Phase II Investigation Results
Fuel Station Area
Proposed 40th Street Right-of-Way
Emeryville, California
4000 San Pablo Ave.

January 17, 1994
1649.00-15

not property owner →

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

LEVINE·FRICKE

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

January 17, 1994 LF 1649.00-15

Ms. Kimberly Brandt
Catellus Development Corporation
201 Mission Street
San Francisco, California 94105

Subject: Phase II Investigation Results, Fuel Station Area, Proposed 40th Street Right-of-Way, Emeryville, California

Dear Kim:

Levine•Fricke has prepared the enclosed investigation report presenting Phase II investigation results for the fuel station area of the proposed 40th Street right-of-way located east of the Yerba Buena/East Baybridge Center Project Site, across San Pablo Avenue.

If you have any questions, please call me or Jenifer Beatty.

Sincerely,

Cindy Barclay
Senior Project Geologist

Enclosure

cc: Pat Cashman, Catellus

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

Other offices in Irvine, CA; Sacramento/Roseville, CA; Tallahassee, FL; Honolulu, HI

CONTENTS

Leak report faxed 1-14-99

Need to check for lead pb

LIST OF TABLES

LIST OF FIGURES

January 17, 1994 LF 1649.00-15

PHASE II INVESTIGATION RESULTS
FUEL STATION AREA
PROPOSED 40TH STREET RIGHT-OF-WAY
EMERYVILLE, CALIFORNIA

1.0 INTRODUCTION

This report, prepared on behalf of Catellus Development Corporation ("Catellus"), summarizes and evaluates recent soil and ground-water quality data gathered during the Phase II investigation in the fuel station area of the 40th Street right-of-way (Figure 1), located east of the Yerba Buena/East Baybridge Center Project Site, across San Pablo Avenue in Emeryville, California.

The investigation activities described herein were conducted to assess the possible presence of potential environmental concerns associated with past and present activities at the fuel station. This work was conducted by Levine·Fricke during July and August 1993.

2.0 PREVIOUS INVESTIGATIONS

Levine·Fricke conducted a Phase I Environmental Site Assessment (ESA) at the fuel station area and reported the findings of the ESA in its June 29, 1993 report entitled "Phase I Environmental Site Assessment, 40th Street Right-of-Way, Emeryville, California."

The following potential environmental concerns were identified at the fuel station area during the Phase I ESA:

- The fuel station has been present on the Site since at least 1936; however, very little information regarding the history of operations was available. Six underground storage tanks (USTs) reportedly exist at the fuel station; however, limited records exist regarding their past or current condition.

- Heavy oil staining was observed on surfaces in and around the fuel station during a site visit by Levine•Fricke personnel. Stains also were noted by the Alameda County Health Care Services Agency (ACHA) inspector during an April 1993 inspection.

The scope of work conducted during the Phase II investigation described herein was proposed to further investigate these possible areas of concern.

The activities recently conducted in the fuel station area are as follows:

- site inspection and geophysical survey
- drilling of 14 soil borings and the collection of soil samples for lithologic description and chemical analysis
- installation of three ground-water monitoring wells in the vicinity of the fuel station
- collection of ground-water samples from each of the three wells for chemical analysis

3.0 SITE INSPECTION AND GEOPHYSICAL SURVEY

After access to the fuel station area was obtained from the property owner, Levine•Fricke conducted a site visit to observe portions of the station that were not accessible during the earlier Phase I ESA. The site visit focused on the buildings and on the areas immediately surrounding the buildings.

During the site visit, a closer visual assessment of the service station yards and building was performed. Areas of heavy oil staining were observed in areas in front of and behind the service station building. Proposed soil sampling and monitoring well locations were identified in these stained areas and in close proximity to the existing USTs.

The building was observed to include an office area and two vehicle service bays. Hydraulic lifts were present in each service bay. The areas directly beneath and surrounding the lifts could not be observed because cars were present on the lifts.

4.0 SOIL INVESTIGATIONS

This section describes soil investigation activities conducted in portions of the fuel station area identified as possible areas of environmental concern during the Phase I ESA. Results of the soil investigations are presented in Section 6.0.

Fourteen soil borings were drilled in the vicinity of the fuel station to assess the possible effect of the USTs and automobile maintenance activities on soil in the fuel station area. Before drilling began, appropriate permits were obtained from the Alameda County Flood Control and Water Conservation District, Zone 7 (ACWD). In addition, soil boring locations were cleared by Underground Service Alert (USA), site personnel knowledgeable about the fuel station area, and a qualified subcontracted underground utility locator.

Eleven of the soil borings were drilled to a depth of 15 feet below the ground surface (bgs). The remaining three soil borings were advanced to approximately 20 feet bgs for installation of shallow ground-water monitoring wells. Locations of soil boring SB-1 through SB-11 and monitoring well LF-1 through LF-3 are shown on Figure 2. A detailed discussion of field procedures is presented in detail in Appendix A. All drilling was conducted by a licensed well-drilling contractor under the supervision of a California Registered Geologist.

Soil samples were collected during drilling at 2.5-foot-depth intervals by driving a brass-tube-lined split-spoon sampler ahead of the auger into undisturbed soil. Soil samples were field screened for possible chemical analysis using a hand-held photoionization detector (PID), and lithologically described using the Unified Soil Classification System. PID readings and lithologic descriptions were recorded in the field on borehole log forms, copies of which are included in Appendix B. Soil samples selected for possible chemical analysis were preserved in accordance with procedures discussed in Appendix A.

Selected soil samples were submitted to an analytical laboratory for chemical analysis for total petroleum hydrocarbons (TPH) as gasoline (TPHg) using EPA Method 8015/5030, benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8020, TPH as diesel (TPHd) and TPH as motor oil (TPHmo) using EPA Method 8015/3510, total recoverable petroleum hydrocarbons as oil and grease (TRPH) using Standard

Methods 5520EF, and polychlorinated biphenyls (PCBs) using EPA Method 8080.

Analytical results are presented in Table 1 and discussed in Section 6.1.

5.0 MONITORING WELL INSTALLATION, DEVELOPMENT, AND SAMPLING

Three shallow monitoring wells were installed in the fuel station area to assess ground-water quality in the vicinity of the fuel station. The monitoring well locations are illustrated on Figure 2. Monitoring well LF-2 was installed along the upgradient portion of the fuel station, behind the warehouse. The other two monitoring wells were located downgradient from some of the USTs reportedly located on the fuel station property. Before the wells were installed, well permits were obtained from the ACWD.

5.1 Field Procedures

All drilling was performed under the direct supervision of a California Registered Geologist. All drilling equipment, sampling equipment, and well casings were steam cleaned before use at each drilling location. Boreholes were drilled and soil samples collected as described in Section 4.0 and Appendix A.

Monitoring wells were constructed of 2-inch-diameter polyvinyl chloride (PVC) casing to depths of approximately 20 feet bgs. Well construction procedures are discussed in detail in Appendix A. The screened interval in each well extends from approximately 5 feet bgs to 20 feet bgs. Well construction data are summarized in Table 3 and illustrated on the lithologic logs presented in Appendix B.

Wells were developed on August 8, 1993, by purging approximately 10 well casing volumes from each wells using a centrifugal pump or Teflon bailer until indicator parameters (i.e., pH, temperature, conductivity) had stabilized. Prior to well development, depth to water was measured relative to the top of the PVC casing in each well. Depth to water was measured to the nearest 0.01 inch using an electric water-level sounding probe. Water-quality sampling sheets are contained in Appendix C.

Ground-water samples were collected from each well immediately following development using a clean Teflon bailer or the bailer that was used to purge the well in accordance with procedures discussed in Appendix A. Ground-water samples were then placed in an ice-chilled cooler for transportation to the analytical laboratory. All samples were handled according to strict chain-of-custody protocol.

Depth-to-water measurements were collected at the Site on August 20, 1993, to assess ground-water flow direction and to check for the possible presence of free-phase fuel product on shallow ground water. Depth to water was measured using an electric water-level sounding probe or oil/water interface probe. Depth-to-water measurements are presented in Table 2 and discussed in Section 6.2.

5.2 Laboratory Analysis

Ground-water quality results are discussed in Section 6.3. Ground-water samples were submitted to Anametrix, Inc., of San Jose, California, a state-certified laboratory for chemical analysis of TPHg, TPHd, BTEX, and TRPH.

6.0 SOIL AND GROUND-WATER QUALITY RESULTS

This section discusses the analytical results for soil samples and ground-water quality results for newly installed monitoring wells located at the fuel service station.

6.1 Soil Quality Results

A total of 32 soil samples were collected in the fuel station area and submitted for chemical analysis. Analytical results are summarized in Table 1. Laboratory data are contained in Appendix D.

Figures 2 and 3 present analytical results for soil samples collected in the vicinity of the fuel station. Soil samples were generally collected at depths of 7, 9.5, and 14.5 feet bgs. As shown by Table 1 and Figures 2 and 3, analytical results indicate that soil in the vicinity of the fuel station contains significant concentrations of petroleum hydrocarbons.

TPHg was detected in 19 of the 32 soil samples analyzed, with concentrations ranging from 1 milligram per kilogram (mg/kg) (SB-2) to 2,800 mg/kg (SB-8). Benzene was detected in all four samples, at concentrations up to 22 mg/kg. TPHd was detected in 12 samples at concentrations up to 790 mg/kg, and

TPHmo was reported for 7 of the 20 samples analyzed for this compound, at concentractions up to 66 mg/kg. TRPH was detected at concentrations of 290 mg/kg or less. The highest concentrations of petroleum hydrocarbons were generally reported for samples collected from 7 and 9.5 feet bgs.

6.2 Ground-Water Elevations and Flow Direction

Ground-water elevations and flow direction beneath the fuel station are presented on Figure 4. Ground-water elevation data are summarized in Table 2. Depth to water at the fuel station ranged from 7.97 feet to 9.4 feet on August 8, 1993, and from 8.29 feet to 9.48 feet on August 20, 1993. As presented on Figure 4, ground-water flow direction beneath the Site is generally toward the west under a hydraulic gradient of approximately 0.03 ft/ft.

Free-phase fuel product was measured in monitoring well LF-1, located downgradient from the pump islands and a diesel tank at the fuel station, at a thickness of 6.24 inches on August 20, 1993. Free-phase fuel product had not been detected in well LF-1 during development activities conducted on August 8, 1993.

6.3 Ground-Water Quality Results

Analytical results are summarized in Table 5 and presented on Figure 5. Laboratory data sheets for monitoring wells LF-1, LF-2, and LF-3, which were installed in the western portion of the Site at the fuel service station, are contained in Appendix E.

Analytical results for ground-water samples collected from monitoring wells LF-1, LF-2, and LF-3 are presented in Table 3 and on Figure 5. Results indicate that shallow ground water in the vicinity of the fuel station has been significantly affected by petroleum hydrocarbons.

Concentrations of TPHg detected ranged from 11 milligram per liter (mg/l) in the sample collected from well LF-3, up to 100 mg/l in the sample collected from well LF-1. Benzene was detected at concentrations ranging from 1.5 mg/l (LF-3) up to 13 mg/l (well LF-3), which exceeds the California Maximum Contaminant Level (MCL) for drinking water of 0.001 mg/l for benzene. Toluene, ethylbenzene, and xylenes (TEX) were detected in all three wells at individual concentrations ranging from 0.17 mg/l to 14 mg/l.

TPHd was detected in ground-water samples collected from all three wells, at concentrations ranging from 0.78 mg/l to 41 mg/l. TRPH was only detected in well LF-1 at a concentration of 11 mg/l.

7.0 SUMMARY AND CONCLUSIONS

Results of the Phase II investigation indicate that soil and shallow ground water beneath the fuel station area have been affected by petroleum hydrocarbons apparently released from several sources at the station. Based on the concentrations of petroleum hydrocarbons detected in the fuel station area, it appears that remediation of soil and ground water is appropriate.

7.1 Soil

Soil in the vicinity of the fuel station contains significant concentrations of TPHg and TPHd. These concentrations generally exceed cleanup goals established by the ACHA and the Regional Water Quality Control Board for the neighboring Yerba Buena/East Baybridge Center Project Site.

7.2 Ground Water

Analytical results for ground-water samples collected from the monitoring wells installed at the fuel station indicate that shallow ground water contains TPHg and benzene up to 100 mg/l and 13 mg/l, respectively. The concentrations of benzene detected in all wells in the fuel station area exceed the California Maximum Contaminant Level for drinking water of 0.001 mg/l.

The ground-water flow direction beneath the fuel station is toward the west. Based on results for ground-water samples collected from monitoring well LF-1, located along the western site boundary, it is likely that petroleum hydrocarbon-affected ground water has migrated westward, off of the fuel station.

TABLE 1
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED FROM THE 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	PCBs
LF-1-4.5	4.5	07-Aug-93	550	220	16	0.84	1.2	5.6	2.7	77	NA
LF-1-9.5	9.5	07-Aug-93	470	18	<10	0.97	<0.005	6.6	8.9	<30	NA
LF-1-14.5	14.5	07-Aug-93	8.4	16	<10	0.14	0.17	0.081	0.37	60	NA
LF-2-9.5	9.5	07-Aug-93	740	14	<10	4.7	35	13	68	30	NA
LF-2-14.5	14.5	07-Aug-93	<0.5	<10	<10	0.009	0.012	<0.005	0.015	<30	NA
LF-3-9.5	9.5	07-Aug-93	75	<10	<10	0.062	0.28	1.1	1.1	37	NA
LF-3-14.5	14.5	07-Aug-93	<0.5	<10	<10	0.014	<0.005	0.01	0.007	<30	NA
SB-1-7	7	08-Aug-93	850	240	27	5.4	<0.005	25	42	290	NA
SB-1-9.5	9.5	08-Aug-93	180	220	<50	0.89	1.1	4.3	18	130	NA
SB-1-14.5	14.5	08-Aug-93	7.4	<10	<10	0.44	0.44	0.14	0.61	60	NA
SB-2-7	7	08-Aug-93	780	790	57	8	<0.005	31	140	160	ND
SB-2-9.5	9.5	08-Aug-93	720	200	<50	2.4	5.2	14	59	210	NA
SB-2-14.5	14.5	08-Aug-93	1	<10	12	0.2	0.21	0.021	0.12	43	ND
SB-3-9.5	9.5	07-Aug-93	580	11	<10	9.7	50	15	90	37	ND
SB-3-14.5	14.5	07-Aug-93	0.9	<10	<10	0.092	0.16	0.031	0.17	37	ND
SB-4-7	7	08-Aug-93	380	13	<10	3	5.2	8.2	18	70	NA
SB-4-14.5	14.5	08-Aug-93	<0.5	<10	<10	0.026	0.005	0.019	0.023	210	NA
SB-5-7	7	08-Aug-93	410	15	<10	2.4	0.6	16	6.3	37	NA
SB-5-14.5	14.5	08-Aug-93	<0.5	<10	<10	0.011	<0.005	0.008	0.008	93	NA
SB-6-9.5	9.5	08-Aug-93	490	51	<10	2.7	<0.005	15	15	67	NA
SB-6-14.5	14.5	08-Aug-93	<0.5	<10	<10	<0.005	<0.005	<0.005	<0.005	<30	NA
SB-7-9.5	9.5	07-Aug-93	750	52	66	2.5	8.5	22	93	170	NA
SB-7-14.5	14.5	07-Aug-93	2.8	<10	<10	<0.005	<0.005	0.029	0.03	<30	NA
SB-8-9.5	9.5	08-Aug-93	2,800	110	<50	22	9.5	82	290	130	NA
SB-8-14.5	14.5	08-Aug-93	<0.5	<10	11	0.009	<0.005	<0.005	<0.005	37	NA
SB-9-7	7	07-Aug-93	210	14	<10	2.8	13	5.1	29	<30	NA
SB-9-9.5	9.5	07-Aug-93	1,200	NA	NA	14	81	26	140	NA	NA
SB-9-14.5	14.5	07-Aug-93	<0.5	<10	<10	0.079	0.059	0.011	0.041	77	NA
SB-10-7	7	07-Aug-93	73	NA	NA	2.6	4.5	1.6	7.7	NA	NA
SB-10-9.5	9.5	07-Aug-93	1,100	<10	<10	<0.005	7.8	<0.005	22	40	NA
SB-10-14.5	14.5	07-Aug-93	8.6	<10	<10	0.48	0.29	0.1	0.48	<30	NA
SB-11-14.5	14.5	09-Aug-93	<0.5	<10	11	<0.005	<0.005	<0.005	<0.005	40	NA

Data entered by MEK/20-Aug-93. Data proofed by JJB/26-Aug-93. QA/QC by JJB/08-Sep-93.

TPHg = total petroleum hydrocarbons as gasoline
TPHd = total petroleum hydrocarbons as diesel
TPHmo = total petroleum hydrocarbons as motor oil
TRPH = total recoverable petroleum hydrocarbons
PCBs = polychlorinated biphenyls

TABLE 2
WELL CONSTRUCTION AND GROUND-WATER ELEVATION DATA
40TH STREET RIGHT-OF-WAY, EMERYVILLE, CALIFORNIA

Well Number	Well Elevation (feet msl)	Well Depth (feet)	Screened Interval	Date Measured	Depth to Product	Depth to Water	Ground-Water Elevation (feet msl)	Product Thickness (feet)
LF-1	38.95	20	5-20	08-Aug-93	NA	9.40	29.55	NA
				20-Aug-93	9.48	10.00	29.36*	0.52
LF-2	40.25	20	5-20	08-Aug-93	NA	7.97	32.28	NA
				20-Aug-93	NA	8.29	31.96	NA
LF-3	39.35	20	5-20	08-Aug-93	NA	8.90	30.45	NA
				20-Aug-93	NA	9.18	30.17	NA

msl = mean sea level

* The ground-water elevation for well LF-1 was corrected for the presence of free-phase fuel product using the following equation:

  G = W + [(PT-D) - DW]

  where
  G = the ground-water elevation
  W = the well elevation
  PT = the product thickness
  D = product density (mg/l)
  DW = the depth to water

A density of 0.796 mg/l was assumed.

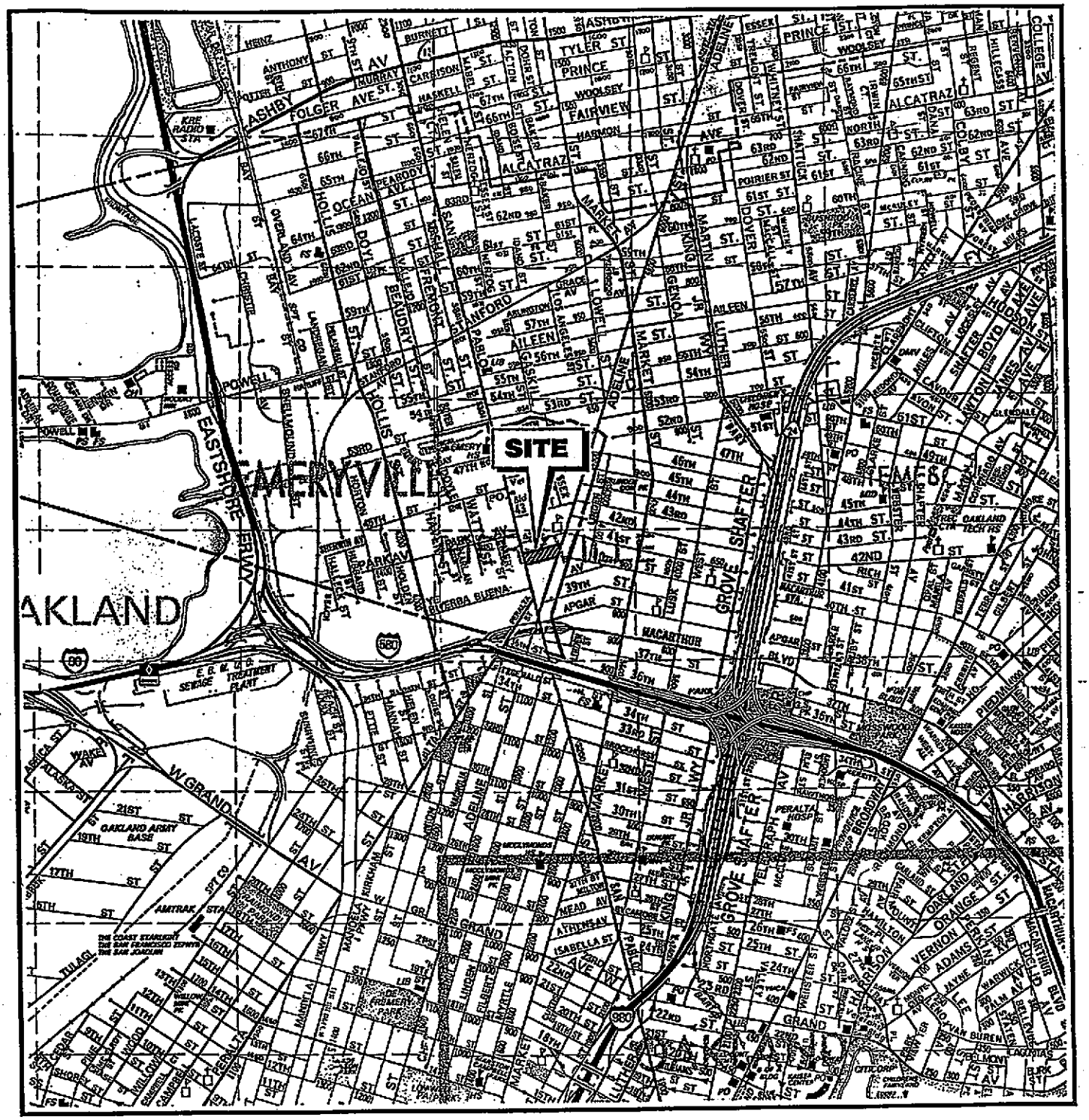
Immediately next to backfill - check pit for free product -

TABLE 3
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

Data entered by MEK/20-Aug-93 Data proofed by JJB/26-Aug-93. QA/QC by JJB/08-Sep-93.

TPHg = total petroleum hydrocarbons as gasoline
TPHd = total petroleum hydrocarbons as diesel
TPHmo = total petroleum hydrocarbons as motor oil
TRPH = total recoverable petroleum hydrocarbons



MAP SOURCE:
Thomas Bros. Map
Alameda and Contra Costa Counties
1992 Edition

Figure 1: SITE LOCATION MAP
YERBA BUENA PROJECT SITE

Project No. 1649.15

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS, & APPLIED SCIENTISTS

1649STVC.CEB:MPM 061493

LOCATION MAP

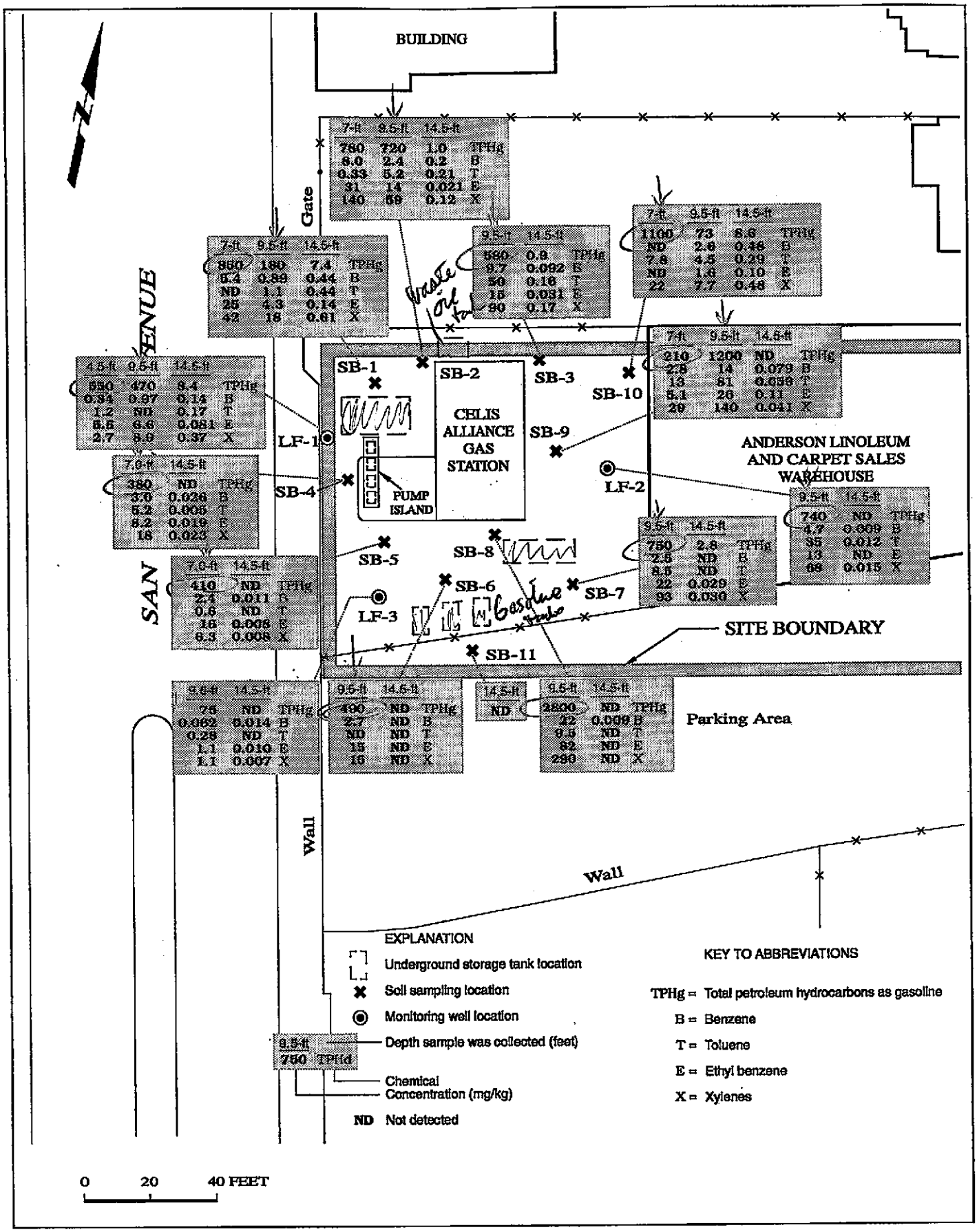


Figure 2 : CONCENTRATIONS OF TPHg and BTEX (mg/kg) DETECTED IN SOIL SAMPLES COLLECTED IN THE VICINITY OF THE FUEL STATION

40th STREET RIGHT-OF-WAY, EMERYVILLE, CALIFORNIA
Project No. 1649.15

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS, & APPLIED SCIENTISTS

1649B027.CEB:EM 010794

1649C005.CEB:JSM 010794

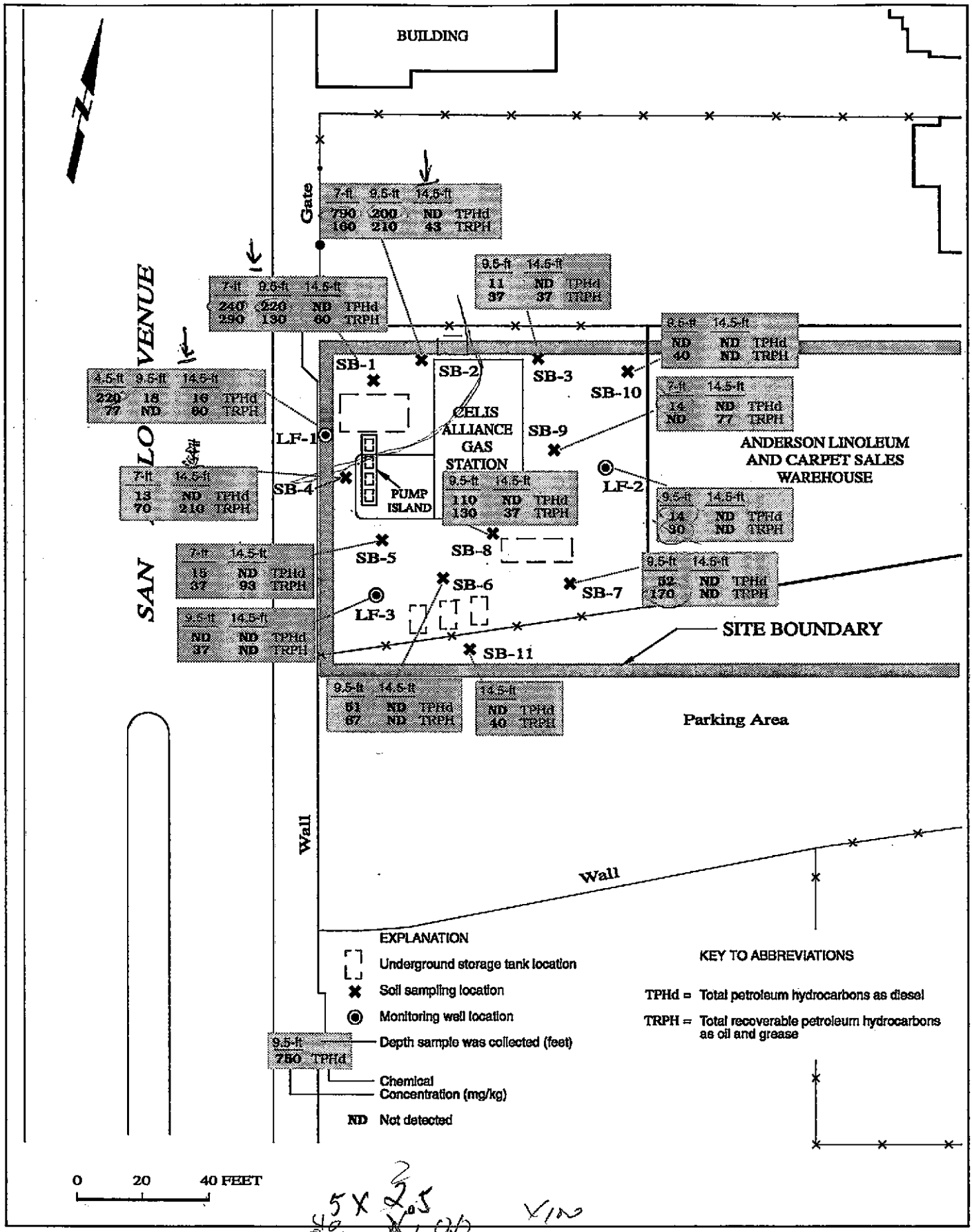


Figure 3 : TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND OIL AND GREASE (mg/kg) DETECTED IN SOIL SAMPLES COLLECTED IN THE VICINITY OF THE FUEL STATION

40th STREET RIGHT-OF-WAY, EMERYVILLE, CALIFORNIA
Project No. 1649.15

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS, & APPLIED SCIENTISTS

1649B027.CEB:EM 010794

1649C006.CEB:JSM 010794

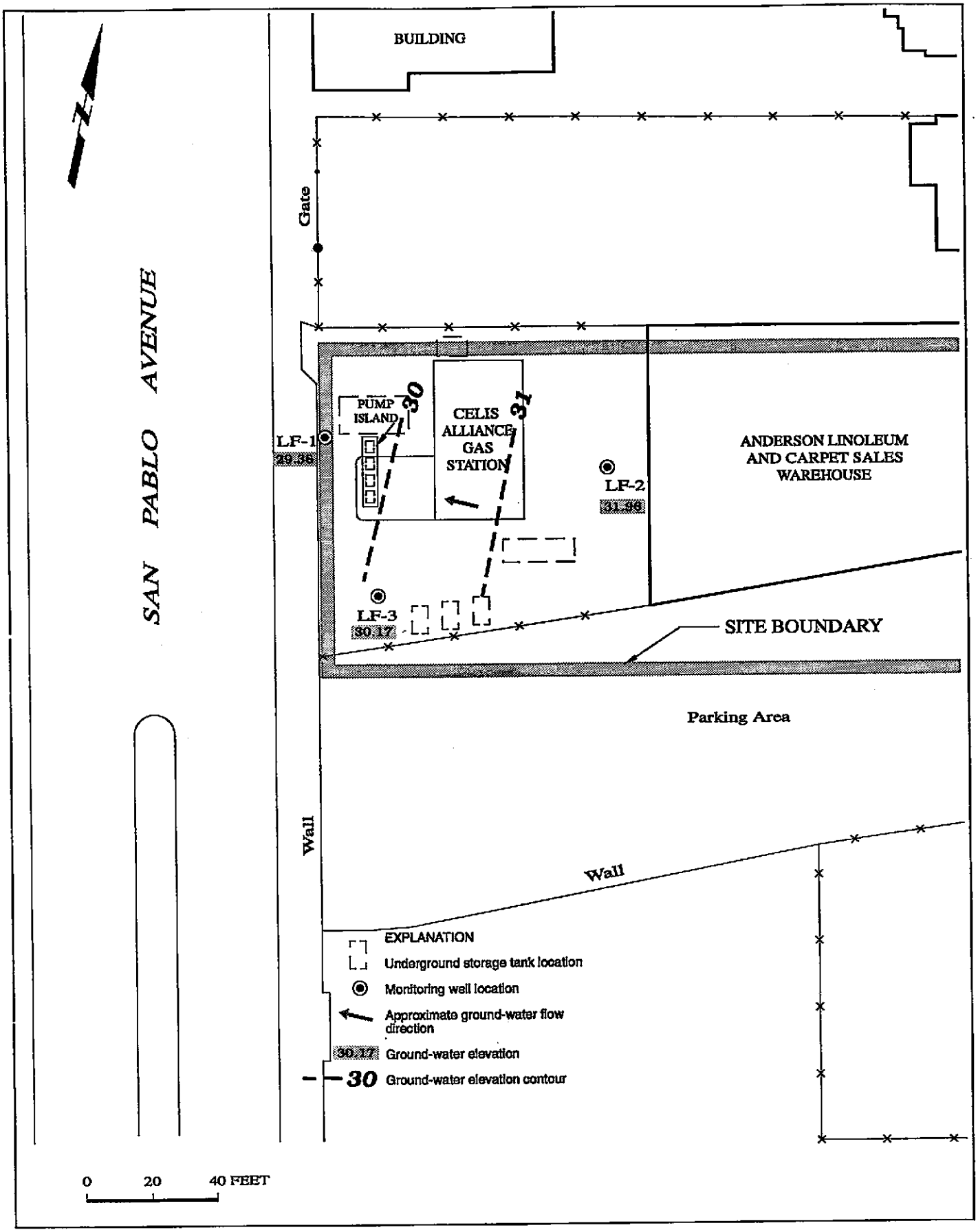


Figure 4 : GROUND-WATER ELEVATIONS AND FLOW DIRECTION, AUGUST 20, 1993, FUEL STATION

40th STREET RIGHT-OF-WAY, EMERYVILLE, CALIFORNIA
Project No. 1649.15

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS, & APPLIED SCIENTISTS

1649G001.JJB:JSM 010794

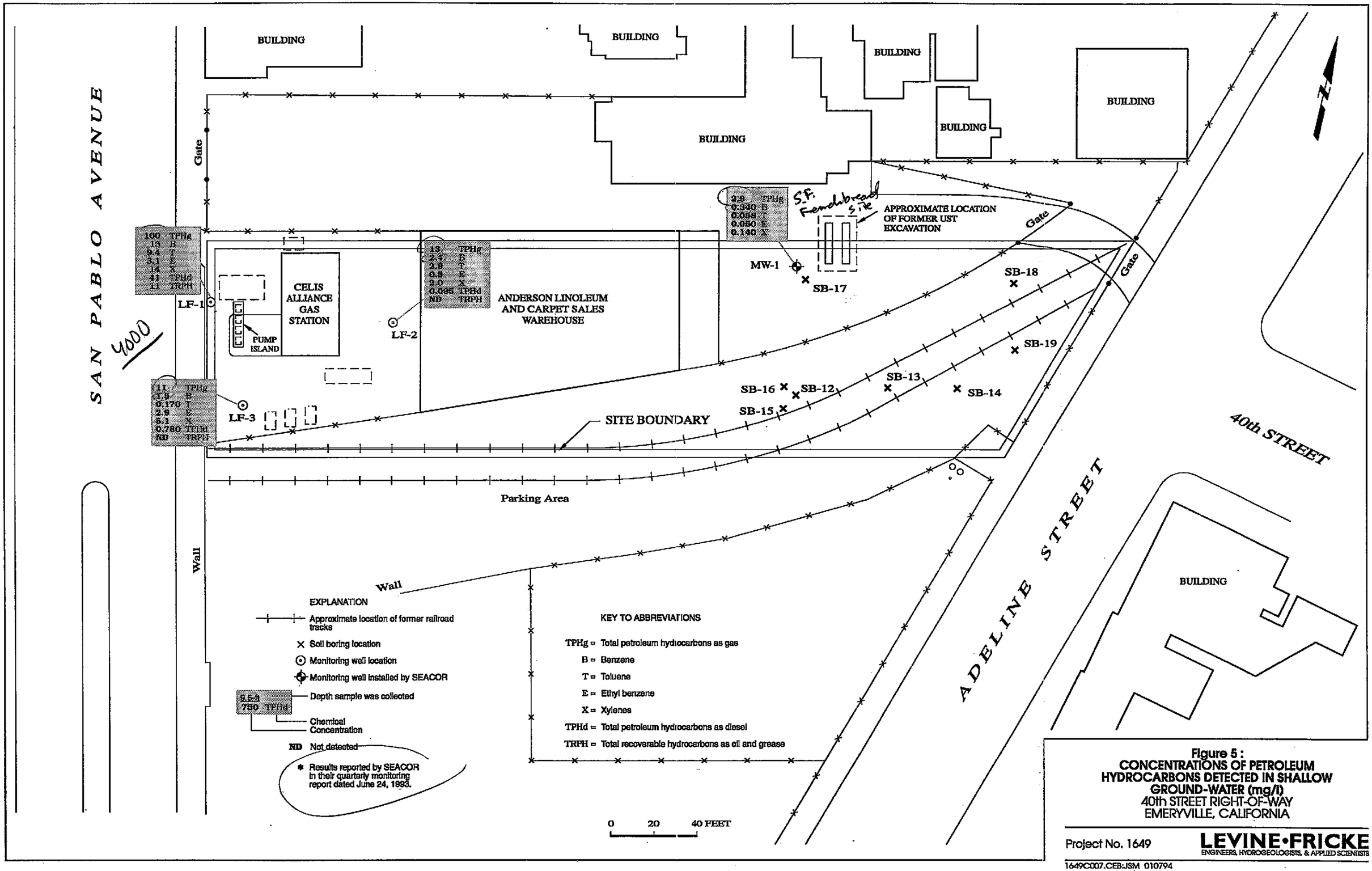


Figure 5 :
CONCENTRATIONS OF PETROLEUM HYDROCARBONS DETECTED IN SHALLOW GROUND-WATER (mg/l)
40th STREET RIGHT-OF-WAY
EMERYVILLE, CALIFORNIA

Project No. 1649

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS, & APPLIED SCIENTISTS

1649C007.CEB:JSM 010794

APPENDIX A

FIELD PROCEDURES

FIELD PROCEDURES

Soil borings were drilled and monitoring wells were installed in the fuel station area between August 7 through August 9, 1993, by Exploration Drilling Service of Redwood City, California, a state-licensed driller, under the supervision of a California Registered Geologist. Before drilling began, appropriate permits were obtained from the Alameda County Flood Control and Water Conservation District, Zone 7 (ACWD).

Soil Boring Drilling and Soil Sample Collection

Soil borings were drilled using a truck-mounted drilling rig equipped with 6- or 8-inch-diameter hollow-stem augers. Soil samples were collected during drilling at 2.5-foot-depth intervals by driving a brass-tube-lined split-spoon sampler ahead of the auger into undisturbed soil. Soil samples were field screened for possible chemical analysis using a hand-held photoionization detector (PID) and lithologic description using the Unified Soil Classification System. PID readings and lithologic descriptions were recorded in the field on borehole log forms included in this appendix. Soil samples selected for possible chemical analysis were preserved by covering the ends of the brass tubes with tight-fitting plastic end caps, and appropriately labeling each sample. Soil samples were placed into an ice-chilled cooler for transportation to an off-site laboratory under strict chain-of-custody protocols.

Monitoring Well Installation

Upon completion of the soil borings, monitoring wells LF-1, LF-2, and LF-3 were constructed of flush-threaded 2-inch-diameter polyvinyl chloride (PVC) casing with 0.020-inch factory-slotted screen. The screened interval in each well extends from approximately 5 feet bgs to 20 feet bgs.

After the well casing was placed in the completed borehole, the well annulus was backfilled with clean sand to a height of approximately 2 feet above the screened interval. Approximately 1 to 2 feet of 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 then placed above the bentonite seal up to the ground surface to seal the remainder of the borehole interval from surface infiltration. The well was finished at existing grade and protected with a locking well cap and traffic-rated steel cover.

Depth-to-Water Measurements

Depth to water was measured on August 8, 1993, in each well prior to well development using an electric water-level sounding probe. Depth to water was measured to the nearest 0.01 inch relative to the top of the PVC casing of each well.

On August 20, 1993, monitoring wells were checked for the presence of free-phase fuel product using an electric oil/water interface probe.

Monitoring Well Development

After the grout seal had set (approximately 24 to 30 hours), the wells were developed by removing approximately 10 well casing volumes of ground water using a centrifugal pump or by hand bailing with a Teflon bailer. The wells were developed to remove sediment around the well and to enhance hydraulic communication with the surrounding formation. Observations concerning specific conductance, pH, temperature, quantity, and clarity of purged water were recorded during development on water-quality sampling sheets, copies of which are included in Appendix D. The wells were developed until indicator parameters were within 10 percent of the previous reading, indicating that the parameters had stabilized.

Ground-Water Sample Collection

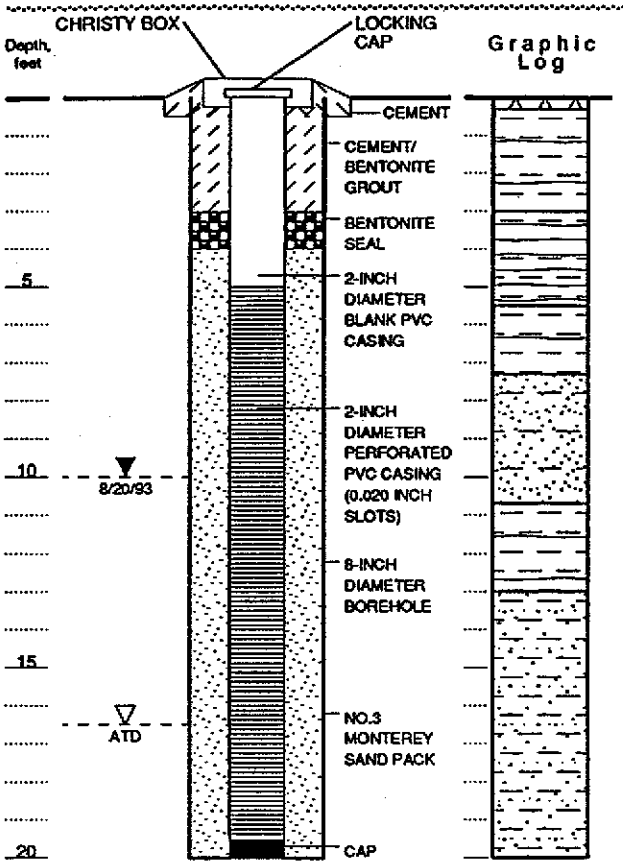
Ground-water samples were collected on August 8, 1993, following well development using a clean Teflon bailer. Ground-water samples were poured from the Teflon bailer into laboratory-supplied 40-milliliter volatile organic analysis (VOA) vials and 1-liter amber bottles. Samples were labeled appropriately and placed into an ice chilled cooler for transportation to a state-certified laboratory under strict chain-of-custody procedures.

Surveying

On August 19, 1993, Nolte & Associates of San Jose, California, a state-licensed surveyor, surveyed the top of the well casing of each well to the nearest 0.01 foot. The wells were surveyed to allow accurate measurement of ground-water levels and interpretation of ground-water flow direction.

APPENDIX B

LITHOLOGIC LOGS FOR SOIL BORINGS AND MONITORING WELLS LF-1, LF-2, AND LF-3



Date well drilled: 08/07/93 -

Well casing elevation: 38.95

L•F Geologist/Engineer: Robin Barber

Approved by: Kathleen Barnes RG #5706

EXPLANATION

Clay

Silt

Sand

Gravel

Interval Sampled
Sample Retained

Water level at time of drilling

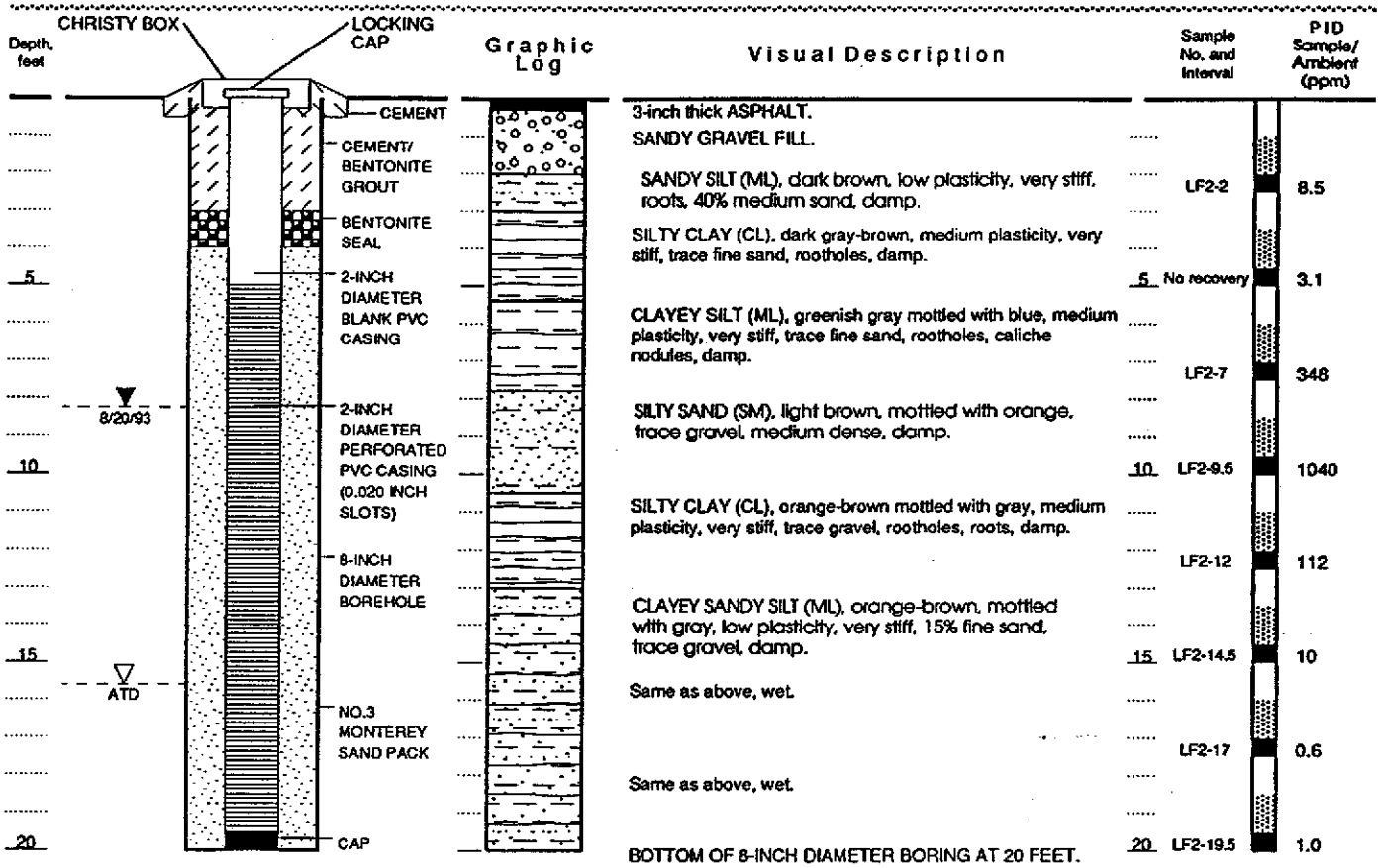
Static water level

WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-1

Project No. 1649.15
San Francisco Yerba Buena Phase I - 40th Street

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

090793.CEB/JSC



Date well drilled: 08/07/93 -

Well casing elevation: 40.25

L•F Geologist/Engineer: Robin Barber

Approved by: Kenneth Barnes RG # 5106

EXPLANATION

Clay

Silt

Sand

Gravel

Interval Sampled

Sample Retained

Water level at time of drilling

Static water level

WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-2

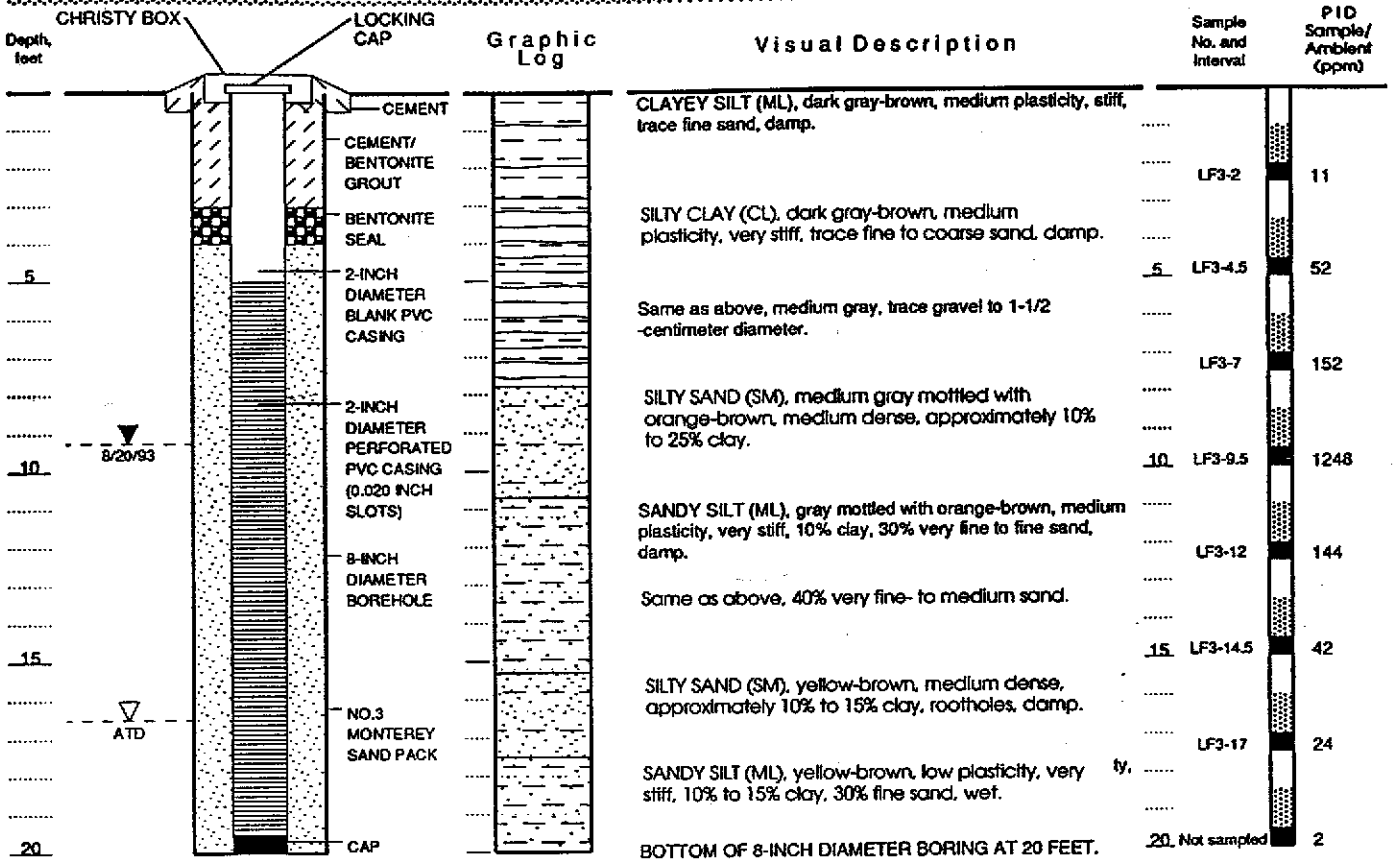
Project No. 1649.15

San Francisco Yerba Buena Phase I - 40th Street

LEVINE•FRICKE

ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

090793.CEB/JSC



EXPLANATION

Clay
Silt
Sand
Gravel

Interval Sampled
Sample Retained

Water level at time of drilling

Static water level

Date well drilled: 08/07/93 -

Well casing elevation: 39.35

L•F Geologist/Engineer: Robin Barber

Approved by: Kirk Damm RG # 5106

WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-3

Project No. 1649.15
San Francisco Yerba Buena Phase I - 40th Street

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

090793.CEB/JSC

Depth, feet	Graphic Log	Visual Description	Sample No. and Interval	Penetration Rate (Blows/ft.)	PID Values (ppm)
		LITHOLOGY		**SAMPLING DATA**	
		2-inch thick ASPHALT.			
		SILTY CLAY (CL), dark gray-brown, medium plasticity, stiff, moist, trace fine sand.		21	
			SB1-2		281
				24	
		Same as above.			
5			SB1-4.5		1296
		SANDY SILT (ML) with clay, gray-brown, medium plasticity, stiff, moist, ~15% fine sand, trace gravel.		14	
			SB1-7		1309
		Same as above with 5% gravel, pockets of water.		34	
10			SB1-9.5		1301
		CLAYEY SILTY SAND (SM), gray with red-brown mottling, medium dense, wet, trace gravel.		22	
			SB1-12		1182
		SANDY SILT (ML) with clay, yellow-brown with gray mottling, medium plasticity, very stiff, 20% fine sand, damp.		33	
15		BOTTOM OF 8-INCH DIAMETER BORING AT 15 FEET.	SB1-14.5		101

EXPLANATION

Clay

Silt

Sand

Gravel

Interval Sampled

Sample Retained

Date boring drilled: 08/08/93 -

L•F Geologist/Engineer: Robin Barber

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING SB-1

Depth, feet	Graphic Log	Visual Description	Sample No. and Interval	Penetration Rate (Blows/ft.)	PID Values (ppm)
		LITHOLOGY		**SAMPLING DATA**	
		2-inch thick ASPHALT.			
		SILTY CLAY (CL) with trace fine sand, dark gray-brown, medium plasticity, stiff, damp.		15	
			SB2-2		182
		Same as above.		22	
5			SB2-4.5		552
		CLAYEY SILT (ML), gray-brown, medium plasticity, stiff, damp, with trace fine sand.		14	
			SB2-7		1321
		SILTY SAND (SM) with clay, gray mottled with orange-brown, medium dense, moist, trace medium sand.		26	
10			SB2-9.5		1016
		Same as above, moist.		29	
			SB2-12		555
		Same as above, trace gravel, pockets of moist soil.		36	
15			SB2-14.5		47
		BOTTOM OF 8-INCH DIAMETER BORING AT 16.5 FEET.			

EXPLANATION

Clay

Silt

Sand

Gravel

Interval Sampled

Sample Retained

Date boring drilled: 08/08/93 -

L•F Geologist/Engineer: Robin Barber

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING SB-2

Project No. 1649.15

San Francisco Yerba Buena Phase I - 40th Street

LEVINE • FRICKE

ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

090193.CEB/JSC

Depth, feet	Graphic Log	Visual Description	Sample No. and Interval	Penetration Rate (Blows/ft.)	PID Values (ppm)
		LITHOLOGY		**SAMPLING DATA**	
		SILTY CLAY (CL), black (5Y 2.5/1), low plasticity, stiff, moist.			
				13	
			SB3-2		186
				15	
5		Petroleum (gasoline) odor.	5 SB3-4.5		285
		SANDY SILTY CLAY (CL), dark greenish gray, low plasticity, stiff, ~10% fine gravel, ~20% fine sand, moist, (gasoline odor).		14	
			SB3-7		175
		SANDY SILT (ML), dark greenish gray (5GY 4/1), low plasticity, very stiff, ~40% fine sand, some clay, moist, (gasoline odor).		25	
10			10 SB3-9.5		362
		SILTY SANDY CLAY (CL), dark greenish gray (5GY 4/1), low plasticity, very stiff, ~10% fine, angular gravel, ~20% fine sand, moist.		25	
			SB3-12		124
				23	
15			15 SB3-14.5		245
		CLAYEY SANDY SILT (ML), dark greenish gray (5GY 4/1), low plasticity, very stiff, ~10% fine, angular gravel, ~30% fine coarse sand, wet.		23	
			SB3-16		55
		BOTTOM OF 8-INCH DIAMETER BORING AT 15 FEET.			
		BOTTOM OF SAMPLE INTERVAL AT 16.5 FEET.			

EXPLANATION

Clay

Silt

Sand

Gravel

Interval Sampled

Sample Retained

Date boring drilled: 08/07/93 -

L•F Geologist/Engineer: William Madison

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING SB-3

Depth, feet	Graphic Log	Visual Description	Sample No. and Interval	Penetration Rate (Blows/ft.)	PID Values (ppm)
		LITHOLOGY		**SAMPLING DATA**	
		4-inch thick CONCRETE.			
		SILTY CLAY (CL), dark gray-brown, medium plasticity, stiff, trace fine sand, damp.		18	
			SB4-2		125
		Same as above.		20	
5			SB4-4.5		1662
		SILTY SAND (SM), gray with brown mottling, 60% sand, friable, medium dense, trace clay, moist.		21	
			SB4-7		2053
		Same as above, with increased clay, trace gravel.		36	
10			SB4-9.5		858
		SANDY SILTY CLAY (CL), yellow-brown mottled with gray, low plasticity, very stiff, 20% fine sand, friable, moist pockets.		23	
			SB4-12		1923
				18	
15		Same as above, with 20% gravel to 2-centimeter diameter, damp. BOTTOM OF 8-INCH DIAMETER BORING AT 15 FEET.	SB4-14.5		1211

EXPLANATION

Clay
Silt
Sand
Gravel

Interval Sampled
Sample Retained

Date boring drilled: 08/06/93 -

L•F Geologist/Engineer: Robin Barber

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING SB-4

Project No. 1649.15
San Francisco Yerba Buena Phase I - 40th Street

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

090193.CEB/JSC

Depth, feet	Graphic Log	Visual Description	Sample No. and Interval	Penetration Rate (Blows/ft.)	PID Values (ppm)
		LITHOLOGY		**SAMPLING DATA**	
		3-inch thick ASPHALT.			
		2-inch thick GRAVEL Base Rock.		20	
		SILTY CLAY (CL), dark gray-brown, medium plasticity, very stiff, trace fine sand, damp.	SB5-2		1440
		Same as above, less silt, trace gravel.		21	
5			5 SB5-4.5		1466
		Color change to medium gray with orange brown mottling, increase in fine sand to ~30%.		18	
			SB5-7		1516
		SILTY SAND (SM) with clay, gray-green, 70% very fine sand, loose, damp.		20	
10			10 SB5-9.5		1059
		Same as above, trace gravel.		28	
			SB5-12		53
		SILTY SANDY CLAY (CL), orange-brown mottled with gray, medium plasticity, very stiff, 30% very fine sand, trace gravel, damp.		25	
15			15 SB5-14.5		31
		Same as above, sand to 40%, moist.		26	
		BOTTOM OF 8-INCH DIAMETER BORING AT 16.5 FEET.	SB5-16		60

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval Sampled
- Sample Retained

Date boring drilled: 08/08/93 -

L•F Geologist/Engineer: Robin Barber

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING SB-5

Project No. 1649.15
San Francisco Yerba Buena Phase I - 40th Street

LEVINE • FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

Depth, feet	Graphic Log	Visual Description	Sample No. and Interval	Penetration Rate (Blows/ft.)	PID Values (ppm)
		LITHOLOGY		**SAMPLING DATA**	
		3-inch thick ASPHALT.			
		3-inch thick Base Rock Gravel.		15	
		CLAYEY SILT (ML), dark gray-brown, medium plasticity, stiff, trace fine sand, damp.	SB6-2		147
		SILTY CLAY (CL), dark gray brown, medium plasticity, very stiff, trace fine sand, damp.		23	
5			5 SB6-4.5		685
		CLAYEY SILT (ML), gray-brown, medium plasticity, stiff, trace fine sand, friable, damp.		17	
			SB6-7		1308
		SILTY SAND (SM) with clay, gray-green, fine to very fine sand, friable, medium dense, damp.		21	
10			10 SB6-9.5		1560
		Same as above, moist.		33	
		CLAYEY SILT (ML) with sand, brown mottled with gray, medium plasticity, very stiff, fine sand to ~10%, damp.	SB6-12		400
				35	
15		Same as above, with trace gravel and coarse sand.	15 SB6-14.5		28
		BOTTOM OF 8-INCH DIAMETER BORING AT 16.5 FEET.			

EXPLANATION

Clay
Silt
Sand
Gravel

Interval Sampled
Sample Retained

Date boring drilled: 08/08/93 -

L•F Geologist/Engineer: Robin Barber

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING SB-6

Project No. 1649.15
San Francisco Yerba Buena Phase I - 40th Street

LEVINE • FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

LITHOLOGY			SAMPLING DATA		
Depth, feet	Graphic Log	Visual Description	Sample No. and Interval	Penetration Rate (Blows/ft.)	PID Values (ppm)
		SILTY CLAY (CL), black (5Y 2.5/1), low plasticity, stiff, very moist, petroleum odor.			
				11	
			SB7-2		47
				11	
5		Petroleum odor (gasoline).	5 SB7-4.5		70
		SILTY CLAY (CL), dark greenish gray (5GY 4/1), low plasticity, stiff, trace fine sand and fine gravel, moist, gasoline odor.		17	
			SB7-7		119
		SANDY SILT (ML), olive (5Y 5/4), low plasticity, very stiff, trace fine gravel, some clay, ~40% fine sand, moist.		28	
10			10 SB7-9.5		332
		GRAVELLY SANDY CLAY (CL), olive (5Y 4/4), low plasticity, hard, ~15% fine gravel, 15% fine sand, some silt, moist.		35	
			SB7-12		66
				30	
15			15 SB7-14.5		14.5
		CLAYEY SANDY SILT (ML), dark greenish gray (5GY 4/1), low plasticity, ~30% fine to coarse sand, wet.			
			SB7-16		4.4
		BOTTOM OF 8-INCH DIAMETER BORING AT 15 FEET.			
		BOTTOM OF SAMPLE INTERVAL AT 16.5 FEET.			

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval Sampled
- Sample Retained

Date boring drilled: 08/07/93 -

L•F Geologist/Engineer: William Madison

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING SB-7

Project No. 1649.15
San Francisco Yerba Buena Phase I - 40th Street

LEVINE • FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

Depth, feet	Graphic Log	Visual Description	Sample No. and Interval	Penetration Rate (Blows/ft.)	PID Values (ppm)
		LITHOLOGY		**SAMPLING DATA**	
		3-inch thick ASPHALT.			
		3-inch thick Base Rock FILL.		16	
		CLAYEY SILT (ML), dark gray-brown, medium plasticity, stiff, trace fine sand, damp.	SB8-2		40
		SILTY CLAY (CL), dark gray-brown, medium plasticity, very stiff, trace fine sand, damp.		20	
5			5 SB8-4.5		52
		Same as above, gray-brown, 10% fine sand, trace gravel.		17	
			SB8-7		185
		Color change to gray-green.			
		SILTY SAND (SM) with clay, gray-green, fine sand to 60%, friable, medium dense, damp.		22	
10			10 SB8-9.5		1540
		Same as above, with trace gravel to 2-centimeter diameter.		39	
			SB8-12		220
		SANDY SILTY CLAY (ML), orange-brown mottled with gray, medium plasticity, very stiff, trace gravel to 1-1/2 -centimeter diameter, damp, rootholes, moist pockets.		40	
15			15 SB8-14.5		5
		BOTTOM OF 8-INCH DIAMETER BORING AT 15 FEET.			

EXPLANATION

Clay

Silt

Sand

Gravel

Interval Sampled

Sample Retained

Date boring drilled: 08/08/93 -

L•F Geologist/Engineer: Robin Barber

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING SB-8

Depth, feet	Graphic Log	Visual Description	Sample No. and Interval	Penetration Rate (Blows/ft.)	PID Values (ppm)
		LITHOLOGY		**SAMPLING DATA**	
		SILTY CLAY (CL), black (5Y 2.5/1), low plasticity, stiff, moist.			
				10	
			SB9-2		173
		Gasoline odor.		15	
5			5 SB9-4.5		219
		Gasoline odor.			
		SILTY CLAY (CL), dark greenish gray (5GY 4/1), low plasticity, very stiff, ~10% fine gravel, ~20% fine sand, moist.		16	
		Gasoline odor.	SB9-7		379
		SANDY SILT (ML), dark greenish gray (5GY 4/1), low plasticity, very stiff, ~40% fine sand, some clay, moist, gasoline odor.		20	
10			10 SB9-9.5		326
		SILTY SANDY CLAY (CL), dark greenish gray (5GY 4/1), low plasticity, very stiff, ~10% fine gravel, angular gravel, ~20% fine sand, moist.		28	
			SB9-12		134
				30	
15			15 SB9-14.5		70
		CLAYEY SANDY SILT (ML), dark greenish gray (5GY 4/1), low plasticity, very stiff, ~10% fine gravel, angular, ~30% fine to coarse sand, wet.		16	
		BOTTOM OF 8-INCH DIAMETER BORING AT 15 FEET.	SB9-16		10.3
		BOTTOM OF SAMPLE INTERVAL AT 16.5 FEET.			

EXPLANATION

Clay

Silt

Sand

Gravel

Interval Sampled

Sample Retained

Date boring drilled: 08/07/93 -

L•F Geologist/Engineer: William Madison

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING SB-9

Project No. 1649.15

San Francisco Yerba Buena Phase I - 40th Street

LEVINE•FRICKE

ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

Depth, feet	Graphic Log	Visual Description	Sample No. and Interval	Penetration Rate (Blows/ft.)	PID Values (ppm)
		LITHOLOGY		**SAMPLING DATA**	
		SILTY CLAY (CL), black (5Y 2.5/1), low plasticity, stiff, moist.		15	
			SB10-2		34
				18	
5			5 SB10-4.5		80
		Gasoline odor.			
		SILTY CLAY (CL), dark greenish gray (5G 4/1), low plasticity, stiff, trace sand and fine gravel (fine sand), moist, gasoline odor.		13	
			SB10-7		133
		SANDY SILT (ML), olive (5Y 5/4), low plasticity, very stiff, trace fine gravel, some clay, moist, ~40% fine sand, gasoline odor.		23	
10			10 SB10-9.5		350
		SILTY SANDY CLAY (CL), olive (5Y 4/4), low plasticity, very stiff, ~10% fine gravel, ~20% fine sand, moist.		24	
			SB10-12		120
		Gasoline odor, hard at 14.5 feet.		33	
15			15 SB10-14.5		145
		CLAYEY SANDY SILT (ML), dark greenish gray (5GY 4/1), low plasticity, very stiff, ~30% fine to coarse sand, wet.		21	
		BOTTOM OF 8-INCH DIAMETER BORING AT 15 FEET.	SB10-16		97
		BOTTOM OF SAMPLE INTERVAL AT 16.5 FEET.			

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval Sampled
- Sample Retained

Date boring drilled: 08/07/93 -

L•F Geologist/Engineer: William Madison

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING SB-10

Project No. 1649.15
San Francisco Yerba Buena Phase I - 40th Street

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

Depth, feet	Graphic Log	Visual Description	Sample No. and Interval	Penetration Rate (Blows/ft.)	PID Values (ppm)
		LITHOLOGY		**SAMPLING DATA**	
		3-inch thick ASPHALT.			
		GRAVEL Base Rock FILL.		10	
		SILTY CLAY (CL), dark brown, medium plasticity, stiff, trace fine to medium sand, damp.	SB11-2		0
		Same as above, damp.		16	
5			5 SB11-4.5		0
		Same as above, increasing clay, damp, some orange-brown mottling.		17	
			SB11-7		0
		SANDY SILTY CLAY (CL), orange-brown with gray mottling, medium plasticity, very stiff, 20% fine to medium sand, trace gravel, damp.		25	
10			10 SB11-9.5		0
		SILTY SAND (SM), yellow-brown, medium dense, with clay and trace gravel, saturated.		24	
			SB11-12		0
		SILTY CLAY (CL), yellow-brown with gray mottling, medium plasticity, very stiff, trace fine to medium sand, damp.		32	
15		BOTTOM OF 8-INCH DIAMETER BORING AT 15 FEET.	15 SB11-14.5		0

EXPLANATION

Clay
Silt
Sand
Gravel

Interval Sampled
Sample Retained

Date boring drilled: 08/09/93 -

L•F Geologist/Engineer: Robin Barber

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING SB-11

APPENDIX C

WATER-QUALITY SAMPLING SHEETS

LEVINE • FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name VERSA BUENA — Project No. 1649.15

Date 8/7/93 — Sample No. LF-1AG

Samplers Name JCK

Sampling Location @ 8 NORTH FRONT ALLIANCE GAS STA.

Sampling Method CEN PUMP / TEFLON BAILER WELL DEVELOPMENT

Analyses Requested TPH-G, BTEX, TPH-D O+G

Number and Types of Sample Bottles used 4 L. AMBER, 3 VOA

Method of Shipment COURIER

GROUND WATER	SURFACE WATER
Well No. LF-1AG	Stream Width
Well Diameter (in.) 2	Stream Depth
Depth to Water, Static (ft) ~~20.07~~ 9.40	Stream Velocity
Water in Well Box	Rained recently ?
Well Depth (ft) 20.07	Other
Height of Water Column in Well 10.57	
Water Volume in Well 1.69	

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

20.07
9.40
10.57
.16
6342
1057
1.6912

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
16:38								START
16:38	DEWATER	4	24.3	6.70	2170			TURBID; ODOR OF FUEL
16:43	"	8	23.6	6.64	2250			TURBID; ODOR
16:48	17.5							
17:02	15.2							
17:04	DEWATER	10	25.5	6.72	2140			TURBID
17:37		12	20.9	6.67	1652			TURBID, ODOR, SHEEN
17:55		14	21.5	6.67	1684			TURBID, ODOR
18:07	DEWATER	16	21.1	6.67	1653			TURBID, ODOR
18:40								SAMPLE
18:45	15.02							

Suggested Method for Purging Well

5

LEVINE • FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Yerba Buena — Project No.: 1649.15

Date: 8/7/93 — Sample No.: LF-2A

Samplers Name: JCK

Sampling Location: Behind Alliance Gas Station

Sampling Method: Well Development w/Cent Pump/Teflon Bailer

Analyses Requested: TPH-D, G, BTEX O+G

Number and Types of Sample Bottles used: 4 Amber Gl., 3 VOA

Method of Shipment: Courier

GROUND WATER

Well No.: LF-2

Well Diameter (in.): 2

Depth to Water, Static (ft): 7.97

Water in Well Box: NO

Well Depth (ft): 19.95

Height of Water Column in Well: 11.98

Water Volume in Well: 1.92

SURFACE WATER

Stream Width:

Stream Depth:

Stream Velocity:

Rained recently?:

Other:

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

19.95
7.97
11.98
.16
7188
1198
1.9168

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
14:08								START
14:09		4	22.0	6.84	1906			THICK BROWN TURBID
14:10	DEWATER	6						OFF
14:13								
14:14		8	22.9	6.81	1782			TURBID BROWN
14:14	DEWATER	9						OFF
14:17	14.2							
14:24		10	24.7	6.78	1787.			TURBID
		14	21.6	6.61	1612			TURBID
14:26	DEWATER	16	21.3	6.60	1584			OFF/TURBID
14:35	DEWATER	19	21.5	6.72	1627			TURBID/OFF
14:41	DEWATER	20	21.8	6.69	1547			TURBID
14:50								SAMPLE

Suggested Method for Purging Well: HAND BAIL / PP

1540 11.28

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: YERBA BUENA

Project No.: 1649.15

Date: 8/7/93

Sample No.: LF-3AG

Samplers Name: JCK

Sampling Location: FRONT, SOUTH ALLIANCE GAS STN.

Sampling Method: WELL DEVELOPMENT, CENT PUMP, TEFLON BAILER

Analyses Requested: TPH-G, BTEX, TPH-D O+G

Number and Types of Sample Bottles used: 4 AMBER L, 3 VOA.

Method of Shipment: COURIER

GROUND WATER

Well No.: LF-3AG

Well Diameter (in.): 2

Depth to Water, Static (ft): 8.90

Water in Well Box: NO

Well Depth (ft): 20.10

Height of Water Column in Well: 11.20

Water Volume in Well: 1.79

SURFACE WATER

Stream Width:

Stream Depth:

Stream Velocity:

Rained recently?:

Other:

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

20.10
8.90
11.20
.16
6720
1120
1.7920

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
15:35								START
15:37	DEWATERED	4	24.3	6.76	1924			TURBID
15:40 → 15:43	DEWATERED	8	23.3	6.68	1834			TURBID
15:47 → 15:49	"	10	25.1	7.11	1919			TURBID
REMOVED CENT HOSE BEGAN HAND BAILING AT 16:05								
16:12	DEWATERED	12	22.6	6.92	1693			TURBID
17:07	14.85							
17:25		14	21.1	6.75	1501			TURBID
17:32		16	20.7	6.86	1483			TURBID
18:00		18	21.0	6.82	1467			TURBID
18:20								SAMPLE
18:30	17.70							

Suggested Method for Purging Well

APPENDIX D

LABORATORY CERTIFICATES FOR SOIL SAMPLES

Inchcape Testing Services
Anametrix Laboratories

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308125
Date Received : 08/10/93
Project ID : 1649.15
Purchase Order: N/A

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

ANAMETRIX ID	CLIENT SAMPLE ID
9308125- 1	LF-2-7
9308125- 2	LF-2-9.5
9308125- 3	LF-2-14.5
9308125- 4	LF-1-4.5
9308125- 6	LF-1-14.5
9308125- 7	LF-3-7
9308125- 8	LF-3-9.5
9308125- 9	LF-3-14.5
9308125-10	SB-7-7
9308125-11	SB-7-9.5
9308125-12	SB-7-14.5
9308125-14	SB-10-9.5
9308125-15	SB10-14.5

This report consists of 18 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsi le for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

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

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

Sarah Schoen, Ph.D.
Laboratory Director

AUG 17 1993

08-16-93
Date

COPY

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308125
Date Received : 08/10/93
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
9308125- 2	LF-2-9.5	SOIL	08/07/93	TPHd
9308125- 3	LF-2-14.5	SOIL	08/07/93	TPHd
9308125- 4	LF-1-4.5	SOIL	08/07/93	TPHd
9308125- 6	LF-1-14.5	SOIL	08/07/93	TPHd
9308125- 8	LF-3-9.5	SOIL	08/07/93	TPHd
9308125- 9	LF-3-14.5	SOIL	08/07/93	TPHd
9308125-11	SB-7-9.5	SOIL	08/07/93	TPHd
9308125-12	SB-7-14.5	SOIL	08/07/93	TPHd
9308125-14	SB-10-9.5	SOIL	08/07/93	TPHd
9308125-15	SB10-14.5	SOIL	08/07/93	TPHd
9308125- 2	LF-2-9.5	SOIL	08/07/93	TPHgBTEX
9308125- 3	LF-2-14.5	SOIL	08/07/93	TPHgBTEX
9308125- 4	LF-1-4.5	SOIL	08/07/93	TPHgBTEX
9308125- 6	LF-1-14.5	SOIL	08/07/93	TPHgBTEX
9308125- 8	LF-3-9.5	SOIL	08/07/93	TPHgBTEX
9308125- 9	LF-3-14.5	SOIL	08/07/93	TPHgBTEX
9308125-11	SB-7-9.5	SOIL	08/07/93	TPHgBTEX
9308125-12	SB-7-14.5	SOIL	08/07/93	TPHgBTEX
9308125-14	SB-10-9.5	SOIL	08/07/93	TPHgBTEX
9308125-15	SB10-14.5	SOIL	08/07/93	TPHgBTEX

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308125
Date Received : 08/10/93
Project ID : 1649.15
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for this workorder.

Cheryl Balmer 8/16/93
Department Supervisor Date

Charlotte Bruch 8.16.93
Chemist Date

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

Anametrix W.O.: 9308125
Matrix : SOIL
Date Sampled : 08/07/93

Project Number : 1649.15
Date Released : 08/16/93

COMPOUNDS	Reporting Limit (mg/Kg)	Sample I.D.# LF-2-9.5 -02	Sample I.D.# LF-2-14.5 -03	Sample I.D.# LF-1-4.5 -04	Sample I.D.# LF-1-14.5 -06	Sample I.D.# LF-3-9.5 -08
Benzene	0.005	4.7	0.009	0.84	0.14	0.062
Toluene	0.005	35	0.012	1.2	0.17	0.28
Ethylbenzene	0.005	13	ND	5.6	0.081	1.1
Total Xylenes	0.005	68	0.015	2.7	0.37	1.1
TPH as Gasoline	0.5	740	ND	550	8.4	75
% Surrogate Recovery		101%	105%	98%	110%	88%
Instrument I.D.		HP4	HP4	HP4	HP4	HP4
Date Analyzed		08/12/93	08/12/93	08/12/93	08/12/93	08/12/93
RLMF		250	1	100	2.5	10

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as C4-C12 are determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

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

Charlotte Bunch 8-16-93
Analyst Date

Cheryl Balmer 8/16/93
Supervisor Date

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

Anametrix W.O.: 9308125
Matrix : SOIL
Date Sampled : 08/07/93

Project Number : 1649.15
Date Released : 08/16/93

COMPOUNDS	Reporting Limit (mg/Kg)	Sample I.D.# LF-3-14.5 -09	Sample I.D.# SB-7-9.5 -11	Sample I.D.# SB-7-14.5 -12	Sample I.D.# SB-10-9.5 -14	Sample I.D.# SB-10-14.5 -15
Benzene	0.005	0.014	2.5	ND	ND	0.48
Toluene	0.005	ND	8.5	ND	7.8	0.29
Ethylbenzene	0.005	0.010	22	0.029	ND	0.10
Total Xylenes	0.005	0.007	93	0.030	22	0.48
TPH as Gasoline	0.5	ND	750	2.8	1100	8.6
% Surrogate Recovery		103%	138%	98%	108%	116%
Instrument I.D.		HP4	HP21	HP4	HP4	HP4
Date Analyzed		08/12/93	08/12/93	08/12/93	08/12/93	08/12/93
RLMF		1	250	2.5	1000	2.5

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as C4-C12 are determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

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

Charleston Bunk 8·16·93
Analyst Date

Cheryl Balmer 8/16/93
Supervisor Date

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

Anametrix W.O.: 9308125 | Project Number : 1649.15
Matrix : SOIL | Date Released : 08/16/93
Date Sampled : N/A

COMPOUNDS	Reporting Limit (mg/Kg)	Sample I.D.# BG1201E2 BLANK	Sample I.D.# BG1201E2 BLANK	Sample I.D.# BG1101E2 BLANK
Benzene	0.005	ND	ND	ND
Toluene	0.005	ND	ND	ND
Ethylbenzene	0.005	ND	ND	ND
Total Xylenes	0.005	ND	ND	ND
TPH as Gasoline	0.5	ND	ND	ND
% Surrogate Recovery		97%	137%	92%
Instrument I.D.		HP4	HP21	HP4
Date Analyzed		08/12/93	08/12/93	08/11/93
RLMF		1	1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as C4-C12 are determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

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

Charlotte Burch 8-16-93
Analyst Date

Cheryl Brauner 8/16/93
Supervisor Date

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

Anametrix W.O.: 9308125
Matrix : SOIL
Date Sampled : 08/07/93
Date Extracted: 08/10/93

Project Number : 1649.15
Date Released : 08/16/93
Instrument I.D.: HP19

Anametrix I.D.	Client I.D.	Date Analyzed	Surrogate %Rec	Reporting Limit (mg/Kg)	Amount Found (mg/Kg)
9308125-02	LF-2-9.5	08/11/93	73%	10	14
9308125-03	LF-2-14.5	08/11/93	70%	10	ND
9308125-04	LF-1-4.5	08/12/93	73%	10	220
9308125-06	LF-1-14.5	08/12/93	77%	10	16
9308125-08	LF-3-9.5	08/12/93	73%	10	ND
9308125-09	LF-3-14.5	08/12/93	72%	10	ND
9308125-11	SB-7-9.5	08/12/93	70%	50	52
9308125-12	SB-7-14.5	08/12/93	67%	10	ND
9308125-14	SB-10-9.5	08/12/93	53%	10	ND
9308125-15	SB-10-14.5	08/12/93	75%	10	ND
BG10H3F1	METHOD BLANK	08/11/93	76%	10	ND

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 are determined by GCFID following sample extraction by EPA Method 3510.

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

Charlotte Burch 8.16.93
Analyst Date

Cheryl Balmes 8/16/93
Supervisor Date

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

Anametrix W.O.: 9308125
Matrix : SOIL
Date Sampled : 08/07/93
Date Extracted: 08/10/93

Project Number : 1649.15
Date Released : 08/16/93
Instrument I.D.: HP19

Anametrix I.D.	Client I.D.	Date Analyzed	Surrogate %Rec	Reporting Limit (mg/Kg)	Amount Found (mg/Kg)
9308125-02	LF-2-9.5	08/11/93	73%	10	ND
9308125-03	LF-2-14.5	08/11/93	70%	10	ND
9308125-04	LF-1-4.5	08/12/93	73%	10	16
9308125-06	LF-1-14.5	08/12/93	77%	10	ND
9308125-08	LF-3-9.5	08/12/93	73%	10	ND
9308125-09	LF-3-14.5	08/12/93	72%	10	ND
9308125-11	SB-7-9.5	08/12/93	70%	50	66
9308125-12	SB-7-14.5	08/12/93	67%	10	ND
9308125-14	SB-10-9.5	08/12/93	53%	10	ND
9308125-15	SB-10-14.5	08/12/93	75%	10	ND
BG10H3F1	METHOD BLANK	08/11/93	76%	10	ND

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 are determined by GCFID following sample extraction by EPA Method 3510.

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

Charles Burch 8.16.93
Analyst Date

Cheryl Balmer 8/16/93
Supervisor Date

TOTAL VOLATILE HYDROCARBON MATRIX SPIKE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: 1649.15 LF-2-14.5	Anametrix I.D.	: 08125-03
Matrix	: SOIL	Analyst	: CmB
Date Sampled	: 08/07/93	Supervisor	: CB
Date Analyzed	: 08/12/93	Date Released	: 08/16/93
		Instrument ID	: HP4

COMPOUND	SPIKE AMT (mg/Kg)	SAMPLE CONC (mg/Kg)	REC MS (mg/Kg)	% REC MS	REC MD (mg/Kg)	% REC MD	RPD	% REC LIMITS
GASOLINE	1.00	0	0.96	96%	0.92	92%	-4%	48-149
P-BFB				98%		105%		53-147

* Limits established by Anametrix, Inc.

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : SOIL
Date Sampled : N/A
Date Analyzed : 08/12/93

Anametrix I.D. : MG1201E1
Analyst : AmB
Supervisor : CS
Date Released : 08/16/93
Instrument I.D.: HP4

COMPOUND	SPIKE AMT. (mg/Kg)	REC LCS (mg/Kg)	%REC LCS	% REC LIMITS
GASOLINE	0.50	0.49	98%	58-130
p-BFB			101%	53-147

* Quality control established by Anametrix, Inc.

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/PID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: MG1201E3
Matrix	: SOIL	Analyst	: CMB
Date Sampled	: N/A	Supervisor	: CS
Date Analyzed	: 08/12/93	Date Released	: 08/16/93
		Instrument ID	: HP21

COMPOUND	SPIKE AMT (mg/Kg)	LCS (mg/Kg)	%REC LCS	%REC LIMITS
BENZENE	0.020	0.024	120%	52-133
TOLUENE	0.020	0.026	130%	57-136
ETHYLBENZENE	0.020	0.027	135%	56-139
TOTAL-XYLENES	0.020	0.028	140%	56-141
P-BFB			111%	53-147

* Quality control limit established by Anametrix, Inc.

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: MG1101E1
Matrix	: SOIL	Analyst	: CMB
Date Sampled	: N/A	Supervisor	: CS
Date Analyzed	: 08/11/93	Date Released	: 08/13/93
		Instrument I.D.	: HP4

COMPOUND	SPIKE AMT. (mg/Kg)	REC LCS (mg/Kg)	%REC LCS	% REC LIMITS
GASOLINE	0.50	0.48	96%	58-130
p-BFB			114%	57-147

* Quality control established by Anametrix, Inc.

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

Sample I.D.	: 1649.15 LF-3-14.5	Anametrix I.D.	: 08125-09
Matrix	: SOIL	Analyst	: CMB
Date Sampled	: 08/07/93	Supervisor	: CS
Date Extracted	: 08/10/93	Date Released	: 08/16/93
Date Analyzed	: 08/12/93	Instrument I.D.	: HP19

COMPOUND	SPIKE AMT (mg/Kg)	SAMPLE CONC (mg/Kg)	REC MS (mg/Kg)	% REC MS	REC MD (mg/Kg)	% REC MD	RPD	% REC LIMITS
DIESEL	125	0	108	86%	111	89%	3%	32-143
SURROGATE				88%		85%		30-130

* Quality control limit 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: 08/10/93
Date Analyzed : 08/11/93

Anametrix I.D. : MG10H3F1
Analyst : CMB
Supervisor : CS
Date Released : 08/16/93
Instrument I.D.: HP19

COMPOUND	SPIKE AMT (mg/Kg)	REC LCS (mg/Kg)	% REC LCS	% REC LIMITS
DIESEL	125	101	81%	48-113
SURROGATE			87%	30-130

*Limits established by Anametrix, Inc.

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308125
Date Received : 08/10/93
Project ID : 1649.15
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9308125- 2	LF-2-9.5	SOIL	08/07/93	5520EF
9308125- 3	LF-2-14.5	SOIL	08/07/93	5520EF
9308125- 4	LF-1-4.5	SOIL	08/07/93	5520EF
9308125- 6	LF-1-14.5	SOIL	08/07/93	5520EF
9308125- 8	LF-3-9.5	SOIL	08/07/93	5520EF
9308125- 9	LF-3-14.5	SOIL	08/07/93	5520EF
9308125-11	SB-7-9.5	SOIL	08/07/93	5520EF
9308125-12	SB-7-14.5	SOIL	08/07/93	5520EF
9308125-14	SB-10-9.5	SOIL	08/07/93	5520EF
9308125-15	SB10-14.5	SOIL	08/07/93	5520EF

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308125
Date Received : 08/10/93
Project ID : 1649.15
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Department Supervisor — Date 8/12/93

Chemist — Date

ANALYSIS DATA SHEET - TOTAL RECOVERABLE PETROLEUM HYDROCARBONS AS OIL AND GREASE
ANAMETRIX LABORATORIES (408) 432-8192

Project # : 1649.15
Matrix : SOIL
Date sampled : 08/07/93
Date extracted: 08/10/93
Date analyzed : 08/11/93

Anametrix I.D. : 9308125
Analyst : HE
Supervisor : TS
Date released : 08/12/93

Workorder #	Sample I.D.	Reporting Limit (mg/Kg)	Amount Found (mg/Kg)
9308125-02	LF-2-9.5	30	30
9308125-03	LF-2-14.5	30	ND
9308125-04	LF-1-4.5	30	77
9308125-06	LF-1-14.5	30	60
9308125-08	LF-3-9.5	30	37
9308125-09	LF-3-14.5	30	ND
9308125-11	SB-7-9.5	30	170
9308125-12	SB-7-14.5	30	ND
9308125-14	SB-10-9.5	30	40
9308125-15	SB10-14.5	30	ND
BG10H3W9	METHOD BLANK	30	ND

ND - Not detected above the reporting limit for the method.
TRPH - Total Recoverable Petroleum Hydrocarbons are determined by Standard Method 5520EF, 18th edition.

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

MATRIX SPIKE REPORT - TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
AS OIL AND GREASE
ANAMETRIX LABORATORIES (408) 432-8192

Sample I.D.	: 1649.15, SB-7-9.5MS, MD	Anametrix I.D.	: 9308125-11
Matrix	: SOIL	Analyst	: AE
Date sampled	: 08/07/93	Supervisor	: RS
Date extracted	: 08/10/93	Date Released	: 08/11/93
Date analyzed	: 08/11/93		

COMPOUND	SPIKE AMT (mg/Kg)	SAMPLE CONC (mg/Kg)	MS AMT (mg/Kg)	%REC MS	MD AMT (mg/Kg)	%REC MD	%RPD	% REC LIMITS
Motor Oil	300	170	470	100%	490	107%	7%	48-114%

* Quality control limits established by Anametrix Laboratories.

TRPH - Total Recoverable Petroleum Hydrocarbons are determined by Standard Method 5520EF, 18th edition.

LAB CONTROL SAMPLE REPORT - TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
AS OIL AND GREASE
ANAMETRIX LABORATORIES (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: MG10H3W9
Matrix	: SOIL	Analyst	: HE
Date sampled	: N/A	Supervisor	: TS
Date extracted	: 08/10/93	Date Released	: 08/11/93
Date analyzed	: 08/11/93		

COMPOUND	SPIKE AMT. (mg/Kg)	LCS (mg/Kg)	%REC LCS	%REC LIMITS
Motor Oil	300	300	100%	71-119%

* Quality control established by Anametrix Laboratories.

TRPH - Total Recoverable Petroleum Hydrocarbons are determined by Standard Method 5520EF.

9308123 (2) (18) g.p. 11:50

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 649.15	Field Logbook No.:	Date: 8/9/93	Serial No.: 11037
Project Name: Yerba Buena	Project Location: Emeryville		
Sampler (Signature): [signature]			Samplers: RB WEM

ANALYSES: EPA 601, EPA 624, TPHg 5030, TPHd 3510, BTEX 8020, O&G Total 5520EF, HOLD, RUSH

	SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	TPHg 5030	TPHd 3510	BTEX 8020	O&G Total 5520EF	HOLD	RUSH	REMARKS
1	LF-2-7	8/7			1 Bag	Soil			X	X	X	X	X		
2	LF-2-9.5	8/7			↓	↓			X	X	X	X			48 hour turnaround time
3	LF-2-14.5	8/7							X	X	X	X			
4	LF-1-4.5	8/7							X	X	X	X			Proj. Manager: Cindy Barclay
5	LF-1-9.5	8/7							X	X	X	X	X		
6	LF-1-14.5	8/7							X	X	X	X			
7	LF-3-7	8/7							X	X	X	X	X		
8	LF-3-9.5	8/7							X	X	X	X			8/11/93 Please report hydrocarbon
9	LF-3-14.5	8/7							X	X	X	X			chain lengths per Cindy Barclay CVR
10	SB-7-7	8/7							X	X	X	X	X		
11	SB-7-9.5	8/7							X	X	X	X			
12	SB-7-14.5	8/7							X	X	X	X			Samples 5 & 13 moved to 9308222.
13	SB-10-7	8/7							X	X	X	X	X		Taken off hold per Cindy
14	SB-10-9.5	8/7							X	X	X	X			Barclay. CVR 8/13/93
15	SB-10-14.5	8/7			↓	↓			X	X	X	X			

RELINQUISHED BY: (Signature) [signature]	DATE 8/9/93	TIME 1642	RECEIVED BY: (Signature) Matthew Cloud	DATE 8/9/93	TIME 1842
RELINQUISHED BY: (Signature) Matthew Cloud	DATE 8/10/93	TIME 0825	RECEIVED BY: (Signature) Benny S. Carrijo	DATE 8/10/93	TIME 0825
RELINQUISHED BY: (Signature) Benny S. Carrijo	DATE 8/10/93	TIME 0925	RECEIVED BY: (Signature) Carolyn Robins	DATE 8/10/93	TIME 9:25
METHOD OF SHIPMENT: /	DATE	TIME	LAB COMMENTS:		

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

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

Inchcape Testing Services
Anametrix Laboratories

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308124
Date Received : 08/10/93
Project ID : 1649.15
Purchase Order: N/A

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

ANAMETRIX ID	CLIENT SAMPLE ID
9308124- 1	SB-3-4.5
9308124- 2	SB-3-9.5
9308124- 3	SB-3-14.5
9308124- 4	SB-4-7
9308124- 5	SB-4-12
9308124- 6	SB-4-14.5
9308124- 7	SB-2-7
9308124- 9	SB-2-14.5
9308124-10	SB-9-7
9308124-12	SB-9-14.5
9308124-13	SB-11-12
9308124-14	SB11-14.5

AUG 18 1993

This report consists of 26 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

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

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

Sarah Schoen, Ph.D.
Laboratory Director

8-17-93
Date

COPY

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308124
Date Received : 08/10/93
Project ID : 1649.15
Purchase Order: N/A
Department : GC
Sub-Department: PEST

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9308124- 2	SB-3-9.5	SOIL	08/07/93	8080 PCB
9308124- 3	SB-3-14.5	SOIL	08/07/93	8080 PCB
9308124- 7	SB-2-7	SOIL	08/08/93	8080 PCB
9308124- 9	SB-2-14.5	SOIL	08/08/93	8080 PCB

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308124
Date Received : 08/10/93
Project ID : 1649.15
Purchase Order: N/A
Department : GC
Sub-Department: PEST

QA/QC SUMMARY :

- No QA/QC problems encountered for samples.

Fred Schroe 08-12-93
Department Supervisor Date

Cynthia E. Schlag 08/12/93
Chemist Date

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8080PCB
ANAMETRIX, INC. (408) 432-8192

Project ID	: 1649.15	Anametrix ID	: 9308124-02
Sample ID	: SB-3-9.5	Analyst	: [illegible]
Matrix	: SOIL	Supervisor	: [illegible]
Date Sampled	: 8/7/93	Volume ext.	: 30 g
Date Extracted	: 8/10/93	pH	: N/A
Date Analyzed	: 8/11/93	Final Vol.	: 10000 uL
Instrument ID	: HP22	Inj. Vol.	: 1 ul
Dilution	: NONE	%Moisture	: N/A

CAS No.	COMPOUND NAME	REPORTING LIMIT (ug/Kg)	AMOUNT FOUND (ug/Kg)
12674-11-2	Aroclor 1016	80	ND
1104-28-2	Aroclor 1221	80	ND
11141-16-5	Aroclor 1232	80	ND
53469-21-9	Aroclor 1242	80	ND
12672-29-6	Aroclor 1248	80	ND
11097-69-1	Aroclor 1254	160	ND
11096-82-5	Aroclor 1260	160	ND
	SURROGATE	PERCENT RECOVERY	PERCENT RECOVERY LIMITS
2051-24-3	Decachlorobiphenyl	96	80-134

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8080PCB
ANAMETRIX, INC. (408) 432-8192

Project ID	: 1649.15	Anametrix ID	: 9308124-03
Sample ID	: SB-3-14.5	Analyst	:
Matrix	: SOIL	Supervisor	:
Date Sampled	: 8/7/93	Volume ext.	: 30 g
Date Extracted	: 8/10/93	pH	: N/A
Date Analyzed	: 8/11/93	Final Vol.	: 10000 uL
Instrument ID	: HP22	Inj. Vol.	: 1 ul
Dilution	: NONE	%Moisture	: N/A

CAS No.	COMPOUND NAME	REPORTING LIMIT (ug/Kg)	AMOUNT FOUND (ug/Kg)
12674-11-2	Aroclor 1016	80	ND
1104-28-2	Aroclor 1221	80	ND
11141-16-5	Aroclor 1232	80	ND
53469-21-9	Aroclor 1242	80	ND
12672-29-6	Aroclor 1248	80	ND
11097-69-1	Aroclor 1254	160	ND
11096-82-5	Aroclor 1260	160	ND
	SURROGATE	PERCENT RECOVERY	PERCENT RECOVERY LIMITS
2051-24-3	Decachlorobiphenyl	96	80-134

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8080PCB
ANAMETRIX, INC. (408) 432-8192

Project ID	: 1649.15	Anametrix ID	: 9308124-07
Sample ID	: SB-2-7	Analyst	:
Matrix	: SOIL	Supervisor	:
Date Sampled	: 8/8/93	Volume ext.	: 30 g
Date Extracted	: 8/10/93	pH	: N/A
Date Analyzed	: 8/11/93	Final Vol.	: 10000 uL
Instrument ID	: HP22	Inj. Vol.	: 1 ul
Dilution	: NONE	%Moisture	: N/A

CAS No.	COMPOUND NAME	REPORTING LIMIT (ug/Kg)	AMOUNT FOUND (ug/Kg)
12674-11-2	Aroclor 1016	80	ND
1104-28-2	Aroclor 1221	80	ND
11141-16-5	Aroclor 1232	80	ND
53469-21-9	Aroclor 1242	80	ND
12672-29-6	Aroclor 1248	80	ND
11097-69-1	Aroclor 1254	160	ND
11096-82-5	Aroclor 1260	160	ND
	SURROGATE	PERCENT RECOVERY	PERCENT RECOVERY LIMITS
2051-24-3	Decachlorobiphenyl	87	80-134

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8080PCB
ANAMETRIX, INC. (408) 432-8192

Project ID	: 1649.15	Anametrix ID	: 9308124-09
Sample ID	: SB-2-14.5	Analyst	: CAS
Matrix	: SOIL	Supervisor	: [illegible]
Date Sampled	: 8/8/93	Volume ext.	: 30 g
Date Extracted	: 8/10/93	pH	: N/A
Date Analyzed	: 8/11/93	Final Vol.	: 10000 uL
Instrument ID	: HP22	Inj. Vol.	: 1 ul
Dilution	: NONE	%Moisture	: N/A

CAS No.	COMPOUND NAME	REPORTING LIMIT (ug/Kg)	AMOUNT FOUND (ug/Kg)
12674-11-2	Aroclor 1016	80	ND
1104-28-2	Aroclor 1221	80	ND
11141-16-5	Aroclor 1232	80	ND
53469-21-9	Aroclor 1242	80	ND
12672-29-6	Aroclor 1248	80	ND
11097-69-1	Aroclor 1254	160	ND
11096-82-5	Aroclor 1260	160	ND
	SURROGATE	PERCENT RECOVERY	PERCENT RECOVERY LIMITS
2051-24-3	Decachlorobiphenyl	90	80-134

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8080PCB
ANAMETRIX, INC. (408) 432-8192

Project ID	: N/A	Anametrix ID	: BG10H1PE
Sample ID	: BLANK	Analyst	: [illegible]
Matrix	: SOIL	Supervisor	: [illegible]
Date Sampled	: N/A	Volume ext.	: 30 g
Date Extracted	: 8/10/93	pH	: N/A
Date Analyzed	: 8/11/93	Final Vol.	: 10000 uL
Instrument ID	: HP22	Inj. Vol.	: 1 ul
Dilution	: NONE		

CAS No.	COMPOUND NAME	REPORTING LIMIT (ug/Kg)	AMOUNT FOUND (ug/Kg)
12674-11-2	Aroclor 1016	80	ND
1104-28-2	Aroclor 1221	80	ND
11141-16-5	Aroclor 1232	80	ND
53469-21-9	Aroclor 1242	80	ND
12672-29-6	Aroclor 1248	80	ND
11097-69-1	Aroclor 1254	160	ND
11096-82-5	Aroclor 1260	160	ND
	SURROGATE	PERCENT RECOVERY	PERCENT RECOVERY LIMITS
2051-24-3	Decachlorobiphenyl	103	80-134

LABORATORY CONTROL SPIKE RECOVERY FORM -- EPA METHOD 8080PCB
ANAMETRIX, INC. (408) 432-8192

Project ID	: N/A	Anametrix ID	: MG10H1PE
Sample ID	: LCS	Analyst	:
Matrix	: SOIL	Supervisor	:
Date Sampled	: N/A	Volume ext.	: 30 g
Date Extracted	: 8/10/93	pH	: N/A
Date Analyzed	: 8/11/93	Final Vol.	: 10000 uL
Instrument ID	: HP22	Inj. Vol.	: 1 ul
Dilution	: NONE		

LCS COMPOUND NAME	AMOUNT ADDED (ug/Kg)	AMOUNT FOUND (ug/Kg)	PERCENT RECOVERY
Aroclor 1248	500	306	61

	RECOVERY LIMITS
	60-122

SURROGATE - LCS	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	81	80-134

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308124
Date Received : 08/10/93
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
9308124- 2	SB-3-9.5	SOIL	08/07/93	TPHd
9308124- 3	SB-3-14.5	SOIL	08/07/93	TPHd
9308124- 4	SB-4-7	SOIL	08/08/93	TPHd
9308124- 6	SB-4-14.5	SOIL	08/08/93	TPHd
9308124- 7	SB-2-7	SOIL	08/08/93	TPHd
9308124- 9	SB-2-14.5	SOIL	08/08/93	TPHd
9308124-10	SB-9-7	SOIL	08/07/93	TPHd
9308124-12	SB-9-14.5	SOIL	08/07/93	TPHd
9308124-14	SB11-14.5	SOIL	08/09/93	TPHd
9308124- 2	SB-3-9.5	SOIL	08/07/93	TPHgBTEX
9308124- 3	SB-3-14.5	SOIL	08/07/93	TPHgBTEX
9308124- 4	SB-4-7	SOIL	08/08/93	TPHgBTEX
9308124- 6	SB-4-14.5	SOIL	08/08/93	TPHgBTEX
9308124- 7	SB-2-7	SOIL	08/08/93	TPHgBTEX
9308124- 9	SB-2-14.5	SOIL	08/08/93	TPHgBTEX
9308124-10	SB-9-7	SOIL	08/07/93	TPHgBTEX
9308124-12	SB-9-14.5	SOIL	08/07/93	TPHgBTEX
9308124-14	SB11-14.5	SOIL	08/09/93	TPHgBTEX

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308124
Date Received : 08/10/93
Project ID : 1649.15
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for this workorder.

Cheryl Balmm 8/16/93
Department Supervisor Date

Irma Shor 8/16/93
Chemist Date

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

Anametrix W.O.: 9308124
Matrix : SOIL
Date Sampled : 08/07-08/93

Project Number : 1649.15
Date Released : 08/16/93

COMPOUNDS	Reporting Limit (mg/Kg)	Sample I.D.# SB-3-9.5 -02	Sample I.D.# SB-3-14.5 -03	Sample I.D.# SB-4-7 -04	Sample I.D.# SB-4-14.5 -06	Sample I.D.# SB-2-7 -07
Benzene	0.005	9.7	0.092	3.0	0.026	8.0
Toluene	0.005	50	0.16	5.2	0.005	ND
Ethylbenzene	0.005	15	0.031	8.2	0.019	31
Total Xylenes	0.005	90	0.17	18	0.023	140
TPH as Gasoline	0.5	580	0.9	380	ND	780
% Surrogate Recovery		117%	116%	101%	130%	138%
Instrument I.D.		HP8	HP21	HP8	HP21	HP21
Date Analyzed		08/12/93	08/11/93	08/12/93	08/12/93	08/12/93
RLMF		250	1	250	1	250

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as C4-C12 are determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

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

Analyst — 17 August 93 Date

Supervisor — 8/17/93 Date

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

Anametrix W.O.: 9308124
Matrix : SOIL
Date Sampled : 08/07-09/93

Project Number : 1649.15
Date Released : 08/16/93

COMPOUNDS	Reporting Limit (mg/Kg)	Sample I.D.# SB-2-14.5 -09	Sample I.D.# SB-9-7 -10	Sample I.D.# SB-9-14.5 -12	Sample I.D.# SB 11-14.5 -14	Sample I.D.# BG1201E2 BLANK
Benzene	0.005	0.20	2.8	0.079	ND	ND
Toluene	0.005	0.21	13	0.059	ND	ND
Ethylbenzene	0.005	0.021	5.1	0.011	ND	ND
Total Xylenes	0.005	0.12	29	0.041	ND	ND
TPH as Gasoline	0.5	1.0	210	ND	ND	ND
% Surrogate Recovery		114%	119%	118%	120%	106%
Instrument I.D.		HP8	HP21	HP21	HP21	HP8
Date Analyzed		08/12/93	08/12/93	08/12/93	08/12/93	08/12/93
RLMF		1	50	1	1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as C4-C12 are determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

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

Lina Shor 8/16/93
Analyst Date

Cheryl Balmer 8/16/93
Supervisor Date

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

Anametrix W.O.: 9308124
Matrix : SOIL
Date Sampled : N/A

Project Number : 1649.15
Date Released : 08/16/93

COMPOUNDS	Reporting Limit (mg/Kg)	Sample I.D.# BG1101E2 BLANK	Sample I.D.# BG1201E2 BLANK
Benzene	0.005	ND	ND
Toluene	0.005	ND	ND
Ethylbenzene	0.005	ND	ND
Total Xylenes	0.005	ND	ND
TPH as Gasoline	0.5	ND	ND
% Surrogate Recovery		123%	137%
Instrument I.D.		HP21	HP21
Date Analyzed		08/11/93	08/12/93
RLMF		1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as C4-C12 are determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

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

Luisa Shor 8/16/93
Analyst Date

Cheryl Balmer 8/16/93
Supervisor Date

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

Anametrix W.O.: 9308124
Matrix : SOIL
Date Sampled : 08/07-09/93
Date Extracted: 08/10/93

Project Number : 1649.15
Date Released : 08/16/93
Instrument I.D.: HP9

Anametrix I.D.	Client I.D.	Date Analyzed	Surrogate %Rec (mg/Kg)	Reporting Limit (mg/Kg)	Amount Found (mg/Kg)
9308124-02	SB-3-9.5	08/11/93	88%	10	11
9308124-03	SB-3-14.5	08/11/93	86%	10	ND
9308124-04	SB-4-7	08/11/93	85%	10	13
9308124-06	SB-4-14.5	08/11/93	52%	10	ND
9308124-07	SB-2-7	08/12/93	63%	50	790
9308124-09	SB-2-14.5	08/12/93	75%	10	ND
9308124-10	SB-9-7	08/12/93	68%	10	14
9308124-12	SB-9-14.5	08/12/93	81%	10	ND
9308124-14	SB11-14.5	08/12/93	93%	10	ND
BG10H2F1	METHOD BLANK	08/11/93	84%	10	ND

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 are determined by GCFID following sample extraction by EPA Method 3510.

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

Analyst 8/16/93 Date

Supervisor 8/16/93 Date

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

Anametrix W.O.: 9308124
Matrix : SOIL
Date Sampled : 08/07-09/93
Date Extracted: 08/10/93

Project Number : 1649.15
Date Released : 08/16/93
Instrument I.D.: HP9

Anametrix I.D.	Client I.D.	Date Analyzed	Surrogate %Rec (mg/Kg)	Reporting Limit (mg/Kg)	Amount Found (mg/Kg)
9308124-02	SB-3-9.5	08/11/93	88%	10	ND
9308124-03	SB-3-14.5	08/11/93	86%	10	ND
9308124-04	SB-4-7	08/11/93	85%	10	ND
9308124-06	SB-4-14.5	08/11/93	52%	10	ND
9308124-07	SB-2-7	08/12/93	63%	50	57
9308124-09	SB-2-14.5	08/12/93	75%	10	12
9308124-10	SB-9-7	08/12/93	68%	10	ND
9308124-12	SB-9-14.5	08/12/93	81%	10	ND
9308124-14	SB11-14.5	08/12/93	93%	10	11
BG10H2F1	METHOD BLANK	08/11/93	84%	10	ND

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 are determined by GCFID following sample extraction by EPA Method 3510.

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

Analyst 8/16/93 Date

Supervisor 8/16/93 Date

TOTAL VOLATILE HYDROCARBON MATRIX SPIKE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: 1649.15 SB11-14.5	Anametrix I.D.	: 08124-14
Matrix	: SOIL	Analyst	: IS
Date Sampled	: 08/09/93	Supervisor	:
Date Analyzed	: 08/13/93	Date Released	: 08/16/93
		Instrument ID	: HP21

COMPOUND	SPIKE AMT (mg/Kg)	SAMPLE CONC (mg/Kg)	REC MS (mg/Kg)	% REC MS	REC MD (mg/Kg)	% REC MD	RPD	% REC LIMITS
GASOLINE	1.00	0	0.88	88%	0.87	87%	-1%	48-149
P-BFB				82%		88%		53-147

* Limits established by Anametrix, Inc.

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/PID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : SOIL
Date Sampled : N/A
Date Analyzed : 08/11/93

Anametrix I.D. : MG1101E1
Analyst : [illegible]
Supervisor : [illegible]
Date Released : 08/16/93
Instrument ID : HP8

COMPOUND	SPIKE AMT (mg/Kg)	LCS (mg/Kg)	%REC LCS	%REC LIMITS
BENZENE	0.020	0.019	95%	52-133
TOLUENE	0.020	0.022	110%	57-136
ETHYLBENZENE	0.020	0.023	115%	56-139
TOTAL-XYLENES	0.020	0.023	115%	56-141
P-BFB			116%	53-147

* Quality control limit established by Anametrix, Inc.

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : SOIL
Date Sampled : N/A
Date Analyzed : 08/13/93

Anametrix I.D. : MG1203E1
Analyst : IS
Supervisor : [illegible]
Date Released : 08/16/93
Instrument I.D.: HP21

COMPOUND	SPIKE AMT. (mg/Kg)	REC LCS (mg/Kg)	%REC LCS	% REC LIMITS
GASOLINE	0.50	0.51	102%	58-130
p-BFB			100%	53-147

* Quality control established by Anametrix, Inc.

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/PID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : SOIL
Date Sampled : N/A
Date Analyzed : 08/11/93

Anametrix I.D. : MG1101E
Analyst : IS
Supervisor : [illegible]
Date Released : 08/16/9
Instrument ID : HP21

COMPOUND	SPIKE AMT (mg/Kg)	LCS (mg/Kg)	%REC LCS	%REC LIMITS
BENZENE	0.020	0.021	105%	52-133
TOLUENE	0.020	0.023	115%	57-136
ETHYLBENZENE	0.020	0.024	120%	56-139
TOTAL-XYLENES	0.020	0.024	120%	56-141
P-BFB			116%	53-147

* Quality control limit established by Anametrix, Inc.

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

Sample I.D.	: 1649.15 SB-9-7	Anametrix I.D.	: 08124-10
Matrix	: SOIL	Analyst	:
Date Sampled	: 08/07/93	Supervisor	:
Date Extracted	: 08/10/93	Date Released	: 08/16/93
Date Analyzed	: 08/12/93	Instrument I.D.	: HP9

COMPOUND	SPIKE AMT (mg/Kg)	SAMPLE CONC (mg/Kg)	REC MS (mg/Kg)	% REC MS	REC MD (mg/Kg)	% REC MD	RPD	% REC LIMITS
DIESEL	125	0	149	119%	133	106%	-11%	32-143
SURROGATE				98%		97%		30-130

* Quality control limit 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	Anametrix I.D.	: MG1012F1
Matrix	: SOIL	Analyst	: [illegible]
Date Sampled	: N/A	Supervisor	: [illegible]
Date Extracted	: 08/10/93	Date Released	: 08/16/93
Date Analyzed	: 08/11/93	Instrument I.D.	: HP9

COMPOUND	SPIKE AMT (mg/Kg)	REC LCS (mg/Kg)	% REC LCS	% REC LIMITS
DIESEL	125	80	64%	48-113
SURROGATE			85%	30-130

*Limits established by Anametrix, Inc.

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308124
Date Received : 08/10/93
Project ID : 1649.15
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9308124- 2	SB-3-9.5	SOIL	08/07/93	5520EF
9308124- 3	SB-3-14.5	SOIL	08/07/93	5520EF
9308124- 4	SB-4-7	SOIL	08/08/93	5520EF
9308124- 6	SB-4-14.5	SOIL	08/08/93	5520EF
9308124- 7	SB-2-7	SOIL	08/08/93	5520EF
9308124- 9	SB-2-14.5	SOIL	08/08/93	5520EF
9308124-10	SB-9-7	SOIL	08/07/93	5520EF
9308124-12	SB-9-14.5	SOIL	08/07/93	5520EF
9308124-14	SB11-14.5	SOIL	08/09/93	5520EF

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308124
Date Received : 08/10/93
Project ID : 1649.15
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Department Supervisor 08/12/93 Date

Chemist 8/12/93 Date

ANALYSIS DATA SHEET - TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
AS OIL AND GREASE
ANAMETRIX LABORATORIES (408) 432-8192

Project # : 1649.15
Matrix : SOIL
Date sampled : 08/07-09/93
Date extracted: 08/10/93
Date analyzed : 08/11/93

Anametrix I.D. : 9308124
Analyst : HE
Supervisor : TS
Date released : 08/12/93

Workorder #	Sample I.D.	Reporting Limit (mg/Kg)	Amount Found (mg/Kg)
9308124-02	SB-3-9.5	30	37
9308124-03	SB-3-14.5	30	37
9308124-04	SB-4-7	30	70
9308124-06	SB-4-14.5	30	210
9308124-07	SB-2-7	30	160
9308124-09	SB-2-14.5	30	43
9308124-10	SB-9-7	30	ND
9308124-12	SB-9-14.5	30	77
9308124-14	SB11-14.5	30	40
BG10H2W9	METHOD BLANK	30	ND

ND - Not detected above the reporting limit for the method.
TRPH - Total Recoverable Petroleum Hydrocarbons are determined by Standard Method 5520EF, 18th edition.

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

LAB CONTROL SAMPLE REPORT - TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
AS OIL AND GREASE
ANAMETRIX LABORATORIES (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: MG10H2W9
Matrix	: SOIL	Analyst	: HC
Date sampled	: N/A	Supervisor	: TS
Date extracted	: 08/10/93	Date Released	: 08/12/93
Date analyzed	: 08/11/93		

COMPOUND	SPIKE AMT. (mg/Kg)	LCS (mg/Kg)	%REC LCS	%REC LIMITS
Motor Oil	300	290	97%	71-119%

* Quality control established by Anametrix Laboratories.

TRPH - Total Recoverable Petroleum Hydrocarbons are determined by Standard Method 5520EF.

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 1649.15	Field Logbook No.:	Date: 8/9/93	Serial No.: 11039
Project Name: Yerba Buena	Project Location: Emeryville		
Sampler (Signature): Robin Barker			

	SAMPLES						ANALYSES									Samplers: Kim WEN
	SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	PCBs EPA 8080	TPHd 5030	TPHd 3510	BTEX 5030	O&G 5520	Mod. 5520 E/F	HOLD	RUSH	REMARKS
1	SB-3-4.5	8/7			1-Brass	Soil		X	X	X	X	X	X			48 hour turnaround time
2	SB-3-9.5	8/7						X	X	X	X	X				Proj Manager: Cindy Barkley
3	SB-3-14.5	8/7						X	X	X	X	X				
4	SB-4-7	8/8							X	X	X	X				
5	SB-4-12	8/8							X	X	X	X	X			
6	SB-4-14.5	8/8							X	X	X	X				
7	SB-2-7	8/8						X	X	X	X	X				
8	SB-2-9.5	8/8						X	X	X	X	X	X			8/11/93
9	SB-2-14.5	8/8						X	X	X	X	X				Please report hydrocarbon
10	SB-9-7	8/7							X	X	X	X				chain lengths per Cindy Barclay
11	SB-9-9.5	8/7							X	X	X	X	X			
12	SB-9-14.5	8/7							X	X	X	X				
13	SB-11-12	8/9							X	X	X	X	X			
14	SB-11-14.5	8/9			↓	↓			X	X	X	X				

RELINQUISHED BY: (Signature) Robin Barker	DATE 8/9/93	TIME 1842	RECEIVED BY: (Signature) Matthew Cloud	DATE 8/9/93	TIME 1842
RELINQUISHED BY: (Signature) Matthew Cloud	DATE 8/10/93	TIME 0825	RECEIVED BY: (Signature) Tammy L. Carrejon	DATE 8/10/93	TIME 0825
RELINQUISHED BY: (Signature) Tammy L. Carrejon	DATE 8/10/93	TIME 0925	RECEIVED BY: (Signature) Carlin Robins	DATE 8-10-93	TIME 0925
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

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

Analytical Laboratory:
Anamex Inc

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

FORM NO. 86/COC/ARF

Inchcape Testing Services
Anametrix Laboratories

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308122
Date Received : 08/10/93
Project ID : 1649.15
Purchase Order: N/A

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

ANAMETRIX ID	CLIENT SAMPLE ID
9308122- 1	SB-8-9.5
9308122- 2	SB-8-12
9308122- 3	SB-8-14.5
9308122- 4	SB-1-7
9308122- 6	SB-1-14.5
9308122- 7	SB-5-4.5
9308122- 8	SB-5-7
9308122- 9	SB-5-14.5
9308122-10	SB-6-9.5
9308122-11	SB-6-12
9308122-12	SB-6-7
9308122-13	SB-6-14.5
9308122-14	SB-17-4.5
9308122-15	SB-17-7
9308122-16	SB-17-12

AUG 18 1993

This report consists of 51 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

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

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

Sarah Schoen, Ph.D.
Laboratory Director

8-17-93
Date

COPY

ANAMETRIX REPORT DESCRIPTION
GCMS

Organic Analysis Data Sheets (OADS)

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

Tentatively Identified Compounds (TICs)

TIC forms contain tabulated results for non-target compounds detected in GC/MS analyses. TICs must be requested at the time samples are submitted at Anametrix. TIC forms immediately follow the OADS form for each sample. If TICs are requested but not found, then TIC forms will not be included with the report.

Surrogate Recovery Summary (SRS)

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

Matrix Spike Recovery Form (MSR)

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

Qualifiers

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

- U - Indicates that the compound was analyzed for, but was not detected at or above the specified reporting limit.
- B - Indicates that the compound was detected in the associated method blank.
- J - Indicates that the compound was detected at an amount below the specified reporting limit. Consequently, the amount should be considered an approximate value. Tentatively identified compounds will always have a "J" qualifier because they are not included in the instrument calibration.
- E - Indicates that the amount reported exceeded the linear range of the instrument calibration.
- D - Indicates that the compound was detected in an analysis performed at a secondary dilution.
- A - Indicates that the tentatively identified compound is a suspected aldol condensation product. This is common in EPA Method 8270 soil analyses.

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

REPORTING CONVENTIONS

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

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308122
Date Received : 08/10/93
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
9308122- 1	SB-8-9.5	SOIL	08/08/93	TPHd
9308122- 3	SB-8-14.5	SOIL	08/08/93	TPHd
9308122- 4	SB-1-7	SOIL	08/08/93	TPHd
9308122- 6	SB-1-14.5	SOIL	08/08/93	TPHd
9308122- 8	SB-5-7	SOIL	08/08/93	TPHd
9308122- 9	SB-5-14.5	SOIL	08/08/93	TPHd
9308122-10	SB-6-9.5	SOIL	08/08/93	TPHd
9308122-13	SB-6-14.5	SOIL	08/08/93	TPHd
9308122-14	SB-17-4.5	SOIL	08/09/93	TPHd
9308122-15	SB-17-7	SOIL	08/09/93	TPHd
9308122-16	SB-17-12	SOIL	08/09/93	TPHd
9308122-14	SB-17-4.5	SOIL	08/09/93	TPHg
9308122-15	SB-17-7	SOIL	08/09/93	TPHg
9308122-16	SB-17-12	SOIL	08/09/93	TPHg
9308122- 1	SB-8-9.5	SOIL	08/08/93	TPHgBTEX
9308122- 3	SB-8-14.5	SOIL	08/08/93	TPHgBTEX
9308122- 4	SB-1-7	SOIL	08/08/93	TPHgBTEX
9308122- 6	SB-1-14.5	SOIL	08/08/93	TPHgBTEX
9308122- 8	SB-5-7	SOIL	08/08/93	TPHgBTEX
9308122- 9	SB-5-14.5	SOIL	08/08/93	TPHgBTEX

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308122
Date Received : 08/10/93
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
9308122-10	SB-6-9.5	SOIL	08/08/93	TPHgBTEX
9308122-13	SB-6-14.5	SOIL	08/08/93	TPHgBTEX

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308122
Date Received : 08/10/93
Project ID : 1649.15
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- The RPD for the diesel matrix spike and matrix spike duplicate on sample SB-5-7 is outside of quality control limits.

Cheryl Bachman 8/17/93
Department Supervisor Date

Chemist 17 August 93
Date

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

Anametrix W.O.: 9308122
Matrix : SOIL
Date Sampled : 08/08/93

Project Number : 1649.15
Date Released : 08/16/93

COMPOUNDS	Reporting Limit (mg/Kg)	Sample I.D.# SB-8-9.5 -01	Sample I.D.# SB-8-14.5 -03	Sample I.D.# SB-1-7 -04	Sample I.D.# SB-1-14.5 -06	Sample I.D.# SB-5-7 -08
Benzene	0.005	22	0.009	5.4	0.44	2.4
Toluene	0.005	9.5	ND	ND	0.44	0.6
Ethylbenzene	0.005	82	ND	25	0.14	16
Total Xylenes	0.005	290	ND	42	0.61	6.3
TPH as Gasoline	0.5	2800	ND	850	7.4	410
% Surrogate Recovery		116%	137%	122%	122%	110%
Instrument I.D.		HP12	HP12	HP12	HP12	HP12
Date Analyzed		08/12/93	08/11/93	08/12/93	08/12/93	08/12/93
RLMF		1000	1	250	2.5	100

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as C4-C12 are determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

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

Charlotte Burch 8-16-93
Analyst Date

Supervisor Date

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

Anametrix W.O.: 9308122
Matrix : SOIL
Date Sampled : 08/08 & 09/93

Project Number : 1649.15
Date Released : 08/16/93

COMPOUNDS	Reporting Limit (mg/Kg)	Sample I.D.# SB- 5-14.5 -09	Sample I.D.# SB- 6-9.5 -10	Sample I.D.# SB- 6-14.5 -13	Sample I.D.# SB- 17-4.5 -14	Sample I.D.# SB- 17-7 -15
Benzene	0.005	0.011	2.7	ND	-	-
Toluene	0.005	ND	ND	ND	-	-
Ethylbenzene	0.005	0.008	15	ND	-	-
Total Xylenes	0.005	0.008	15	ND	-	-
TPH as Gasoline	0.5	ND	490	ND	260	440
% Surrogate Recovery		104%	100%	109%	96%	97%
Instrument I.D.		HP12	HP12	HP12	HP8	HP8
Date Analyzed		08/12/93	08/12/93	08/12/93	08/12/93	08/12/93
RLMF		1	100	1	250	250

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as C4-C12 are determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

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

Charlesta Bunch 8-16-93
Analyst Date

Cheryl Bateman 8/16/93
Supervisor Date

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

Anametrix W.O.: 9308122 Project Number : 1649.15
Matrix : SOIL Date Released : 08/16/93
Date Sampled : 08/09/93

COMPOUNDS	Reporting Limit (mg/Kg)	Sample I.D.# SB-17-12 -16	Sample I.D.# BG1101E2 BLANK	Sample I.D.# BG1201E2 BLANK	Sample I.D.# BG1201E2 BLANK	
Benzene	0.005	-	ND	ND	ND	
Toluene	0.005	-	ND	ND	ND	
Ethylbenzene	0.005	-	ND	ND	ND	
Total Xylenes	0.005	-	ND	ND	ND	
TPH as Gasoline	0.5	500	ND	ND	ND	
% Surrogate Recovery		95%	112%	120%	106%	
Instrument I.D.		HP8	HP12	HP12	HP8	
Date Analyzed		08/12/93	08/11/93	08/12/93	08/12/93	
RLMF		250	1	1	1	

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as C4-C12 are determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

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

Charlotte Bunch 8/10/93
Analyst Date

Cheryl Balmer 8/10/93
Supervisor Date

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

Anametrix W.O.: 9308122
Matrix : SOIL
Date Sampled : 08/08 & 09/93
Date Extracted: 08/10/93

Project Number : 1649.15
Date Released : 08/16/93
Instrument I.D.: HP9

TPHd

Anametrix I.D.	Client I.D.	Date Analyzed	Surrogate %Rec	Reporting Limit (mg/Kg)	Amount Found (mg/Kg)
9308122-01	SB-8-9.5	08/11/93	66%	50	110
9308122-03	SB-8-14.5	08/10/93	71%	10	ND
9308122-04	SB-1-7	08/10/93	75%	10	240
9308122-06	SB-1-14.5	08/10/93	69%	10	ND
9308122-08	SB-5-7	08/10/93	69%	10	15
9308122-09	SB-5-14.5	08/10/93	73%	10	ND
9308122-10	SB-6-9.5	08/11/93	84%	10	51
9308122-13	SB-6-14.5	08/11/93	77%	10	ND
9308122-14	SB-17-4.5	08/11/93	83%	10	40
9308122-15	SB-17-7	08/11/93	76%	10	17
9308122-16	SB-17-12	08/11/93	73%	100	130
BG1011F1	METHOD BLANK	08/10/93	55%	10	ND

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 are determined by GCFID following sample extraction by EPA Method 3510.

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

Analyst 17 August 93 Date

Supervisor 8/7/93 Date

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

Anametrix W.O.: 9308122
Matrix : SOIL
Date Sampled : 08/08 & 09/93
Date Extracted: 08/10/93

Project Number : 1649.15
Date Released : 08/16/93
Instrument I.D.: HP9

Anametrix I.D.	Client I.D.	Date Analyzed	Surrogate %Rec	Reporting Limit (mg/Kg)	Amount Found (mg/Kg)
9308122-01	SB-8-9.5	08/11/93	66%	50	ND
9308122-03	SB-8-14.5	08/10/93	71%	10	11
9308122-04	SB-1-7	08/10/93	75%	10	27
9308122-06	SB-1-14.5	08/10/93	69%	10	ND
9308122-08	SB-5-7	08/10/93	69%	10	ND
9308122-09	SB-5-14.5	08/10/93	73%	10	ND
9308122-10	SB-6-9.5	08/11/93	84%	10	ND
9308122-13	SB-6-14.5	08/11/93	77%	10	ND
9308122-14	SB-17-4.5	08/11/93	83%	10	ND
9308122-15	SB-17-7	08/11/93	76%	10	ND
9308122-16	SB-17-12	08/11/93	73%	100	190
BG1011F1	METHOD BLANK	08/10/93	55%	10	ND

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 are determined by GCFID following sample extraction by EPA Method 3510.

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

Analyst 17 August 93
Date

Supervisor 8/17/93
Date

TOTAL VOLATILE HYDROCARBON MATRIX SPIKE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: 1649.15 SB-6-14.5	Anametrix I.D.	: 08122-13
Matrix	: SOIL	Analyst	: CMQ
Date Sampled	: 08/08/93	Supervisor	: CS
Date Analyzed	: 08/13/93	Date Released	: 08/16/93
		Instrument ID	: HP12

COMPOUND	SPIKE AMT (mg/Kg)	SAMPLE CONC (mg/Kg)	REC MS (mg/Kg)	% REC MS	REC MD (mg/Kg)	% REC MD	RPD	% REC LIMITS
GASOLINE	1.00	0	0.98	98%	0.99	99%	1%	48-149
P-BFB				87%		83%		53-147

* Limits established by Anametrix, Inc.

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/PID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : SOIL
Date Sampled : N/A
Date Analyzed : 08/12/93

Anametrix I.D. : MG1201E3
Analyst : [illegible]
Supervisor : [illegible]
Date Released : 08/16/93
Instrument ID : HP12

COMPOUND	SPIKE AMT (mg/Kg)	LCS (mg/Kg)	%REC LCS	%REC LIMITS
BENZENE	0.020	0.024	120%	52-133
TOLUENE	0.020	0.023	115%	57-136
ETHYLBENZENE	0.020	0.024	120%	56-139
TOTAL-XYLENES	0.020	0.025	125%	56-141
P-BFB			102%	53-147

* Quality control limit established by Anametrix, Inc.

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : SOIL
Date Sampled : N/A
Date Analyzed : 08/13/93

Anametrix I.D. : MG1203E1
Analyst : CMB
Supervisor : [illegible]
Date Released : 08/16/93
Instrument I.D.: HP12

COMPOUND	SPIKE AMT. (mg/Kg)	REC LCS (mg/Kg)	%REC LCS	% REC LIMITS
GASOLINE	0.50	0.45	90%	58-130
p-BFB			86%	53-147

* Quality control established by Anametrix, Inc.

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : SOIL
Date Sampled : N/A
Date Analyzed : 08/13/93

Anametrix I.D. : MG1202E1
Analyst : CMB
Supervisor : CB
Date Released : 08/16/93
Instrument I.D.: HP8

COMPOUND	SPIKE AMT. (mg/Kg)	REC LCS (mg/Kg)	%REC LCS	% REC LIMITS
GASOLINE	0.50	0.48	96%	58-130
p-BFB			104%	53-147

* Quality control established by Anametrix, Inc.

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

Sample I.D.	: 1649.15 SB-5-7	Anametrix I.D.	: 08122-08
Matrix	: SOIL	Analyst	: CmB
Date Sampled	: 08/11/93	Supervisor	: CH
Date Extracted	: 08/10/93	Date Released	: 08/16/93
Date Analyzed	: 08/11/93	Instrument I.D.	: HP9

COMPOUND	SPIKE AMT (mg/Kg)	SAMPLE CONC (mg/Kg)	REC MS (mg/Kg)	% REC MS	REC MD (mg/Kg)	% REC MD	RPD	% REC LIMITS
DIESEL	125	15	130	92%	86	57%	-41%	32-143
SURROGATE				82%		77%		30-130

* Quality control limit 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: 08/10/93
Date Analyzed : 08/10/93

Anametrix I.D. : MG1011F1
Analyst : CMB
Supervisor : os
Date Released : 08/16/93
Instrument I.D.: HP9

COMPOUND	SPIKE AMT (mg/Kg)	REC LCS (mg/Kg)	% REC LCS	% REC LIMITS
DIESEL	125	97	78%	48-113
SURROGATE			71%	30-130

*Limits established by Anametrix, Inc.

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : SOIL
Date Sampled : N/A
Date Analyzed : 08/12/93

Anametrix I.D. : MG1102E1
Analyst : cmb
Supervisor : cs
Date Released : 08/16/93
Instrument I.D.: HP12

COMPOUND	SPIKE AMT. (mg/Kg)	REC LCS (mg/Kg)	%REC LCS	% REC LIMITS
GASOLINE	0.50	0.48	96%	58-130
p-BFB			104%	53-147

* Quality control established by Anametrix, Inc.

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308122
Date Received : 08/10/93
Project ID : 1649.15
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9308122- 1	SB-8-9.5	SOIL	08/08/93	5520EF
9308122- 3	SB-8-14.5	SOIL	08/08/93	5520EF
9308122- 4	SB-1-7	SOIL	08/08/93	5520EF
9308122- 6	SB-1-14.5	SOIL	08/08/93	5520EF
9308122- 8	SB-5-7	SOIL	08/08/93	5520EF
9308122- 9	SB-5-14.5	SOIL	08/08/93	5520EF
9308122-10	SB-6-9.5	SOIL	08/08/93	5520EF
9308122-13	SB-6-14.5	SOIL	08/08/93	5520EF
9308122-14	SB-17-4.5	SOIL	08/09/93	5520EF
9308122-15	SB-17-7	SOIL	08/09/93	5520EF
9308122-16	SB-17-12	SOIL	08/09/93	5520EF

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308122
Date Received : 08/10/93
Project ID : 1649.15
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Department Supervisor — Date: 8/12/93

Chemist — Date: 8/12/93

ANALYSIS DATA SHEET - TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
AS OIL AND GREASE
ANAMETRIX LABORATORIES (408) 432-8192

Project # : 1649.15
Matrix : SOIL
Date sampled : 08/08&09/93
Date extracted: 08/10/93
Date analyzed : 08/11/93

Anametrix I.D. : 9308122
Analyst : HG
Supervisor : TS
Date released : 08/12/93

Workorder #	Sample I.D.	Reporting Limit (mg/Kg)	Amount Found (mg/Kg)
9308122-01	SB-8-9.5	30	130
9308122-03	SB-8-14.5	30	37
9308122-04	SB-1-7	30	290
9308122-06	SB-1-14.5	30	60
9308122-08	SB-5-7	30	37
9308122-09	SB-5-14.5	30	93
9308122-10	SB-6-9.5	30	67
9308122-13	SB-6-14.5	30	ND
9308122-14	SB-17-4.5	30	70
9308122-15	SB-17-7	30	50
9308122-16	SB-17-12	30	47
BG10H2W9	METHOD BLANK	30	ND

ND - Not detected above the reporting limit for the method.
TRPH - Total Recoverable Petroleum Hydrocarbons are determined by Standard Method 5520EF, 18th edition.

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

MATRIX SPIKE REPORT - TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
AS OIL AND GREASE
ANAMETRIX LABORATORIES (408) 432-8192

Sample I.D. : 1649.15, SB-17-12MS, MD
Matrix : SOIL
Date sampled : 08/09/93
Date extracted : 08/10/93
Date analyzed : 08/11/93

Anametrix I.D. : 9308122-16
Analyst : GE
Supervisor : JS
Date Released : 08/12/93

COMPOUND	SPIKE AMT (mg/Kg)	SAMPLE CONC (mg/Kg)	MS AMT (mg/Kg)	%REC MS	MD AMT (mg/Kg)	%REC MD	%RPD	% REC LIMITS
Motor Oil	300	47	320	91%	320	91%	0%	48-114%

* Quality control limits established by Anametrix Laboratories.

TRPH - Total Recoverable Petroleum Hydrocarbons are determined by Standard Method 5520EF, 18th edition.

LAB CONTROL SAMPLE REPORT - TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
AS OIL AND GREASE
ANAMETRIX LABORATORIES (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : SOIL
Date sampled : N/A
Date extracted : 08/10/93
Date analyzed : 08/11/93

Anametrix I.D. : MG10H2W9
Analyst : HG
Supervisor : TS
Date Released : 08/12/93

COMPOUND	SPIKE AMT. (mg/Kg)	LCS (mg/Kg)	%REC LCS	%REC LIMITS
Motor Oil	300	290	97%	71-119%

* Quality control established by Anametrix Laboratories.

TRPH - Total Recoverable Petroleum Hydrocarbons are determined by Standard Method 5520EF.

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

10:2? 9.D.

Project No.: 1649.15	Field Logbook No.:
Date: 8/9/93	Serial No.: 11040
Project Name: Yerba Buena	Project Location: Emeryville
Sampler (Signature): Robin Barber	Samplers: RWB, WBM

SAMPLES / ANALYSES

Line 1, first analyses column: 8240 EPA 601 → 8270 (changed), 8/11/93 CVR per Cindy Barclay

	SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CON-TAINERS	SAMPLE TYPE	8240 EPA 601 / 8270	PCBs 8080	TPH g 5030	TPH d 3510	BTEX 8020	O&G Std. 5520 EF	HOLD	RUSH	REMARKS
1	SB-8-9.5	8/8			1-Brass	Soil			X	X	X	X			48 hour turnaround time
2	SB-8-12	8/8			↓	↓			X	X	X	X	X		Proj. Manager: Cindy Barkeley
3	SB-8-14.5	8/8							X	X	X	X			
4	SB-1-7	8/8							X	X	X	X			* {VOCs Method 8240 and
5	SB-1-9.5	8/8							X	X	X	X	X ← Moved to 9308222		SVOCs Method 8270
6	SB-1-14.5	8/8							X	X	X	X			Taken off hold 8/13/93 per Cindy Barclay CVR
7	SB-5-4.5	8/8							X	X	X	X	X		
8	SB-5-7	8/8							X	X	X	X			Please report hydrocarbon
9	SB-5-14.5	8/8							X	X	X	X			chain lengths per Cindy
10	SB-6-9.5	8/8							X	X	X	X			Barclay. 8/11/93 CVR
11	SB-6-12	8/8							X	X	X	X	X		
12	SB-6-7	8/8							X	X	X	X	X		
13	SB-6-14.5	8/8							X	X	X	X			
14	SB-17-4.5	8/9					X	X	X	X		X			
15	SB-17-7	8/9					X	X	X	X		X			
16	SB-17-12	8/9			↓	↓	X	X	X	X		X			

RELINQUISHED BY: (Signature) Robin Barber	DATE 8/9/93	TIME 6:42	RECEIVED BY: (Signature) Matthew Cloud	DATE 8/9/93	TIME 1842
RELINQUISHED BY: (Signature) Matthew Cloud	DATE 8/10/93	TIME 0825	RECEIVED BY: (Signature) Benny S. Carrizosa	DATE 8/10/93	TIME 0825
RELINQUISHED BY: (Signature) Benny S. Carrizosa	DATE 8/10/93	TIME 0925	RECEIVED BY: (Signature) Josephine DeCarli	DATE 8/10/93	TIME 09:25
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

Sample Collector:

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

Analytical Laboratory: Anametrix

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

FORM NO. 86/COC/ARF

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 1649.15	Field Logbook No.:	Date: 8/9/93	Serial No.: 11040
Project Name: Yerba Buena	Project Location: Emeryville		
Sampler (Signature): Robin Barber			Samplers: RWB, WBM

SAMPLES / **ANALYSES**

	SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CON-TAINERS	SAMPLE TYPE	~~EPA 601~~ 8240 8270	PCBs 8080	TPHg 5030	TPHd 3510	BTEX 8020	O&G Std. 5520 EF	HOLD	RUSH	REMARKS
1	SB-8-9.5	8/8			1-Brass	Soil	8240 8270 11/10/93 CVR per Cindy Barclay		X	X	X	X			48 hour turnaround time
2	SB-8-12	8/8			↓	↓			X	X	X	X	X		Proj. Manager: Cindy Barkeley
3	SB-8-14.5	8/8							X	X	X	X			
4	SB-1-7	8/8							X	X	X	X			* {VOCs Method 8240 and
5	SB-1-9.5	8/8							X	X	X	X	X		← Moved to {SVOCs Method 8270
6	SB-1-14.5	8/8							X	X	X	X			9308222 Taken off hold 8/13/93 per Cindy Barclay CVR
7	SB-5-4.5	8/8							X	X	X	X	X		
8	SB-5-7	8/8							X	X	X	X			Please report hydrocarbon
9	SB-5-14.5	8/8							X	X	X	X			chain lengths per Cindy
10	SB-6-9.5	8/8							X	X	X	X			Barclay. 8/11/93 CVR
11	SB-6-12	8/8							X	X	X	X	X		
12	SB-6-7	8/8							X	X	X	X	X		
13	SB-6-14.5	8/8							X	X	X	X			
14	SB-17-4.5	8/9					X	X	X	X		X			
15	SB-17-7	8/9					X	X	X	X		X			
16	SB-17-12	8/9			↓	↓	X	X	X	X		X			

RELINQUISHED BY: (Signature) Robin Barber	DATE 8/9/93	TIME 6:42	RECEIVED BY: (Signature) Matthew Cloud	DATE 8/9/93	TIME 842
RELINQUISHED BY: (Signature) Matthew Cloud	DATE 8/10/93	TIME 0825	RECEIVED BY: (Signature) Benny S. Carrizosa	DATE 8/10/93	TIME 0825
RELINQUISHED BY: (Signature) Benny S. Carrizosa	DATE 8/10/93	TIME 0925	RECEIVED BY: (Signature) Josephine DeCarli	DATE 8/10/93	TIME 09:25
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

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

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

APPENDIX E

LABORATORY CERTIFICATES FOR GROUND-WATER SAMPLES

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 # : 9308110
Date Received : 08/09/93
Project ID : 1649.15
Purchase Order: N/A

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

ANAMETRIX ID	CLIENT SAMPLE ID
9308110- 1	LF-1AG
9308110- 2	LF-2AG
9308110- 3	LF-3AG

This report consists of 12 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

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

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

Sarah Schoen, Ph.D.
Laboratory Director

8-16-93
Date

AUG 17 1993

COPY

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

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

Workorder # : 9308110
Date Received : 08/09/93
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
9308110- 1	LF-1AG	WATER	08/07/93	TPHd
9308110- 2	LF-2AG	WATER	08/07/93	TPHd
9308110- 3	LF-3AG	WATER	08/07/93	TPHd
9308110- 1	LF-1AG	WATER	08/07/93	TPHgBTEX
9308110- 2	LF-2AG	WATER	08/07/93	TPHgBTEX
9308110- 3	LF-3AG	WATER	08/07/93	TPHgBTEX

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

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

Workorder # : 9308110
Date Received : 08/09/93
Project ID : 1649.15
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Department Supervisor 8/13/93 Date

Chemist 8/13/93 Date

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

Anametrix W.O.: 9308110
Matrix : WATER
Date Sampled : 08/07/93

Project Number : 1649.15
Date Released : 08/13/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# LF-1AG -01	Sample I.D.# LF-2AG -02	Sample I.D.# LF-3AG -03	Sample I.D.# BG1001E2 BLANK	Sample I.D.# BG1101E2 BLANK
Benzene	0.5	13000	2400	1500	ND	ND
Toluene	0.5	9400	2900	170	ND	ND
Ethylbenzene	0.5	3100	500	2900	ND	ND
Total Xylenes	0.5	14000	2000	5100	ND	ND
TPH as Gasoline	50	100000	13000	11000	ND	ND
% Surrogate Recovery		98%	102%	79%	95%	92%
Instrument I.D.		HP4	HP4	HP4	HP4	HP4
Date Analyzed		08/11/93	08/10/93	08/11/93	08/10/93	08/11/93
RLMF		1000	100	100	1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as C4-C12 are determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 61-139%.

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

Lucia Shor 8/13/93
Analyst Date

Cheryl Baemer 8/13/93
Supervisor Date

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

Anametrix W.O.: 9308110
Matrix : WATER
Date Sampled : 08/07/93
Date Extracted: 08/09/93

Project Number : 1649.15
Date Released : 08/13/93
Instrument I.D.: HP23

Anametrix I.D.	Client I.D.	Date Analyzed	Surrogate %Rec	Reporting Limit (ug/L)	Amount Found (ug/L)
9308110-01	LF-1AG	08/11/93	73%	2500	41000
9308110-02	LF-2AG	08/11/93	49%	50	95
9308110-03	LF-3AG	08/11/93	47%	250	780
BG0911F1	METHOD BLANK	08/10/93	53%	50	ND

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 are determined by GCFID following sample extraction by EPA Method 3510.

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

Analyst 8/13/93 Date

Supervisor 8/13/93 Date

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

Anametrix W.O.: 9308110
Matrix : WATER
Date Sampled : 08/07/93
Date Extracted: 08/09/93

Project Number : 1649.15
Date Released : 08/13/93
Instrument I.D.: HP23

Anametrix I.D.	Client I.D.	Date Analyzed	Surrogate %Rec	Reporting Limit (ug/L)	Amount Found (ug/L)
9308110-01	LF-1AG	08/11/93	73%	2500	ND
9308110-02	LF-2AG	08/11/93	49%	50	ND
9308110-03	LF-3AG	08/11/93	47%	250	ND
BG0911F1	METHOD BLANK	08/10/93	53%	50	ND

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 are determined by GCFID following sample extraction by EPA Method 3510.

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

Reggie Dawson 8/16/93
Analyst Date

Cheryl Balmer 8/16/93
Supervisor Date

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: MG1002E1
Matrix	: WATER	Analyst	: IS
Date Sampled	: N/A	Supervisor	:
Date Analyzed	: 08/11/93	Date Released	: 08/13/93
		Instrument I.D.	: HP4

COMPOUND	SPIKE AMT. (ug/L)	REC LCS (ug/L)	%REC LCS	% REC LIMITS
GASOLINE	500	390	78%	67-127
p-BFB			96%	61-139

* Quality control established by Anametrix, Inc.

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: MG1101E1
Matrix	: WATER	Analyst	: TS
Date Sampled	: N/A	Supervisor	: GY
Date Analyzed	: 08/11/93	Date Released	: 08/13/93
		Instrument I.D.	: HP4

COMPOUND	SPIKE AMT. (ug/L)	REC LCS (ug/L)	%REC LCS	% REC LIMITS
GASOLINE	500	480	96%	67-127
p-BFB			114%	61-139

* Quality control established by Anametrix, Inc.

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: 08/09/93
Date Analyzed : 08/10/93

Anametrix I.D. : MG0911F1
Analyst : IS
Supervisor : CS
Date Released : 08/13/93
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	789	63%	785	63%	-1%	47-130
SURROGATE			57%		61%		30-130

*Quality control established by Anametrix, Inc.

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

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

Workorder # : 9308110
Date Received : 08/09/93
Project ID : 1649.15
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9308110- 1	LF-1AG	WATER	08/07/93	5520BF
9308110- 2	LF-2AG	WATER	08/07/93	5520BF
9308110- 3	LF-3AG	WATER	08/07/93	5520BF

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

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

Workorder # : 9308110
Date Received : 08/09/93
Project ID : 1649.15
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Department Supervisor 08/11/93 Date

Chemist 08.11.93 Date

ANALYSIS DATA SHEET - TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
ANAMETRIX LABORATORY (408) 432-8192

Project I.D. : 1649.15
Matrix : WATER
Date sampled : 08/07/93
Date extracted: 08/09/93
Date analyzed : 08/10/93

Anametrix I.D. : 9308110
Analyst : M.P
Supervisor : TS
Date released : 08/10/93

Workorder #	Sample I.D.	Reporting Limit (mg/L)	Amount Found (mg/L)
9308110-01	LF-1AG	5	11
9308110-02	LF-2AG	5	ND
9308110-03	LF-3AG	5	ND
BG0911W4	METHOD BLANK	5	ND

ND - Not detected above the reporting limit for the method.
TRPH - Total Recoverable Petroleum Hydrocarbons are determined by Standard Method 5520BF.

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

LAB CONTROL SAMPLE REPORT - TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
STANDARD METHOD 5520BF
ANAMETRIX LABORATORIES (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: MG0911W4
Matrix	: WATER	Analyst	: M-P.
Date sampled	: N/A	Supervisor	: TS
Date extracted	: 08/09/93	Date Released	: 08/10/93
Date analyzed	: 08/10/93		

COMPOUND	SPIKE AMT. (mg/L)	LCS (mg/L)	%REC LCS	LCSD (mg/L)	%REC LCSD	%RPD	%REC LIMITS
Motor Oil	50	48	96%	51	102%	6%	44-128%

* Quality control limits established by Anametrix Laboratories.

9308110 (18) 10/33 8.D. 13:00

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 1649.15	Field Logbook No.:	Date: 8/7/93	Serial No.: 11720
Project Name: YERBA BUENA	Project Location: EMERYVILLE, CA.		
Sampler (Signature):			Samplers: JCK

SAMPLES						ANALYSES									
SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	TPH-G 1	BTEX 2	TPH-D 3	O+G 4	HOLD	RUSH	REMARKS
(1) LF-1AG	8/7/93	18:45		7	H_2O			X	X	X	X			
(2) LF-2AG	"	14:50		"	"			X	X	X	X			
(3) LF-3AG	"	18:20		"	"			X	X	X	X			1 8015/8030
														2 8020
														3 8015/3510
														4 5520
														RESULTS TO JENNIFER BEATTY
														48 Hour Rush per Cristina 8/9/93 g.d.

RELINQUISHED BY: (Signature)	DATE 8/9/93	TIME 0955	RECEIVED BY: (Signature)	DATE 8/9/93	TIME 0955
RELINQUISHED BY: (Signature)	DATE 8/9/93	TIME 1050	RECEIVED BY: (Signature)	DATE 8/9/93	TIME 10:50
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

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

Analytical Laboratory:
ANALYTRIX
SAN JOSE, CA.

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

CEB

Inchcape Testing Services
Anametrix Laboratories

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308222
Date Received : 08/13/93
Project ID : 1649.15
Purchase Order: N/A

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

ANAMETRIX ID	CLIENT SAMPLE ID
9308222- 1	LF-1-9.5
9308222- 2	SB-10-7
9308222- 3	SB-2-9.5
9308222- 4	SB-9-9.5
9308222- 5	SB-1-9.5

This report consists of 14 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

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

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

Sarah Schoen, Ph.D.
Laboratory Director

08-20-93
Date

COPY

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308222
Date Received : 08/13/93
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
9308222- 1	LF-1-9.5	SOIL	08/07/93	TPHd
9308222- 3	SB-2-9.5	SOIL	08/08/93	TPHd
9308222- 5	SB-1-9.5	SOIL	08/08/93	TPHd
9308222- 1	LF-1-9.5	SOIL	08/07/93	TPHgBTEX
9308222- 2	SB-10-7	SOIL	08/07/93	TPHgBTEX
9308222- 3	SB-2-9.5	SOIL	08/08/93	TPHgBTEX
9308222- 4	SB-9-9.5	SOIL	08/07/93	TPHgBTEX
9308222- 5	SB-1-9.5	SOIL	08/08/93	TPHgBTEX

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308222
Date Received : 08/13/93
Project ID : 1649.15
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Department Supervisor 8/19/93 Date

Chemist 19 August 93 Date

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

Anametrix W.O.: 9308222
Matrix : SOIL
Date Sampled : 08/07 & 08/93

Project Number : 1649.15
Date Released : 08/18/93

COMPOUNDS	Reporting Limit (mg/Kg)	Sample I.D.# LF-1-9.5 -01	Sample I.D.# SB-10-7 -02	Sample I.D.# SB-2-9.5 -03	Sample I.D.# SB-9-9.5 -04	Sample I.D.# SB-1-9.5 -05
Benzene	0.005	0.97	2.6	2.4	14	0.89
Toluene	0.005	ND	4.5	5.2	81	1.1
Ethylbenzene	0.005	6.6	1.6	14	26	4.3
Total Xylenes	0.005	8.9	7.7	59	140	18
TPH as Gasoline	0.5	470	73	720	1200	180
% Surrogate Recovery		85%	95%	85%	85%	78%
Instrument I.D.		HP4	HP4	HP4	HP4	HP4
Date Analyzed		08/17/93	08/17/93	08/17/93	08/17/93	08/16/93
RLMF		100	10	100	250	25

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as C4-C12 are determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

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

Analyst 19 Aug 93 Date

Supervisor 8/19/93 Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9308222
Matrix : SOIL
Date Sampled : N/A

Project Number : 1649.15
Date Released : 08/18/93

COMPOUNDS	Reporting Limit (mg/Kg)	Sample I.D.# BG1601E2 BLANK	Sample I.D.# BG1701E2 BLANK
Benzene	0.005	ND	ND
Toluene	0.005	ND	ND
Ethylbenzene	0.005	ND	ND
Total Xylenes	0.005	ND	ND
TPH as Gasoline	0.5	ND	ND
% Surrogate Recovery		93%	99%
Instrument I.D.		HP4	HP4
Date Analyzed		08/16/93	08/17/93
RLMF		1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as C4-C12 are determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

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

Analyst 19 August 93 Date

Supervisor Date

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

Anametrix W.O.: 9308222
Matrix : SOIL
Date Sampled : 08/07 & 08/93
Date Extracted: 08/16/93

Project Number : 1649.15
Date Released : 08/18/93
Instrument I.D.: HP19

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (mg/Kg)	Amount Found (mg/Kg)	Surrogate %Rec
9308222-01	LF-1-9.5	08/17/93	10	18	58%
9308222-03	SB-2-9.5	08/17/93	50	200	41%
9308222-05	SB-1-9.5	08/17/93	50	220	42%
BG16H1F1	METHOD BLANK	08/17/93	10	ND	68%

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 are determined by GCFID following sample extraction by EPA Method 3510.

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

Analyst 19 August 93
Date

Supervisor 8/19/93
Date

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

Anametrix W.O.: 9308222
Matrix : SOIL
Date Sampled : 08/07 & 08/93
Date Extracted: 08/16/93

Project Number : 1649.15
Date Released : 08/18/93
Instrument I.D.: HP19

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (mg/Kg)	Amount Found (mg/Kg)	Surrogate %Rec
9308222-01	LF-1-9.5	08/17/93	10	ND	58%
9308222-03	SB-2-9.5	08/17/93	50	ND	41%
9308222-05	SB-1-9.5	08/17/93	50	ND	42%
BG16H1F1	METHOD BLANK	08/17/93	10	ND	68%

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 are determined by GCFID following sample extraction by EPA Method 3510.

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

Analyst 19 August 93 Date

Supervisor 8/19/93 Date

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

Sample I.D. : LAB CONTROL SAMPLE
Matrix : SOIL
Date Sampled : N/A
Date Analyzed : 08/17/93

Anametrix I.D. : MG1701E1
Analyst : [signature]
Supervisor : [signature]
Date Released : 08/19/93
Instrument I.D.: HP4

COMPOUND	SPIKE AMT (mg/Kg)	LCS REC (mg/Kg)	% REC LCS	LCSD REC (mg/Kg)	% REC LCSD	RPD	% REC LIMITS
GASOLINE	0.50	0.48	96%	0.42	84%	-13%	58-130
SURROGATE			90%		93%		53-147

*Quality control established by Anametrix, Inc.

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/PID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : SOIL
Date Sampled : N/A
Date Analyzed : 08/16/93

Anametrix I.D. : MG1601E3
Analyst : [signature]
Supervisor : [signature]
Date Released : 08/19/93
Instrument ID : HP4

COMPOUND	SPIKE AMT (mg/Kg)	LCS (mg/Kg)	%REC LCS	%REC LIMITS
BENZENE	0.020	0.019	95%	52-133
TOLUENE	0.020	0.021	105%	57-136
ETHYLBENZENE	0.020	0.020	100%	56-139
TOTAL-XYLENES	0.020	0.020	100%	56-141
P-BFB			94%	53-147

* Quality control limit 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: 08/16/93
Date Analyzed : 08/17/93

Anametrix I.D. : MG16H1F1
Analyst : [illegible]
Supervisor : [illegible]
Date Released : 08/19/93
Instrument I.D.: HP19

COMPOUND	SPIKE AMT (mg/Kg)	REC LCS (mg/Kg)	% REC LCS	% REC LIMITS
DIESEL	125	118	94%	48-113
SURROGATE			71%	30-130

*Limits established by Anametrix, Inc.

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308222
Date Received : 08/13/93
Project ID : 1649.15
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9308222- 1	LF-1-9.5	SOIL	08/07/93	5520EF
9308222- 3	SB-2-9.5	SOIL	08/08/93	5520EF
9308222- 5	SB-1-9.5	SOIL	08/08/93	5520EF

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

MS. CINDY BARCLAY
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9308222
Date Received : 08/13/93
Project ID : 1649.15
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Department Supervisor 8/17/93 Date

Chemist 08.17.93 Date

ANALYSIS DATA SHEET - TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
AS OIL AND GREASE
ANAMETRIX LABORATORIES (408) 432-8192

Project # : 1649.15
Matrix : SOIL
Date sampled : 08/07&08/93
Date extracted: 08/16/93
Date analyzed : 08/17/93

Anametrix I.D. : 9308222
Analyst : M.P
Supervisor : On
Date released : 08/18/93

Workorder #	Sample I.D.	Reporting Limit (mg/Kg)	Amount Found (mg/Kg)
9308222-01	LF-1-9.5	30	ND
9308222-03	SB-2-9.5	30	210
9308222-05	SB-1-9.5	30	130
BG16H1W9	METHOD BLANK	30	ND

ND - Not detected above the reporting limit for the method.
TRPH - Total Recoverable Petroleum Hydrocarbons are determined by Standard Method 5520EF, 18th edition.

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

MATRIX SPIKE REPORT - TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
AS OIL AND GREASE
ANAMETRIX LABORATORIES (408) 432-8192

Sample I.D.	: 1649.15, LF-1-9.5MS, MD	Anametrix I.D.	: 9308222-01
Matrix	: SOIL	Analyst	: M.P
Date sampled	: 08/07/93	Supervisor	:
Date extracted	: 08/16/93	Date Released	: 08/17/93
Date analyzed	: 08/17/93		

COMPOUND	SPIKE AMT (mg/Kg)	SAMPLE CONC (mg/Kg)	MS AMT (mg/Kg)	%REC MS	MD AMT (mg/Kg)	%REC MD	%RPD	% REC LIMITS
Motor Oil	300	ND	290	97%	300	100%	3%	48-114%

Quality control limits established by Anametrix Laboratories.

TRPH - Total Recoverable Petroleum Hydrocarbons are determined by Standard Method 5520EF, 18th edition.

LAB CONTROL SAMPLE REPORT - TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
AS OIL AND GREASE
ANAMETRIX LABORATORIES (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: MG16H1W9
Matrix	: SOIL	Analyst	: M.P.
Date sampled	: N/A	Supervisor	:
Date extracted	: 08/16/93	Date Released	: 08/17/93
Date analyzed	: 08/17/93		

COMPOUND	SPIKE AMT. (mg/Kg)	LCS (mg/Kg)	%REC LCS	%REC LIMITS
Motor Oil	300	300	100%	71-119%

* Quality control established by Anametrix Laboratories.

TRPH - Total Recoverable Petroleum Hydrocarbons are determined by Standard Method 5520EF.

ACHIEVE II
Environmental & Analytical Chemistry
1961 Concourse Drive, Suite E, San Jose, CA 95131
(408) 432-8192 • Fax (408) 432-8198

PO: 130822

CHAIN-OF-CUSTODY RECORD

PROJECT NUMBER	PROJECT NAME
1649.15	

Send Report Attention of:	Report Due	Verbal Due
Cindy Barclay	8/17/93	/ /

	Sample Number	Date	Time	Comp	Matrix	Station Location	Number of Cntnrs	Type of Containers	Type of Analysis: TPHg BTEX	Type of Analysis: TPHd	Type of Analysis: 5520 BEF	Condition of Samples	Initial
(1)	LF-1-9.5				S		1	BL	X	X	X		
(2)	SB-10-7				↓		↓	↓	X				
(3)	SB-2-9.5				↓		↓	↓	X	X	X		
(4)	SB-9-9.5				↓		↓	↓	X				
(5)	SB-1-9.5				↓		↓	↓	X	X	X		

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Kristina V. Kapuna	8/13/93	Josephine DeCuli	8/13/93
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Date/Time	Received by Lab:	Date/Time

Remarks: 2-day rush. Samples taken off hold per Cindy Barclay. CVR

COMPANY: LEVINE-FRICKE
ADDRESS:
PHONE :
FAX :