Further Soil and Ground-Water Investigation
Fuel Station
40th Street Right-of-Way
Emeryville, California

March 30, 1994
1649.15

Prepared for
Catellus Development Corporation
201 Mission Street, Suite 250
San Francisco, California 94105

LEVINE·FRICKE

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

March 30, 1994 1649.15

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

Subject: Further Soil and Ground-Water Investigation, Fuel Station, 40th Street Right-of-Way, Emeryville, California

Dear Ms. Hugo:

On behalf of Catellus Development Corporation, Levine•Fricke has prepared the enclosed report presenting the results of further soil and ground-water investigation in the vicinity of the former fuel station at 4000 San Pablo Avenue in Emeryville, California.

This work was requested by representatives of the Alameda County Health Care Services Agency (ACHA) in a meeting on January 21, 1994, among representatives of the City of Emeryville, Catellus Development Corporation, and Levine•Fricke. Work was conducted by Levine•Fricke on behalf of Catellus in accordance with the work plan dated January 27, 1994 and verbally approved by the ACHA on January 27, 1994.

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

Sincerely,

RML for

Jenifer Beatty
Project Hydrogeologist

Enclosure

cc: Richard Hiett, RWQCB
Harry Hecht, City of Emeryville
Kimberly Brandt, Catellus
Pat Cashman, Catellus

1900 Powell Street, 12th Floor
Emeryville, California 94608
(510) 652-4500
Fax (510) 652-2246

CONTENTS

March 30, 1994 LF 1649.15

FURTHER SOIL AND GROUND-WATER INVESTIGATION
FUEL STATION
40TH STREET RIGHT-OF-WAY
EMERYVILLE, CALIFORNIA

1.0 INTRODUCTION

This report describes the field activities conducted and the results obtained during additional soil and ground-water investigation in the vicinity of the Alliance Fuel Station, 4000 San Pablo Avenue, Emeryville, California ("the Site"). The investigation was requested by representatives of the Alameda County Health Care Services Agency (ACHA) in a meeting on January 21, 1994, attended by representatives of the City of Emeryville, Catellus Development Corporation ("Catellus"), and Levine·Fricke. Levine·Fricke conducted the investigation on behalf of Catellus in accordance with the work plan dated January 27, 1994 (Levine·Fricke 1994b), which was submitted to and verbally approved by the ACHA on January 27, 1994.

2.0 PREVIOUS INVESTIGATIONS

In June 1993, Levine·Fricke completed a Phase I environmental site assessment of the Site to identify possible areas of environmental concern (Levine·Fricke 1993a). As a follow-up to that assessment, Levine·Fricke conducted a Phase II investigation at the Site in August 1993 and installed three ground-water monitoring wells and eleven soil borings. Results of soil and ground-water samples collected during the Phase II investigation indicated soil and shallow ground water beneath the fuel station area had been affected by petroleum hydrocarbons apparently released from several sources at the station (Levine·Fricke, Inc. 1994b).

The ACHA requested that Catellus conduct additional investigations in the vicinity of the Site to further assess the lateral extent of petroleum hydrocarbons in ground water downgradient (west) from the Site.

3.0 FIELD ACTIVITIES

Well LF-4 was installed along the north side of 40th Street, approximately 160 feet west (downgradient) of well LF-1 (located along the western property boundary of the former

fuel station), to assess the lateral extent of petroleum-affected ground water at the Site (Figure 1). Soil samples collected during drilling of well LF-4 appeared to be affected by petroleum hydrocarbons based on organic vapor meter (OVM) readings and visual observations. Therefore, an exploratory soil boring (EB-1) was drilled approximately 150 feet west of well LF-4 (approximately 310 feet downgradient from well LF-1) to assess the possible presence of petroleum hydrocarbon-affected soil or ground water.

Drilling and soil sampling procedures are described in Section 3.1. Well installation is described in Section 3.2. Well development is described in Section 3.3, and ground-water sampling is described in Section 3.4.

3.1 Drilling and Soil Sampling Procedures

The appropriate permits were obtained from the Alameda County Flood Control and Water Conservation District, Zone 7 before drilling began at the Site.

Exploration Geoservices of San Jose, California, drilled the boring for monitoring well LF-4 and soil boring EB-1 on January 28, 1994, under the supervision of a Levine·Fricke California Registered Geologist. The borings were drilled using a truck-mounted drilling rig equipped with 8-inch outside-diameter hollow-stem augers.

The borehole for monitoring well LF-4 and soil boring EB-1 were completed at depths of 20 and 14.5 feet bgs, respectively. Sediments encountered during drilling consisted primarily of silty clays or sandy silty clays and gravelly sands. Ground water was first encountered in the monitoring well borehole at approximately 11 feet bgs and in boring EB-1 at approximately 14 feet bgs.

Soil samples were collected from the borings for lithologic description and possible laboratory analyses at 2.5-foot-depth intervals by driving a brass-tube-lined split-spoon sampler ahead of the auger into undisturbed soil. During collection, soil samples were screened using a hand-held OVM and described in accordance with the Unified Soil Classification System. Samples from 5 and 10 feet bgs were selected for laboratory analysis based on OVM readings or depth. OVM measurements ranged from 0.3 parts per million (ppm) to 240 ppm in the boring for well LF-4, and from 0.5 ppm to 3.1 ppm in soil boring EB-1. Lithologic descriptions and OVM measurements were recorded in the field on borehole log forms, copies of which are contained in Appendix A.

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

When sampling was complete (see Section 3.5 for grab ground-water sampling in boring EB-1), soil boring EB-1 was filled with cement/bentonite slurry up to the surface to seal the boring, and boring LF-4 was completed as a monitoring well.

3.2 Well Installation

Monitoring well LF-4 was constructed of flush-threaded, 2-inch-diameter polyvinyl chloride (PVC) casing with factory-made slotted well screen (0.02-inch-wide slots). The screened interval in the well extends from 5 to 20 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 1 foot above the top of the slotted PVC casing. A 6-inch-thick bentonite seal was placed on top of the sand to isolate the sand from the material above and to prevent the entrance of grout into the sand pack. A cement-bentonite grout was placed above the bentonite seal up to the ground surface to seal the remainder of the borehole interval from surface-water infiltration. A well cover was placed over the top of the casing and set in concrete to protect the integrity of the well. Well construction data are presented in Appendix A.

3.3 Well Development

Well LF-4 was developed by Levine·Fricke personnel on February 1, 1994, by overpumping and surging the well to remove sediment from around the screened interval and enhance hydraulic communication with the surrounding formation. Approximately 21 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 B.

3.4 Ground-Water Sampling

A grab ground-water sample (GWEB1) was collected from boring EB-1 using a clean disposable bailer. Ground-water samples were collected from well LF-4 using a clean Teflon bailer

immediately following well development. For quality assurance/quality control purposes a duplicate sample (labeled LF-104) was collected from well LF-4.

Ground-water samples collected for analysis of total petroleum hydrocarbons (TPH) as gasoline (TPHg) and benzene, toluene, ethylbenzene, and xylenes (BTEX) were placed into laboratory-supplied, 40-milliliter glass vials preserved with hydrochloric acid (HCl). Samples collected for analysis of TPH as diesel (TPHd) and TPH as motor oil (TPHmo) were poured into laboratory-supplied 1-liter amber bottles preserved with HCl.

Samples were placed into an ice-chilled cooler immediately after collection for transportation under chain-of-custody protocols to the analytical laboratory.

4.0 ANALYTICAL RESULTS

Anametrix, Inc. of San Jose, California, a state-certified laboratory, performed chemical analysis of soil and ground-water samples. Samples were analyzed using EPA Methods 8020/5030 GCFID (TPHg and BTEX) and EPA Method 3510 or 3550 GCFID (TPHd and TPHmo). Table 1 and Figure 1 summarize analytical results for soil samples. Table 2 and Figure 2 summarize results for ground-water samples. Laboratory data sheets are included in Appendix C.

4.1 Soil Results

Analytical results for the soil sample collected at 5 feet bgs in boring LF-4 indicated 0.8 ppm TPHg, 0.083 ppm benzene, and 0.034 ppm total xylenes. Higher concentrations of these compounds (220 ppm TPHg; 1.7 ppm benzene; 24 ppm total xylenes) were detected in the samples collected at 10 feet bgs. Toluene (6.7 ppm), ethylbenzene (4.5 ppm), and TPHd (19 ppm) also were detected in the 10-foot-depth sample.

No TPHg, TPHd, or BTEX concentrations were detected in the soil samples collected from boring EB-1. However, TPHo was detected at low concentrations in the soil samples collected from boring EB-1 at 5 and 10 feet bgs (17 ppm and 49 ppm, respectively).

4.2 Ground-Water Sample Results

Analytical results for ground-water samples collected from well LF-4 indicate that shallow ground water in the vicinity of the well has been affected by petroleum hydrocarbons. Concentrations were detected up to 21 ppm TPHg, 2.2 ppm TPHd, 0.21 ppm TPHmo, 1.1 ppm benzene, 2 ppm toluene, 0.88 ppm ethylbenzene, and 4.7 ppm total xylenes.

However, analytical results for the grab ground-water samples collected from exploratory soil boring EB-1 drilled approximately 150 feet west and downgradient from well LF-4 did not indicate the presence of petroleum hydrocarbons, with the exception of low concentrations of toluene, xylenes, and TPHD (Table 2).

4.3 Evaluation of Results

Based on the results of soil and ground-water samples collected from well LF-4 and boring EB-1, it appears that petroleum hydrocarbon-affected ground water in the vicinity of the fuel station likely has migrated westward and off site, at least as far as well LF-4. The presence of petroleum hydrocarbons detected in the soil samples collected at 5 feet bgs from well boring LF-4 likely is a result of contact between soils at that depth and shallow petroleum-affected ground water in the vicinity of this well. Historical ground-water elevation data collected for the Yerba Buena/East Baybridge Project Site, located immediately west of the fuel station, indicate historical ground-water elevation fluctuations of up to 4 to 8 feet (Levine·Fricke 1993b).

It is anticipated that one additional monitoring well, installed west of well LF-4 and in the vicinity of boring EB-1, will be adequate to assess the downgradient extent of petroleum hydrocarbon-affected ground water. However, it is recommended that at least one additional round of ground-water elevation measurements and ground-water samples be collected to further evaluate site conditions before the additional monitoring well is installed. In addition, it appears that it would be appropriate to delay any further ground-water investigation until after soil remediation activities planned for the fuel station area have been completed.

REFERENCES

Levine•Fricke, Inc. 1993a. Phase I Environmental Site Assessment, 40th Street Right-of-Way, Emeryville, California. June 29.

Levine•Fricke, Inc. 1993b. 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.

Levine•Fricke, Inc. 1994a. Phase II Investigation Results Fuel Station Area, Proposed 40th Street Right-of-Way, Emeryville, California. January 17.

Levine•Fricke, Inc. 1994b. Work Plan to Install, Develop, and Sample One Monitoring Well West of the Fuel Station Located at 4000 San Pablo Avenue, 40th Street Extension Right-of-Way, Emeryville, California. January 27.

TABLE 1
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED FROM MONITORING WELL BORINGS AND SOIL BORING
FUEL STATION, 40TH STREET RIGHT-OF-WAY, EMERYVILLE, CALIFORNIA
(concentrations in milligrams per kilogram [mg/kg])

Sample Name	Depth (ft)	Sample Date	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TRPH
LF-1-4.5	4.5	07-Aug-93	550	220	16	0.84	1.2	5.6	2.7	77
LF-1-9.5	9.5	07-Aug-93	470	18	<10	0.97	<0.005	6.6	8.9	<30
LF-1-14.5	14.5	07-Aug-93	8.4	16	<10	0.14	0.17	0.081	0.37	60
LF-2-9.5	9.5	07-Aug-93	740	14	<10	4.7	35	13	68	30
LF-2-14.5	14.5	07-Aug-93	<0.5	<10	<10	0.009	0.012	<0.005	0.015	<30
LF-3-9.5	9.5	07-Aug-93	75	<10	<10	0.062	0.28	1.1	1.1	37
LF-3-14.5	14.5	07-Aug-93	<0.5	<10	<10	0.014	<0.005	0.01	0.007	<30
LF-4-5.0	5	28-Jan-94	0.8	<10	<10	0.083	<0.005	<0.005	0.034	NA
LF-4-10.0	10	28-Jan-94	220	19	<10	1.7	6.7	4.5	24	NA
EB-1-5.0	5	28-Jan-94	<0.5	<10	17	<0.005	<0.005	<0.005	<0.005	NA
EB1-10.0	10	28-Jan-94	<0.5	<20	49	<0.005	<0.005	<0.005	<0.005	NA

Data entered by MEK/18 Feb 94 Data proofed by [illegible] 3/4 QA/QC by [illegible]

NA = not analyzed
TPHg = total petroleum hydrocarbons as gasoline
TPHd = total petroleum hydrocarbons as diesel
TPHmo = total petroleum hydrocarbons as motor oil
TRPH = total recoverable petroleum hydrocarbons

TABLE 2
ANALYTICAL RESULTS FOR GROUND-WATER SAMPLES
40TH STREET RIGHT-OF-WAY, EMERYVILLE, CALIFORNIA
(concentrations in milligrams per liter [mg/l])

Sample Name	Sample Date	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TRPH
LF-1AG	07-Aug-93	100	41	<2.5	13	9.4	3.1	14	11
LF-2AG	07-Aug-93	13	0.095	<0.50	2.4	2.9	0.5	2	<5
LF-3AG	07-Aug-93	11	0.78	<0.250	1.5	0.17	2.9	5.1	<5
GWEB1	28-Jan-94	<0.05	0.081	<0.05	<0.0005	0.00057	<0.0005	0.0026	NA
LF-4	28-Jan-94	18	1.4	0.16	1.0	1.9	0.88	4.7	NA
LF-4 (dup)	28-Jan-94	21	2.2	0.21	1.1	2	0.80	4.2	NA

Data entered by MEK/18 Feb 94 Data proofed by [illegible] QA/QC by [illegible] 3/9/94

NA = not analyzed
TPHg = total petroleum hydrocarbons as gasoline
TPHd = total petroleum hydrocarbons as diesel
TPHmo = total petroleum hydrocarbons as motor oil
TRPH = total recoverable petroleum hydrocarbons

TABLE 1
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED FROM MONITORING WELL BORINGS AND SOIL BORING
FUEL STATION, 40TH STREET RIGHT-OF-WAY, EMERYVILLE, CALIFORNIA
(concentrations in milligrams per kilogram [mg/kg])

Sample Name	Depth (ft)	Sample Date	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TRPH
LF-1-4.5	4.5	07-Aug-93	550	220	16	0.84	1.2	5.6	2.7	77
LF-1-9.5	9.5	07-Aug-93	470	18	<10	0.97	<0.005	6.6	8.9	<30
LF-1-14.5	14.5	07-Aug-93	8.4	16	<10	0.14	0.17	0.081	0.37	60
LF-2-9.5	9.5	07-Aug-93	740	14	<10	4.7	35	13	68	30
LF-2-14.5	14.5	07-Aug-93	<0.5	<10	<10	0.009	0.012	<0.005	0.015	<30
LF-3-9.5	9.5	07-Aug-93	75	<10	<10	0.062	0.28	1.1	1.1	37
LF-3-14.5	14.5	07-Aug-93	<0.5	<10	<10	0.014	<0.005	0.01	0.007	<30
LF-4-5.0	5	28-Jan-94	0.8	<10	<10	0.083	<0.005	<0.005	0.034	NA
LF-4-10.0	10	28-Jan-94	220	19	<10	1.7	6.7	4.5	24	NA
EB-1-5.0	5	28-Jan-94	<0.5	<10	17	<0.005	<0.005	<0.005	<0.005	NA
EB1-10.0	10	28-Jan-94	<0.5	<20	49	<0.005	<0.005	<0.005	<0.005	NA

Data entered by MEK/18 Feb 94 Data proofed by JMD 3/9/94 QA/QC by WEM

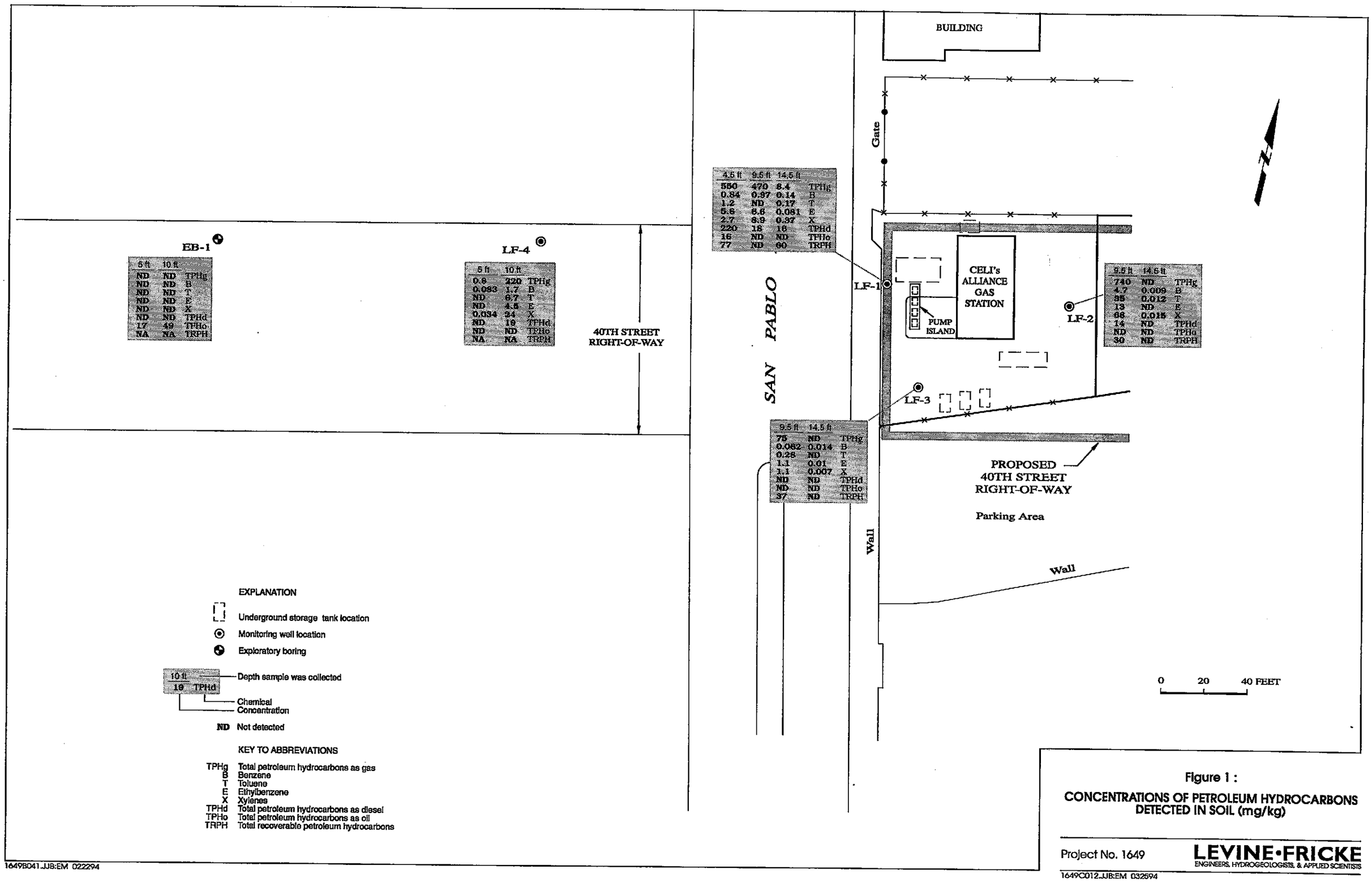
NA = not analyzed
TPHg = total petroleum hydrocarbons as gasoline
TPHd = total petroleum hydrocarbons as diesel
TPHmo = total petroleum hydrocarbons as motor oil
TRPH = total recoverable petroleum hydrocarbons

TABLE 2
ANALYTICAL RESULTS FOR GROUND-WATER SAMPLES
40TH STREET RIGHT-OF-WAY, EMERYVILLE, CALIFORNIA
(concentrations in milligrams per liter [mg/l])

Sample Name	Sample Date	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TRPH
LF-1AG	07-Aug-93	100	41	<2.5	13	9.4	3.1	14	11
LF-2AG	07-Aug-93	13	0.095	<0.50	2.4	2.9	0.5	2	<5
LF-3AG	07-Aug-93	11	0.78	<0.250	1.5	0.17	2.9	5.1	<5
GWEB1	28-Jan-94	<0.05	0.081	<0.05	<0.0005	0.00057	<0.0005	0.0026	NA
LF-4	28-Jan-94	18	1.4	0.16	1.0	1.9	0.88	4.7	NA
LF-4 (dup)	28-Jan-94	21	2.2	0.21	1.1	2	0.80	4.2	NA

Data entered by MEK/18 Feb 94 Data proofed by JD 3/4 QA/QC by QC 3/4/94

NA = not analyzed
TPHg = total petroleum hydrocarbons as gasoline
TPHd = total petroleum hydrocarbons as diesel
TPHmo = total petroleum hydrocarbons as motor oil
TRPH = total recoverable petroleum hydrocarbons



EXPLANATION

- Underground storage tank location
- Monitoring well location
- Exploratory boring
- 10 ft / 10 TPHd — Depth sample was collected; Chemical; Concentration
- ND Not detected

KEY TO ABBREVIATIONS

TPHg	Total petroleum hydrocarbons as gas
B	Benzene
T	Toluene
E	Ethylbenzene
X	Xylenes
TPHd	Total petroleum hydrocarbons as diesel
TPHo	Total petroleum hydrocarbons as oil
TRPH	Total recoverable petroleum hydrocarbons

1649B041.JJB:EM 022294

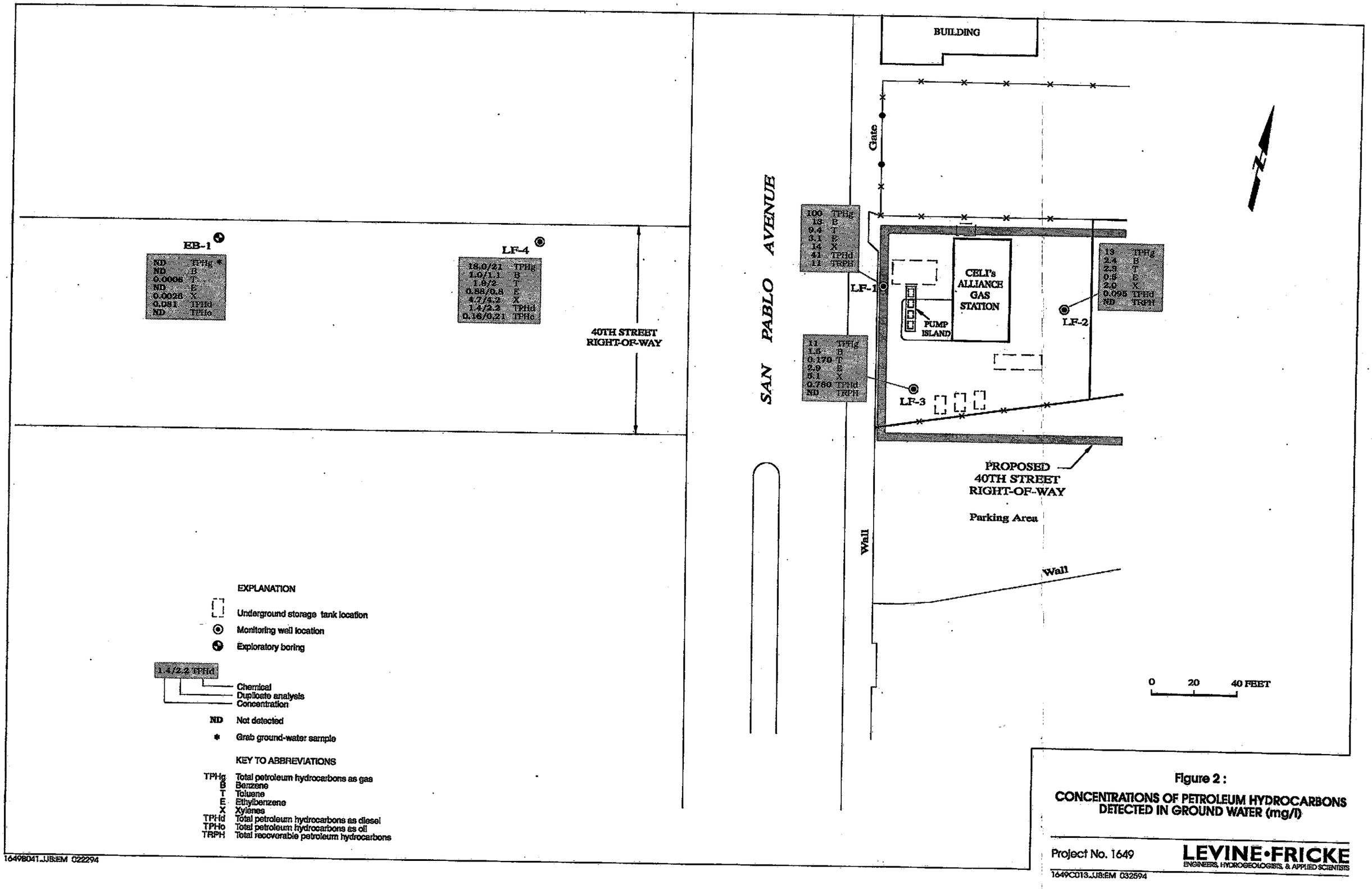
Figure 1 :

CONCENTRATIONS OF PETROLEUM HYDROCARBONS DETECTED IN SOIL (mg/kg)

Project No. 1649

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS, & APPLIED SCIENTISTS

1649C012.JJB:EM 032594



EXPLANATION

- Underground storage tank location
- Monitoring well location
- Exploratory boring

1.4/2.2 TPHd
- Chemical
- Duplicate analysis
- Concentration

ND Not detected

* Grab ground-water sample

KEY TO ABBREVIATIONS

TPHg	Total petroleum hydrocarbons as gas
B	Benzene
T	Toluene
E	Ethylbenzene
X	Xylenes
TPHd	Total petroleum hydrocarbons as diesel
TPHo	Total petroleum hydrocarbons as oil
TRPH	Total recoverable petroleum hydrocarbons

16498041.JJB:EM 022294

Figure 2 :

CONCENTRATIONS OF PETROLEUM HYDROCARBONS DETECTED IN GROUND WATER (mg/l)

Project No. 1649

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS, & APPLIED SCIENTISTS

1649C013.JJB:EM 032594

APPENDIX A

LITHOLOGIC LOGS FOR WELL LF-4 AND BORING EB-1 AND WELL CONSTRUCTION DATA FOR MONITORING WELL LF-4

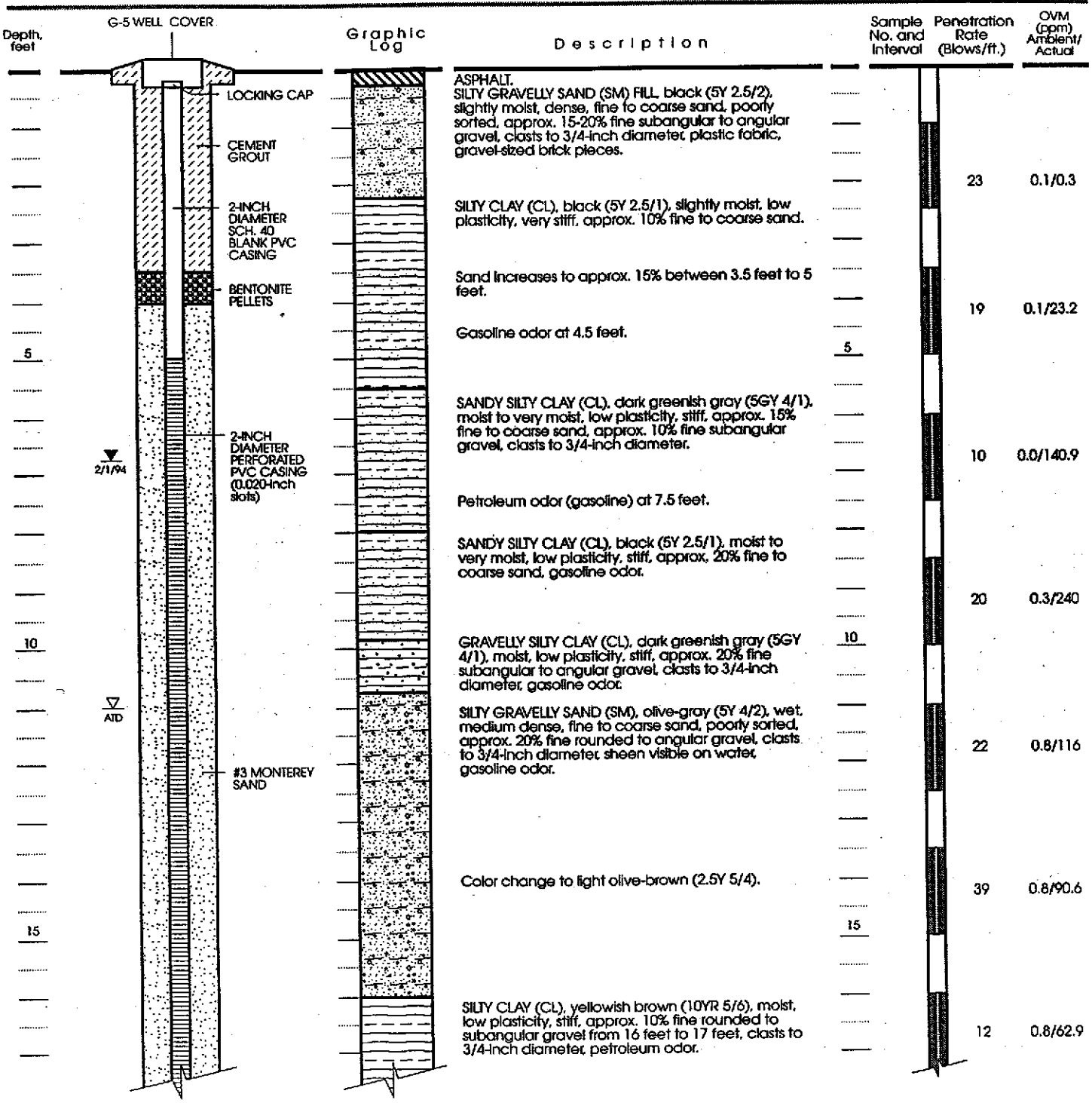
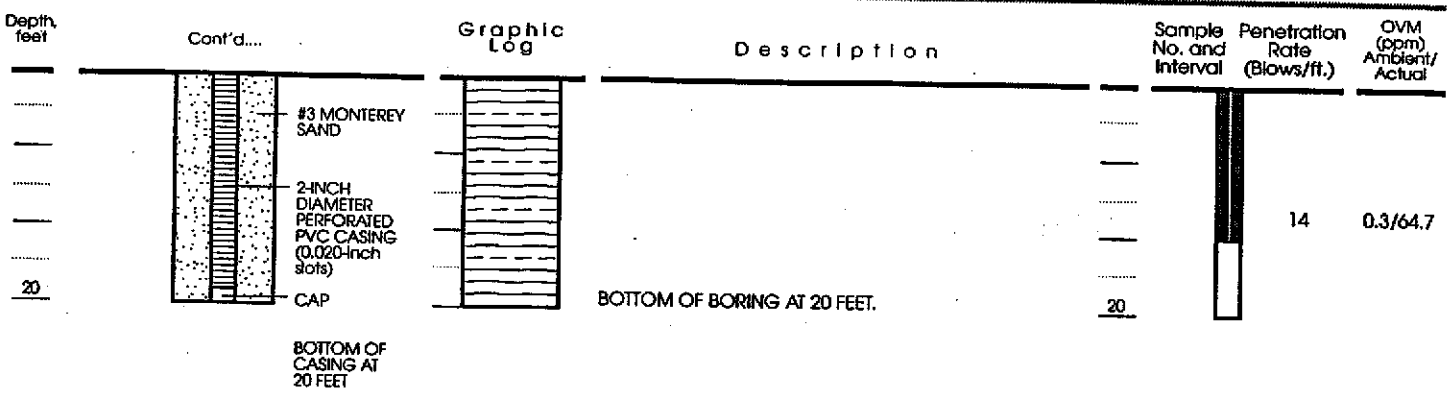


Figure A-1: WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-4 (page 1 of 2)

Project No. 1649.15

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

1649L004.WEM:MPM 032494



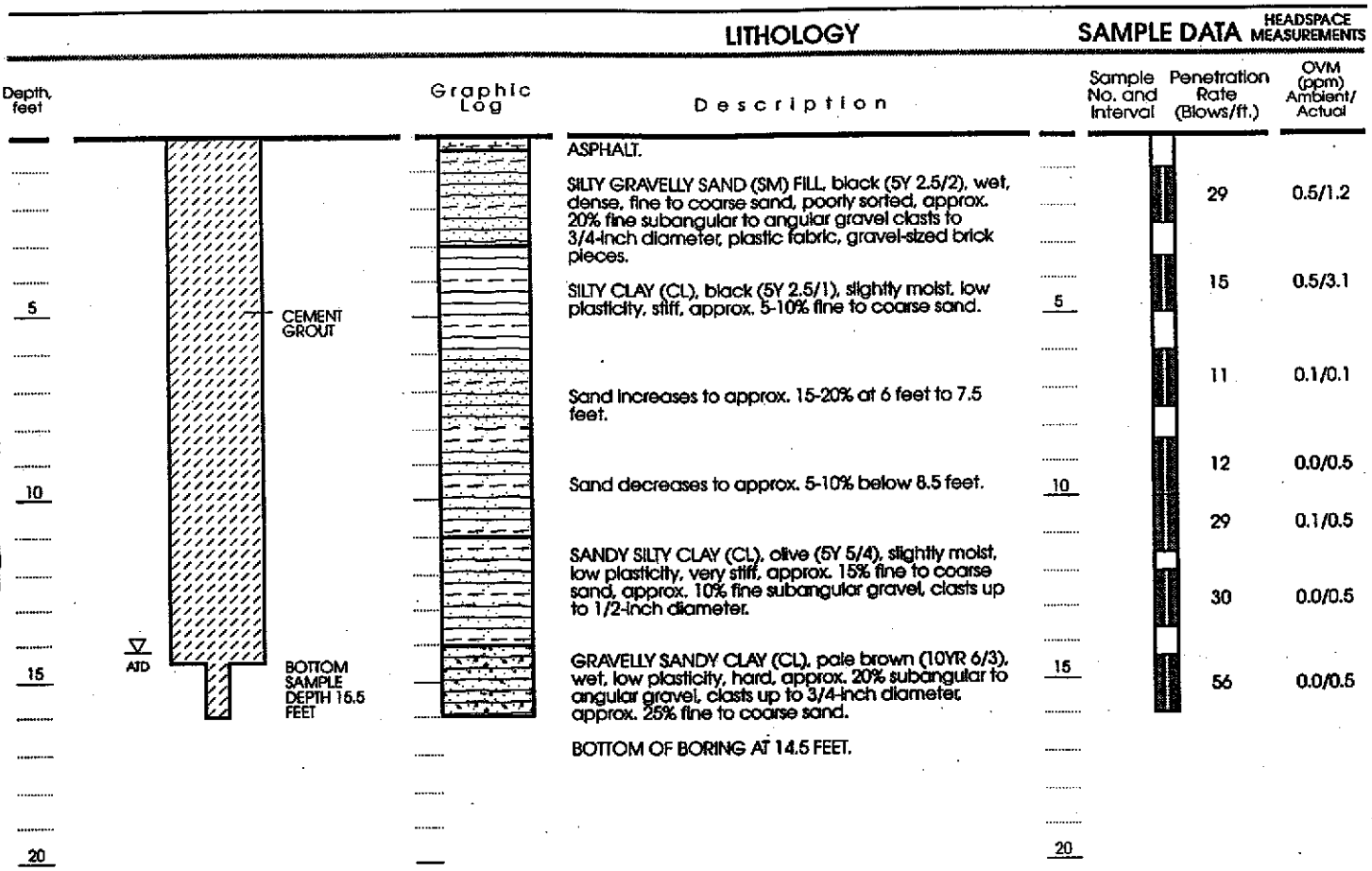
Well Permit No.: 94058
Date well drilled: January 28, 1994
Drilling company: Exploration Geoservices
Hammer weight: 140 lbs.
LF Geologist: William Madison

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Split Spoon Sampler
- ATD — First water at time of drilling
- Static water level
- OVM (ppm) — Organic Vapor Meter reading in parts per million (ppm)

Approved by: RG 4592

Figure A-1: WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-4 (page 2 of 2)



Well Permit No.: 94058
Date boring drilled: January 28, 1994
Drilling company: Exploration Geoservices
Hammer weight: 140 lbs.

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Split Spoon Sampler
- ATD — First water at time of drilling
- OVM (ppm) — Organic Vapor Meter reading in parts per million (ppm)

Approved by: RG 4592

Figure A-2: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING EB-1

Project No. 1649.15

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

1649L003.WEM:MPM 032494

APPENDIX B

WATER-QUALITY SAMPLING SHEET

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name YERBA BUENA

Project No. 1649.15

Date 2-1-94

Sample No. LF-4; LF-104

Samplers Name JGB

Sampling Location EMERYVILLE

Sampling Method CENT. PUMP DEVELOPMENT / TEFLON BAILER

Analyses Requested TPH gas + BTEX; DIESEL + MOTOR OIL

Number and Types of Sample Bottles used 6 VOA w/HCl, 4 amber L.

Method of Shipment COURIER - ANAMETRIX 2/1

Depth to water 6.73 w/oil water probe - no measurable product

No product layer w/dispo bailer - only odor.

19.19
6.77
12.42
.16
7452
12420
19872

GROUND WATER

Well No. LF-4

Well Diameter (in.) 2

Depth to Water, Static (ft) 6.77

Water in Well Box NO

Well Depth (ft) 18.81 + .3 = 19.19

Height of Water Column in Well 12.42

Water Volume in Well 1.9872 x 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

LOCATION MAP

800 Trip blank

calibrated pH kit

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (umhos/cm)	OTHER		REMARKS
1039								start pumping
1040		4	17.5	6.72	1196			TURBID
1042		14	19.1	6.64	1064			TURBID
1044		24	19.2	6.61	964			TURBID
1045		30	19.3	6.64	981			Sl. TURBID
1046		35	19.4	6.71	978			Sl. TURBID
1047		39	19.4	6.73	976			CLOUDY
1048		43	19.4	6.73	977			CLEAR - off
1100								Sample LF-4
1200								Sample LF-104
1115	6.83							TD = 18.81 + .3 = 19.11

Suggested Method for Purging Well CENT. PUMP or HAND BAIL

APPENDIX C

LABORATORY CERTIFICATES

Inchcape Testing Services
Anametrix Laboratories

1961 Concourse Drive
Suite E
San Jose, CA 95131
Tel: 408-432-8192
Fax: 408-432-8198

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

Workorder # : 9401378
Date Received : 01/31/94
Project ID : 1649.15
Purchase Order: N/A

The following samples were received at Anametrix for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9401378- 1	GWEB1
9401378- 2	LF-4-5.0
9401378- 3	LF-4-7.5
9401378- 4	LF4-10.0
9401378- 5	LF4-12.5
9401378- 6	EB-1-5.0
9401378- 7	EB-1-7.5
9401378- 8	EB1-10.0
9401378- 9	EB1-11.5
9401378-10	EB1-13.5
9401378-11	EB-1-16

This report consists of 15 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group which performed the analysis(es) and generated the data.

The results contained within this report relate to only the sample(s) tested. Additionally, these data should be considered in their entirety and Anametrix cannot be responsible for the detachment, separation, or otherwise partial use of this report.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234.

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

Corinne Ryan yc
Doug Robbins
Laboratory Director

02/16/94
Date

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

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

Workorder # : 9401378
Date Received : 01/31/94
Project ID : 1649.15
Purchase Order: N/A
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9401378- 1	GWEB1	WATER	01/28/94	TPHd
9401378- 2	LF-4-5.0	SOIL	01/28/94	TPHd
9401378- 4	LF4-10.0	SOIL	01/28/94	TPHd
9401378- 6	EB-1-5.0	SOIL	01/28/94	TPHd
9401378- 8	EB1-10.0	SOIL	01/28/94	TPHd
9401378- 1	GWEB1	WATER	01/28/94	TPHgBTEX
9401378- 2	LF-4-5.0	SOIL	01/28/94	TPHgBTEX
9401378- 4	LF4-10.0	SOIL	01/28/94	TPHgBTEX
9401378- 6	EB-1-5.0	SOIL	01/28/94	TPHgBTEX
9401378- 8	EB1-10.0	SOIL	01/28/94	TPHgBTEX

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

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

Workorder # : 9401378
Date Received : 01/31/94
Project ID : 1649.15
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- Sample GWEB1 was reextracted for diesel due to low surrogate recovery in the method blank. The method blank and sample were reextracted with similar results for the method blank. Therefore, only results for the original extraction were reported.

Cheryl Balmer 2/10/94
Department Supervisor Date

Kamel C. Kamel 2116194
Chemist Date

[redacted]

Organic Analysis Data Sheet

Total Petroleum Hydrocarbons as Gasoline with BTEX

ITS - Anametrix Laboratories - (408)432-8192

Lab Workorder : 9401378

Matrix : WATER

Client Project ID : 1649.15

Units : ug/L

Compound Name	Method Reporting Limit*	Client ID	Client ID	Client ID	Client ID	Client ID
		GWEB1				
		Lab ID	Lab ID	Lab ID	Lab ID	Lab ID
		9401378-01	Method Blank			
Benzene	0.50	ND	ND			
Toluene	0.50	0.57	ND			
Ethylbenzene	0.50	ND	ND			
Total Xylenes	0.50	2.6	ND			
TPH as Gasoline	50	ND	ND			
Surrogate Recovery		127%	113%			
Instrument ID		HP12	HP12			
Date Sampled		01/28/94	N/A			
Date Analyzed		02/02/94	02/02/94			
RLMF		1	1			
Filename Reference		FPJ37801.D	BF0201E1.D			

* The Method Reporting Limit must be multiplied by the Reporting Limit Multiplication Factor (RLMF) to achieve the compound's reporting limit in the analysis.

ND : Not detected at or above the reporting limit for the analysis as performed.
TPHg : Determined by GC/FID following sample purge & trap by EPA Method 5030.
BTEX : Determined by modified EPA Method 8020 following sample purge & trap by EPA Method 5030.

Lab Control Limits for surrogate compound p-Bromofluorobenzene are 61-139%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Lucia Sloan 2/15/94
Analyst Date

Cheryl Balman 2/15/94
Supervisor Date

Issued on 2/7/94 @ 10:09 AM

[redacted]

Total Petroleum Hydrocarbons as Gasoline with BTEX
ITS - Anametrix Laboratories - (408)432-8192

Lab Workorder : 9401378
Matrix : SOIL

Client Project ID : 1649.15
Units : mg/Kg

Compound Name	Method Reporting Limit*	Client ID LF-4-5.0 Lab ID 9401378-02	Client ID LF4-10.0 Lab ID 9401378-04	Client ID EB-1-5.0 Lab ID 9401378-06	Client ID EB1-10.0 Lab ID 9401378-08	Client ID Lab ID Method Blank
Benzene	0.0050	0.083	1.7	ND	ND	ND
Toluene	0.0050	ND	6.7	ND	ND	ND
Ethylbenzene	0.0050	ND	4.5	ND	ND	ND
Total Xylenes	0.0050	0.034	24	ND	ND	ND
TPH as Gasoline	0.50	0.8	220	ND	ND	ND
Surrogate Recovery		82%	100%	62%	107%	104%
Instrument ID		HP4	HP4	HP4	HP4	HP4
Date Sampled		01/28/94	01/28/94	01/28/94	01/28/94	N/A
Date Analyzed		02/03/94	02/04/94	02/03/94	02/04/94	02/03/94
RLMF		1	50	1	1	1
Filename Reference		FPJ37802.D	FRJ37804.D	FPJ37806.D	FRJ37808.D	BF0302E1.D

* The Method Reporting Limit must be multiplied by the Reporting Limit Multiplication Factor (RLMF) to achieve the compound's reporting limit in the analysis.

ND : Not detected at or above the reporting limit for the analysis as performed.
TPHg : Determined by GC/FID following sample purge & trap by EPA Method 5030.
BTEX : Determined by modified EPA Method 8020 following sample purge & trap by EPA Method 5030.

Lab Control Limits for surrogate compound p-Bromofluorobenzene are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Analyst — Date: 2/15/94

Supervisor — Date: 2/15/94

Issued on 2/15/94 @ 3:51 pm

Matrix Spike Report
Total Petroleum Hydrocarbons as BTEX
ITS - Anametrix Laboratories - (408)432-8192

Project ID : 1649.15
Sample ID : EB1-10.0
Matrix : SOIL
Date Sampled : 01/28/94

Laboratory ID : 9401378-08
Analyst : IS
Supervisor : CB
Instrument ID : HP4
Units : mg/Kg

COMPOUND NAME	SPIKE AMOUNT	SAMPLE RESULTS	MS RECOVERY	MSD RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
Benzene	0.040	ND	93%	100%	45-139	-8%	30
Toluene	0.040	ND	95%	105%	51-138	-10%	30
Ethylbenzene	0.040	ND	95%	103%	48-146	-8%	30
Total Xylenes	0.040	ND	98%	105%	50-139	-7%	30
Surrogate Recovery		107%	109%	104%			
Date Analyzed		02/04/94	02/04/94	02/04/94			
Multiplier		2	2	2			
Filename Reference		FRJ37808.D	FMJ37808.D	FDJ37808.D			

Limits established by Inchcape Testing Services, Anametrix Laboratories.

Matrix Spike Report

Total Petroleum Hydrocarbons as BTEX

ITS - Anametrix Laboratories - (408)432-8192

Project ID : 1649.15
Sample ID : LF-4-5.0
Matrix : SOIL
Date Sampled : 01/28/94

Laboratory ID : 9401378-02
Analyst : KK
Supervisor : CS
Instrument ID : HP4
Units : mg/Kg

COMPOUND NAME	SPIKE AMOUNT	SAMPLE RESULTS	MS RECOVERY	MSD RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
Benzene	0.040	0.083	68%	81%	45-139	-18%	30
Toluene	0.040	ND	102%	98%	51-138	4%	30
Ethylbenzene	0.040	ND	98%	98%	48-146	-1%	30
Total Xylenes	0.040	0.034	105%	105%	50-139	0%	30
Surrogate Recovery		82%	84%	94%			
Date Analyzed		02/03/94	02/03/94	02/03/94			
Multiplier		2	2	2			
Filename Reference		FPJ37802.D	FMJ37802.D	FNJ37802.D			

Limits established by Inchcape Testing Services, Anametrix Laboratories.

Laboratory Control Spike Report
Total Petroleum Hydrocarbons as Gasoline
ITS - Anametrix Laboratories - (408)432-8192

Instrument ID : HP12
Matrix : LIQUID

Analyst : IS
Supervisor : [illegible]
Units : ug/L

COMPOUND NAME	SPIKE AMOUNT	LCS RECOVERY	RECOVERY LIMITS
Gasoline	500	66%	56-141
Surrogate Recovery		115%	61-139
Date Analyzed		02/03/94	
Multiplier		1	
Filename Reference		MF0202E1.D	

* Limits established by Inchcape Testing Services, Anametrix Laboratories.

Laboratory Control Spike Report
Total Petroleum Hydrocarbons as BTEX
ITS - Anametrix Laboratories - (408)432-8192

Instrument ID : HP4
Matrix : SOLID

Analyst : IS
Supervisor : [illegible]
Units : mg/Kg

COMPOUND NAME	SPIKE AMOUNT	LCS RECOVERY	RECOVERY LIMITS
Benzene	0.020	105%	52-133
Toluene	0.020	110%	57-136
Ethylbenzene	0.020	110%	56-139
Total Xylenes	0.020	110%	56-141
Surrogate Recovery		112%	53-147
Date Analyzed		02/03/94	
Multiplier		1	
Filename Reference		MF0301E1.D	

* Limits established by Inchcape Testing Services, Anametrix Laboratories.

Laboratory Control Spike Report
Total Petroleum Hydrocarbons as BTEX
ITS - Anametrix Laboratories - (408)432-8192

Instrument ID : HP4
Matrix : SOLID

Analyst : IS
Supervisor : [illegible]
Units : mg/Kg

COMPOUND NAME	SPIKE AMOUNT	LCS RECOVERY	RECOVERY LIMITS
Benzene	0.020	120%	52-133
Toluene	0.020	120%	57-136
Ethylbenzene	0.020	125%	56-139
Total Xylenes	0.020	125%	56-141
Surrogate Recovery		112%	53-147
Date Analyzed		02/04/94	
Multiplier		1	
Filename Reference		MF0401E1.D	

* Limits established by Inchcape Testing Services, Anametrix Laboratories.

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS AS DIESEL
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9401378
Matrix : WATER
Date Sampled : 01/28/94
Date Extracted: 02/03/94

Project Number : 1649.15
Date Released : 02/15/94
Instrument I.D.: HP23

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)	Surrogate %Rec
9401378-01	GWEB1	02/05/94	50	81	84%
BF0311F9	METHOD BLANK	02/03/94	50	ND	16%

Note : Reporting limit is obtained by multiplying the dilution factor times 50 ug/L.
The surrogate recovery limits for C25 are 30-130%.

ND - Not detected at or above the practical quantitation limit for the method.
TPHd - Total Petroleum Hydrocarbons as C12-C22 is determined by GCFID following sample extraction by EPA Method 3510.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Analyst Date

Supervisor Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9401378
Matrix : WATER
Date Sampled : 01/28/94
Date Extracted: 02/03/94

Project Number : 1649.15
Date Released : 02/15/94
Instrument I.D.: HP23

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)	Surrogate %Rec
9401378-01	GWEB1	02/05/94	50	ND	84%
BF0311F9	METHOD BLANK	02/03/94	50	ND	16%

Note : Reporting limit is obtained by multiplying the dilution factor times 50 ug/L.
The surrogate recovery limits for C25 are 30-130%.

ND - Not detected at or above the practical quantitation limit for the method.
TPHd - Total Petroleum Hydrocarbons as C22-C36 is determined by GCFID following sample extraction by EPA Method 3510.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Kamel a Kamel 2/16/94
Analyst Date

Cheryl Balmer 2/16/94
Supervisor Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS AS DIESEL
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9401378
Matrix : SOIL
Date Sampled : 01/28/94
Date Extracted: 02/03/94

Project Number : 1649.15
Date Released : 02/15/94
Instrument I.D.: HP19

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (mg/Kg)	Amount Found (mg/Kg)	Surrogate %Rec
9401378-02	LF-4-5.0	02/09/94	10	ND	94%
9401378-04	LF-4-10.0	02/09/94	10	19	100%
9401378-06	EB-1-5.0	02/12/94	10	ND	105%
9401378-08	EB1-10.0	02/12/94	20	ND	96%
BF03H1F1	METHOD BLANK	02/04/94	10	ND	99%

Note : Reporting limit is obtained by multiplying the dilution factor times 10 mg/Kg.
The surrogate recovery limits for C25 are 30-130%.

ND - Not detected at or above the practical quantitation limit for the method.
TPHd - Total Petroleum Hydrocarbons as C12-C22 is determined by GCFID following sample extraction by EPA Method 3510.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Kamal A. Kamal 2/16/94
Analyst Date

Cheryl Balman 4/6/94
Supervisor Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9401378
Matrix : SOIL
Date Sampled : 01/28/94
Date Extracted: 02/03/94

Project Number : 1649.15
Date Released : 02/15/94
Instrument I.D.: HP19

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (mg/Kg)	Amount Found (mg/Kg)	Surrogate %Rec
9401378-02	LF-4-5.0	02/09/94	10	ND	94%
9401378-04	LF-4-10.0	02/09/94	10	ND	100%
9401378-06	EB-1-5.0	02/12/94	10	17	105%
9401378-08	EB1-10.0	02/12/94	20	49	96%
BF03H1F1	METHOD BLANK	02/04/94	10	ND	99%

Note : Reporting limit is obtained by multiplying the dilution factor times 10 mg/Kg.
The surrogate recovery limits for C25 are 30-130%.

ND - Not detected at or above the practical quantitation limit for the method.
TPHd - Total Petroleum Hydrocarbons as C22-C36 is determined by GCFID following sample extraction by EPA Method 3510.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Kamel C Kamel 2/16/94
Analyst Date

Cheryl Bleum 2/16/94
Supervisor Date

TOTAL EXTRACTABLE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 3510 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : WATER
Date Sampled : N/A
Date Extracted: 02/03/94
Date Analyzed : 02/03/94

Anametrix I.D. : MF0311F9
Analyst : KK
Supervisor : GJ
Date Released : 02/15/94
Instrument I.D.: HP23

COMPOUND	SPIKE AMT (ug/L)	LCS REC (ug/L)	% REC LCS	LCSD REC (ug/L)	% REC LCSD	RPD	% REC LIMITS
DIESEL	1250	830	66%	850	68%	2%	47-130
SURROGATE			39%		44%		30-130

* Quality control limits established by Anametrix, Inc.

TOTAL EXTRACTABLE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 3550 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : SOIL
Date Sampled : N/A
Date Extracted: 02/03/94
Date Analyzed : 02/04/94

Anametrix I.D. : MF03H1F1
Analyst : KK
Supervisor : [illegible]
Date Released : 02/15/94
Instrument I.D.: HP23

COMPOUND	SPIKE AMT (mg/Kg)	REC LCS (mg/Kg)	% REC LCS	% REC LIMITS *
DIESEL	125	94	75%	48-113
SURROGATE			99%	30-130

* Quality control limits established by Anametrix, Inc.

Inchcape Testing Services
Anametrix Laboratories

1961 Concourse Drive
Suite E
San Jose, CA 95131
Tel: 408-432-8192
Fax: 408-432-8198

MR. WILLIAM MADISON
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9402016
Date Received : 02/01/94
Project ID : 1649.15
Purchase Order: N/A

The following samples were received at Anametrix for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9402016- 1	T. BLANK
9402016- 2	LF-4
9402016- 3	LF-104

This report consists of 7 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group which performed the analysis(es) and generated the data.

The results contained within this report relate to only the sample(s) tested. Additionally, these data should be considered in their entirety and Anametrix cannot be responsible for the detachment, separation, or otherwise partial use of this report.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234.

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

COPY

Corinne Khan for
Doug Robbins
Laboratory Director

02/17/94
Date

RECEIVED
FEB 22
LEVINE-

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

MR. WILLIAM MADISON
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9402016
Date Received : 02/01/94
Project ID : 1649.15
Purchase Order: N/A
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9402016- 2	LF-4	WATER	02/01/94	TPHd
9402016- 3	LF-104	WATER	02/01/94	TPHd
9402016- 1	T. BLANK	WATER	02/01/94	TPHgBTEX
9402016- 2	LF-4	WATER	02/01/94	TPHgBTEX
9402016- 3	LF-104	WATER	02/01/94	TPHgBTEX

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

MR. WILLIAM MADISON
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9402016
Date Received : 02/01/94
Project ID : 1649.15
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- The surrogate recovery in the method blank extracted on 02/02/94 was outside quality control limits. Samples LF-4 and LF-104 were re-extracted for diesel and similar result for the method blank was observed. Therefore, only the results for the original extractions were reported.

Cheryl Balmer 2/17/94
Department Supervisor Date

Kamel a. Kamel 2117194
Chemist Date

Organic Analysis Data Sheet
Total Petroleum Hydrocarbons as Gasoline with BTEX
ITS - Anametrix Laboratories - (408)432-8192

Lab Workorder : 9402016
Matrix : WATER

Client Project ID : 1649.15
Units : ug/L

Compound Name	Method Reporting Limit*	Client ID: T. BLANK Lab ID: 9402016-01	Client ID: LF-4 Lab ID: 9402016-02	Client ID: LF-104 Lab ID: 9402016-03	Client ID: Lab ID: Method Blank	Client ID: Lab ID:
Benzene	0.50	ND	1000	1100	ND	
Toluene	0.50	ND	1900	2000	ND	
Ethylbenzene	0.50	ND	880	800	ND	
Total Xylenes	0.50	ND	4700	4200	ND	
TPH as Gasoline	50	ND	18000	21000	ND	
Surrogate Recovery		124%	123%	123%	110%	
Instrument ID		HP4	HP4	HP4	HP4	
Date Sampled		02/01/94	02/01/94	02/01/94	N/A	
Date Analyzed		02/05/94	02/05/94	02/05/94	02/04/94	
RLMF		1	100	100	1	
Filename Reference		FPF01601.D	FPF01602.D	FPF01603.D	BF0402E1.D	

* The Method Reporting Limit must be multiplied by the Reporting Limit Multiplication Factor (RLMF) to achieve the compound's reporting limit in the analysis.

ND : Not detected at or above the reporting limit for the analysis as performed.
TPHg : Determined by GC/FID following sample purge & trap by EPA Method 5030.
BTEX : Determined by modified EPA Method 8020 following sample purge & trap by EPA Method 5030.

Lab Control Limits for surrogate compound p-Bromofluorobenzene are 61-139%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Analyst: Irina Shor 2/15/94 Date

Supervisor: Cheryl Balmer 2/15/94 Date

Issued on 2/8/94 @ 7:46 AM

Laboratory Control Spike Report
Total Petroleum Hydrocarbons as Gasoline
ITS - Anametrix Laboratories - (408)432-8192

Instrument ID : HP4
Matrix : LIQUID

Analyst : IS
Supervisor : [illegible]
Units : ug/L

COMPOUND NAME	SPIKE AMOUNT	LCS RECOVERY	RECOVERY LIMITS
Gasoline	500	82%	56-141
Surrogate Recovery		114%	61-139
Date Analyzed		02/05/94	
Multiplier		1	
Filename Reference		MF0402E1.D	

* Limits established by Inchcape Testing Services, Anametrix Laboratories.

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS AS DIESEL
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9402016
Matrix : WATER
Date Sampled : 02/01/94
Date Extracted: 02/02/94

Project Number : 1649.15
Date Released : 02/15/94
Instrument I.D.: HP19

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)	Surrogate %Rec
9402016-02	LF-4	02/05/94	50	1400	71%
9402016-03	LF-104	02/05/94	50	2200	87%
BF0211F9	METHOD BLANK	02/04/94	50	ND	28%

Note : Reporting limit is obtained by multiplying the dilution factor times 50 ug/L.
The surrogate recovery limits for C25 are 30-130%.

ND - Not detected at or above the practical quantitation limit for the method.
TPHd - Total Petroleum Hydrocarbons as C12-C22 is determined by GCFID following sample extraction by EPA Method 3510.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Kamel C. Kamel 2116194
Analyst Date

Cheryl Balmer 2/15/94
Supervisor Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9402016
Matrix : WATER
Date Sampled : 02/01/94
Date Extracted: 02/02/94

Project Number : 1649.15
Date Released : 02/15/94
Instrument I.D.: HP19

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)	Surrogate %Rec
9402016-02	LF-4	02/05/94	50	160	71%
9402016-03	LF-104	02/05/94	50	210	87%
BF0211F9	METHOD BLANK	02/04/94	50	ND	28%

Note : Reporting limit is obtained by multiplying the dilution factor times 50 ug/L.
The surrogate recovery limits for C25 are 30-130%.

ND - Not detected at or above the practical quantitation limit for the method.
TPHd - Total Petroleum Hydrocarbons as C22-C36 is determined by GCFID following sample extraction by EPA Method 3510.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Kamel G. Kamel 2/16/94
Analyst Date

Cheryl Baerman 2/15/94
Supervisor Date

TOTAL EXTRACTABLE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 3510 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : WATER
Date Sampled : N/A
Date Extracted: 02/02/94
Date Analyzed : 02/04/94

Anametrix I.D. : MF0211F9
Analyst : KK
Supervisor : [illegible]
Date Released : 02/15/94
Instrument I.D.: HP19

COMPOUND	SPIKE AMT (ug/L)	LCS REC (ug/L)	% REC LCS	LCSD REC (ug/L)	% REC LCSD	RPD	% REC LIMITS
DIESEL	1250	830	66%	870	70%	5%	47-130
SURROGATE			51%		60%		30-130

* Quality control limits established by Anametrix, Inc.