQ LAB NO: 9210179-08A
QUANTEQ JOB NO: 9210179
DATE ANALYZED: 10/26/92
INSTRUMENT: F

BTEX AND HYDROCARBONS (WATER MATRIX)
METHOD: EPA 8020, 5030 GCFID

COMPOUND	CAS #	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Benzene	71-43-2	ND	0.3
Toluene	108-88-2	ND	0.3
Ethylbenzene	100-41-4	ND	0.3
Xylenes, Total	1330-20-7	ND	1
PURGEABLE HYDROCARBONS AS:			
Gasoline		ND mg/L	0.05 mg/L

ND = Not Detected

LEVINE-FRICKE

SAMPLE ID: LF-29
CLIENT PROJ. ID: 1649.09
DATE SAMPLED: 10/22/92
DATE RECEIVED: 10/23/92
REPORT DATE: 11/10/92

QUANTEQ LAB NO: 9210179-09A
QUANTEQ JOB NO: 9210179
DATE ANALYZED: 10/26-28/92
INSTRUMENT: F

BTEX AND HYDROCARBONS (WATER MATRIX)
METHOD: EPA 8020, 5030 GCFID

COMPOUND	CAS #	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Benzene	71-43-2	1	0.3
Toluene	108-88-2	ND	0.3
Ethylbenzene	100-41-4	0.4	0.3
Xylenes, Total	1330-20-7	1	1
PURGEABLE HYDROCARBONS AS:			
Gasoline		0.09 mg/L	0.05 mg/L

ND = Not Detected

QUALITY CONTROL DATA

DATE EXTRACTED: 10/27/92
DATE ANALYZED: 10/29/92
CLIENT PROJ. ID: 1649.09

QUANTEQ JOB NO: 9210179
SAMPLE SPIKED: D.I. WATER
INSTRUMENT: IR

IR DETERMINATION FOR OIL & GREASE/HYDROCARBONS
METHOD SPIKE RECOVERY SUMMARY
(WATER MATRIX)

ANALYTE	Spike Conc. (mg/L)	Sample Result (mg/L)	MS Result (mg/L)	MSD Result (mg/L)	Average Percent Recovery	RPD
Oil	6.35	ND	6.57	6.57	103.5	0.0

CURRENT QC LIMITS (Revised 06/22/92)

Analyte	Percent Recovery	RPD
Oil	(88-110)	5.8

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference
ND = Not Detected

QUALITY CONTROL DATA

DATE EXTRACTED: 10/20/92
DATE ANALYZED: 10/20/92
CLIENT PROJ. ID: 1649.09

QUANTEQ JOB NO: 9210179
SAMPLE SPIKED: D.I. WATER
INSTRUMENT: C

MATRIX SPIKE RECOVERY SUMMARY
TPH EXTRACTABLE WATERS
METHOD 3510 GCFID
(WATER MATRIX; EXTRACTION METHOD)

ANALYTE	Spike Conc. (mg/L)	Sample Result (mg/L)	MS Result (mg/L)	MSD Result (mg/L)	Average Percent Recovery	RPD
Diesel	2.01	ND	1.80	1.82	90.0	1.1

CURRENT QC LIMITS (Revised 08/15/91)

Analyte	Percent Recovery	RPD
Diesel	(49.3-101.4)	29.0

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference
ND = Not Detected

QUALITY CONTROL DATA

DATE ANALYZED: 10/23/92
SAMPLE SPIKED: 9210179-01A
CLIENT PROJ. ID: 1649.09

QUANTEQ JOB NO: 9210179
INSTRUMENT: F

MATRIX SPIKE RECOVERY SUMMARY
METHOD: EPA 8020, 5030 GCFID
(WATER MATRIX)

ANALYTE	Spike Conc. (ug/L)	Sample Result (ug/L)	MS Result (ug/L)	MSD Result (ug/L)	Average Percent Recovery	RPD
Benzene	13.5	ND	13.2	12.8	96.3	3.1
Toluene	47.8	ND	47.9	47.3	99.6	1.3
Hydrocarbons as Gasoline	500	ND	535	504	103.9	6.0

CURRENT QC LIMITS (Revised 05/14/92)

Analyte	Percent Recovery	RPD
Benzene	(81.4-115.3)	10.2
Toluene	(85.3-112.4)	9.4
Gasoline	(72.0-119.4)	12.8

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference
ND = Not Detected

B-3; C-3
R-1; S-A/E

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

9210179

Project No.: 1649.09	Field Logbook No.:	Date: 10-22-92	Serial No.: 9711
Project Name: Yerba Buena	Project Location: Emeryville		
Sampler (Signature): Prescott C. Heald			Samplers: SCH JCK

SAMPLES						ANALYSES						
SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	① 8015/8020	② 5520C	③ TPH4	HOLD	RUSH
LF-25-FB	10-22-92	1050	01A-C	3	H2O			3			X	
LF-25		1105	02A-F	6				3	2	1		
LF-125		1205	03A-C 5CH 3	3				3			X	
LF-26		1140	04A-F	6				3	2	1		
LF-27		1200	05A-F	6				3	2	1		
LF-28		1310	06A-F	6				3	2	1		
LF-24		1345	07A-F	6				3	2	1		
LF-16		1500	08A-F	6				3	2	1		
LF-29	↓	1550	09A-F	6	↓			3	2	1		

REMARKS

Analyses:
① Combined EPA 8015/8020 for TPH gas and BTEX
② Standard Method 5520C for oil + grease
③ TPH as diesel

Normal turnaround

Results to Jennifer Beahy

RELINQUISHED BY: (Signature) Prescott C. Heald	DATE 10/23/92	TIME 10:40	RECEIVED BY: (Signature)	DATE 10/23/92	TIME 10:40
RELINQUISHED BY: (Signature)	DATE 10/23/92	TIME 11:25	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature) Denise Harrington	DATE 10/23/92	TIME 1125
METHOD OF SHIPMENT: Courier	DATE	TIME	LAB COMMENTS:		

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

Analytical Laboratory:
Quanteq

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

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