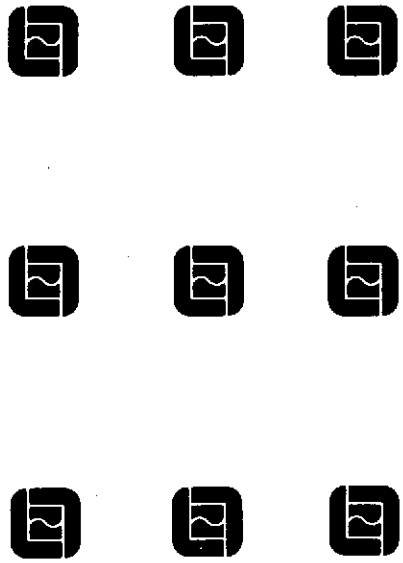

Combined
Soil and Ground-Water Investigation Report and
Quarterly Monitoring Report for the
Period from January 1 through March 31, 1993
Former Bashland Property
Emeryville, California

April 5, 1993
1649.10

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

LEVINE·FRICKE

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

April 5, 1993 LF 1649.10

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

Subject: Combined Soil and Ground-Water Investigation Report and Quarterly Monitoring Report for the Period from January 1 through March 31, 1993, Former Bashland Property, Yerba Buena Project Site, Emeryville, California

Dear Ms. Hugo:

Enclosed is the combined soil and ground-water investigation report and quarterly monitoring report for the period from January 1 through March 31, 1993, for the former Bashland property, located in Emeryville, California.

This report has been prepared on behalf of Catellus Development Corporation for the redevelopment project at the Yerba Buena Project Site, in accordance with Levine•Fricke's work plan dated December 15, 1992, which was conditionally approved by the Alameda Health Care Services Agency (ACHA). The enclosed report describes field activities conducted and presents the analytical results for soil and ground-water samples collected during investigation and monitoring activities.

The work conducted during the first quarter of 1993 (January through March) included the installation, development, and sampling of monitoring well LF-31, and the collection of soil samples for chemical analysis from beneath the retaining wall, formerly located along the northern edge of the former tank excavation/property line.

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

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

Sincerely,

Jenifer Beatty

Jenifer Beatty
Project Hydrogeologist

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

1649/A93BASH.QNR/NAS

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April 5, 1993 LF 1649.10

**COMBINED
SOIL AND GROUND-WATER INVESTIGATION REPORT
AND QUARTERLY MONITORING REPORT FOR THE PERIOD
FROM JANUARY 1 THROUGH MARCH 31, 1993
FORMER BASHLAND PROPERTY, EMERYVILLE, CALIFORNIA**

1.0 INTRODUCTION

This report describes field activities and presents analytical results for work conducted at the former Bashland property ("Bashland") located at 4015 Hollis Street in Emeryville, California (Figure 1). Work conducted at Bashland during the first quarter of 1993 (January through March) included collecting soil samples for chemical analysis from beneath the retaining wall located north of the former tank excavation, as shown in Figure 2, and installing, developing, and sampling shallow monitoring well LF-31, located just downgradient from the former underground storage tanks. All work was conducted by Levine·Fricke on behalf of Catellus Development Corporation in accordance with the work plan dated December 15, 1992 (Levine·Fricke 1992), and verbally approved by Ms. Susan Hugo of the Alameda County Health Care Services Agency (ACHA) in January 1993.

2.0 BACKGROUND AND PREVIOUS INVESTIGATIONS

Between March 23 and May 7, 19[redacted] underground fuel underground storage tanks were removed from Bashland by Trumpp Brothers, Inc., of San Jose, California, under permits from the City of Emeryville (permit number B-4278-492), the Emeryville Fire Department (EFD), and the ACHA. Ms. Susan Hugo, Senior Hazardous Materials Specialist of the ACHA, Mr. Ron Owcarz, Hazardous Specialist of the ACHA, and a representative of the EFD were on site to observe tank removal and soil sampling activities. [redacted] two of the three tanks removed.

Chemical analysis results for soil samples collected from the excavation sidewalls indicated low concentrations (below detection limits to 2 parts per million [ppm]) of petroleum product or associated constituents. Total petroleum hydrocarbons as oil (TPHo) were detected in one of the floor samples at a concentration of 1,500 ppm but were below

laboratory detection limits in the other samples. Based on these results, the excavation was backfilled using 3/4-inch drain rock and clean imported fill material on May 6 and 7, 1992, upon approval of the ACHA.

3.0 SOIL AND GROUND-WATER INVESTIGATION

On February 1, 1993, the retaining wall located along the northern edge of the former tank excavation was removed. Samples of the soil beneath the former retaining wall were collected to evaluate the possible presence of petroleum hydrocarbons in the area. The field method used to collect the samples and the results of soil sampling activities are discussed in Section 3.1.

Shallow ground-water monitoring well LF-31 was installed downgradient and within 10 feet of the former underground storage tank locations on February 8, 1993, to assess whether a possible release of petroleum hydrocarbons has impacted shallow ground water in the vicinity of the former tanks. The methods used to install, develop, and sample well LF-31 are presented in Section 3.2.

Following well installation, a quarterly monitoring program was implemented at Bashland in accordance with Levine·Fricke's work plan dated December 15, 1992 (Levine·Fricke 1992). Quarterly monitoring activities are presented in Section 4.0.

3.1 Collection of Soil Samples from Beneath the Retaining Wall Located North of the Former Tank Excavation

Ms. Susan Hugo of the ACHA was notified 48 hours before the retaining wall was to be removed. Ms. Hugo stopped by the site briefly on February 1, 1993, to observe field activities. After the wall was removed, a Levine·Fricke geologist collected soil samples from the area where the wall had been located, using a hand-driven sampler lined with clean brass tubes. The ends of the brass tubes were covered with aluminum foil or Teflon tape, capped with tight-fitting plastic end caps, and appropriately labeled. Soil samples were placed into an ice-chilled cooler for transportation to the analytical laboratory under strict chain-of-custody protocol.

Five soil samples were submitted for analysis of TPH as gasoline (TPHg) and benzene, toluene, ethylbenzene, and xylenes (BTEX) using modified EPA Methods 8015/8020; TPH as diesel (TPHd) using EPA Method 3510; oil and grease (O&G)

using Standard Method 5520e; and for volatile organic compounds (VOCs) using EPA Method 8010. Laboratory data sheets are presented in Appendix A.

Analytical results for soil are presented in Table 1. As shown in Table 1, analytical results do not indicate the presence of TPHg or BTEX above laboratory detection limits in the five samples submitted for analysis. No VOCs were detected in any of the samples analyzed, with the exception of methylene chloride, which was detected at concentrations of 2.4 parts per billion (ppb) or less. However, the QA/QC summary prepared by the analytical laboratory indicates that these concentrations of methylene chloride are within normal laboratory background concentrations.

Diesel [redacted] detected in only one sample at a low concentration [redacted] and O&G was detected in all five samples at a concentration [redacted] ppm or less. These concentrations are well below the cleanup goals for the Yerba Buena Project Site of 100 ppm for diesel an[redacted] for O&G.

3.2 Installation of Monitoring Well LF-31

Monitoring well LF-31 is located downgradient from the former underground storage tank, as shown on Figure 2. Field methods used during well installation are discussed below.

Borehole Drilling. Before drilling began, the appropriate permits were obtained from the Alameda County Flood Control and Water Conservation District, Zone 7.

Drilling activities were conducted under the supervision of a California Registered Geologist. The borehole for the monitoring well was drilled by a licensed well drilling contractor using a truck-mounted drilling rig equipped with 10-inch outside-diameter hollow augers. Ground water was first encountered in the borehole at approximately 9.5 feet below the ground surface (bgs) and the well was completed at a depth of 20 feet bgs.

Soil samples were collected for lithologic description at 2.5-foot-depth intervals by driving a brass-tube-lined split-spoon sampler ahead of the auger into undisturbed soil. Sediments encountered during drilling consisted primarily of gravelly silty clays to silty clays or clayey silts. All downhole drilling and sampling equipment was steam cleaned before use.

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

No OVM measurements above background readings were recorded during drilling and no evidence of staining was observed. In a telephone conversation between Levine·Fricke and Ms. Susan Hugo of the ACHA, it was agreed that one soil sample would be collected for chemical analysis from just above the groundwater interface. However, due to administrative error, no soil samples were submitted for chemical analysis.

Well Construction. Monitoring well LF-31 was constructed of flush-threaded, 4-inch-diameter polyvinyl chloride (PVC) casing with factory-made slotted well screen (0.02-inch-wide slots). The screened interval in the well extends from 5 to 20 feet bgs.

A filter pack consisting of Number 3 Monterey sand was poured into the annular space between the hollow auger and the slotted PVC well casing as the auger was gradually removed from the borehole. The filter pack extends approximately 1 foot above the top of the slotted PVC casing. Prehydrated bentonite slurry was placed above the sand pack to isolate the perforated interval from material above and prevent the entrance of grout into the sand pack. A cement-bentonite grout was then placed above the bentonite to the land surface to seal the remainder of the borehole interval from surface-water infiltration. The well was completed above grade with a locking cap and a steel field monument set in concrete to protect the well from surface water and damage.

4.0 QUARTERLY MONITORING ACTIVITIES CONDUCTED DURING THE PERIOD JANUARY 1 THROUGH MARCH 31, 1993

A quarterly monitoring program has been implemented at Bashland in accordance with Levine·Fricke's work plan dated December 15, 1992 (Levine·Fricke 1992). The activities conducted and the results obtained are presented below.

4.1 Collection of Water-Level Measurements

The top-of-casing elevation of newly installed monitoring well LF-31 was surveyed to the nearest 0.01 foot by Nolte Associates of Walnut Creek, California, a licensed surveyor. Depth to water was measured in well LF-31 on February 9, 1993,

in conjunction with water-level measurements for all existing wells at the Yerba Buena Project Site. Depth to water was measured using an electric water-level sounding probe to the nearest 0.01 foot, relative to the top of the PVC well casing. The depth to water measured in well LF-31 on February 9, 1993, was 4.85 feet bgs.

4.2 Well Development and Sampling

Well LF-31 was developed on February 12, 1993, by overpumping and surging the well to remove sediment from around the screened interval and enhance hydraulic communication with the surrounding formation. Approximately 10 well casing volumes of ground water were removed from the well using a centrifugal pump. Parameters such as pH, temperature, specific conductance, quantity, and clarity of water withdrawn were measured and recorded during this process. Water quality sampling sheets are included in Appendix C.

Ground-water samples were collected immediately following well development using a clean Teflon bailer. Samples collected for analysis of TPH as gasoline (TPHg) and benzene, toluene, ethylbenzene, and xylenes (BTEX) were placed into laboratory-supplied, 40-milliliter glass vials preserved with hydrochloric acid. The glass vials were filled to capacity, capped, and checked for trapped air bubbles. If an air bubble was observed, the vial was discarded and a new vial filled with additional water from the well. Samples collected for TPH as diesel (TPHd) and oil and grease (O&G) analyses were poured into laboratory-supplied 1-liter amber bottles. Samples were placed in an ice-chilled cooler immediately after collection for transportation under chain-of-custody protocols to a state-certified laboratory for appropriate chemical analysis.

4.3 Laboratory Analysis

Ground-water samples were submitted to Anametrix Inc., of San Jose, California, a state-certified laboratory, and analyzed using modified EPA Method 8015 for TPHg and TPHd, Standard Method 5520 for O&G, EPA Method 8020 for BTEX, EPA Method 8270 for semivolatile organic compounds (SVOCs), and EPA Method 6010 for lead, nickel, cadmium, zinc, and chromium.

4.4 Results of Monitoring Activities

Ground-water elevation measurements for Bashland and vicinity are included on Figure 3, which presents ground-water elevation data and ground-water elevation contours for the

entire Yerba Buena Project Site. Depth-to-water measurements collected on February 9, 1993, indicate that shallow ground-water flow beneath Bashland is to the southwest, with an average hydraulic gradient of approximately 0.01 ft/ft. These results are consistent with ground-water flow direction previously reported for this area of the Site.

Analytical results for ground-water samples collected from newly installed well LF-31 do not indicate the presence of TPHg, BTEX, O&G, cadmium, chromium, nickel, lead or zinc. TPHd was detected at a concentration of 0.056 ppm, which is only 0.006 ppm above the laboratory detection limit. Bisphthalate, an SVOC, was detected at a concentration of 0.008 ppm, which is below the reporting limit of 0.010 ppm for this compound. Based on conversations with Anametrix, bisphthalate is a common laboratory contaminant and the concentration detected in this sample likely is the result of laboratory error. Laboratory certificates for ground-water samples are presented in Appendix D.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results indicate that soil beneath the retaining wall formerly located north of the tank excavation at Bashland has not been significantly affected by petroleum hydrocarbons. Therefore, it appears that petroleum-affected soil in the vicinity of former well LF-9 and the former underground storage tanks has been successfully removed and no further investigation in the tank area is recommended.

Analytical results for ground-water samples collected from well LF-31, located within 10 feet downgradient from the former underground storage tank locations, indicate that shallow ground water has not been significantly affected by a possible release of petroleum hydrocarbons at Bashland.

Well LF-31 will continue to be monitored on a quarterly basis to assess the potential future impact on shallow ground water beneath the property from a possible release of petroleum hydrocarbons. However, based on these initial ground-water quality results and analytical results for soil samples collected from the tank excavations in April 1992, it is recommended that ground-water samples only be analyzed for TPHd and O&G on a quarterly basis for a period of one year.

It is also recommended that ground-water samples collected from well LF-31 be analyzed for VOCs using EPA Method 8010 on a semiannual basis. This is recommended to monitor possible

concentrations of VOCs in shallow ground water that may have migrated on site from a known off-site VOC source located north of Bashland (i.e., the Electro-Coatings, Inc., site).

REFERENCES

Levine•Fricke, Inc. 1992. Work Plan to Install One Ground-Water Monitoring Well and Conduct Quarterly Monitoring, Bashland Property, Emeryville, California. December 15.

TABLE 1

ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED FROM BENEATH
THE RETAINING WALL LOCATED NORTH OF THE FORMER TANK EXCAVATION
FORMER BASHLAND PROPERTY, EMERYVILLE, CALIFORNIA
(results expressed in milligrams per kilograms [mg/kg])

Sample ID	Depth (ft bgs)	TPHg	TPHd	O & G	Benzene	Toluene	Ethyl-benzene	Xylenes
SS-1	4.5	<0.5	<10	30	<0.005	<0.005	<0.005	<0.005
SS-2	4.5	<0.5	<10	50	<0.005	<0.005	<0.005	<0.005
SS-3	4.5	<0.5	<10	87	<0.005	<0.005	<0.005	<0.005
SS-4	4.5	<0.5	31	50	<0.005	<0.005	<0.005	<0.005
SS-6	4.5	<0.5	<10	100	<0.005	<0.005	<0.005	<0.005

Data entered by MEK/16-Mar-93. Data proofed by MEK/16-Mar-93. QA/QC by JJB/16-Mar-93.

NOTES

All soil samples also were analyzed for volatile organic compounds using EPA Method 8010 and semivolatile organic compounds using EPA Method 8270. Analytical results for these analyses are discussed in Section 4.4 of the report.

ft bgs = feet below ground surface.

mg/kg = milligrams per kilogram; equivalent to parts per million.

TPHg = Total petroleum hydrocarbons as gasoline; analyzed using Modified EPA Method 8015/5030.

TPHd = Total petroleum hydrocarbons as diesel; analyzed using EPA Method 3550.

O & G = Oil and grease; analyzed using Standard Method 5520EF.

Benzene, toluene, ethylbenzene, and xylenes analyzed using Modified EPA Method 8020/5030.

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

N

0 1/2 1 MILE

Figure 1 : SITE LOCATION MAP
BASHLAND PROPERTY SITE

Project No. 1649.08

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

1649.08M JS20MAY92dRYL

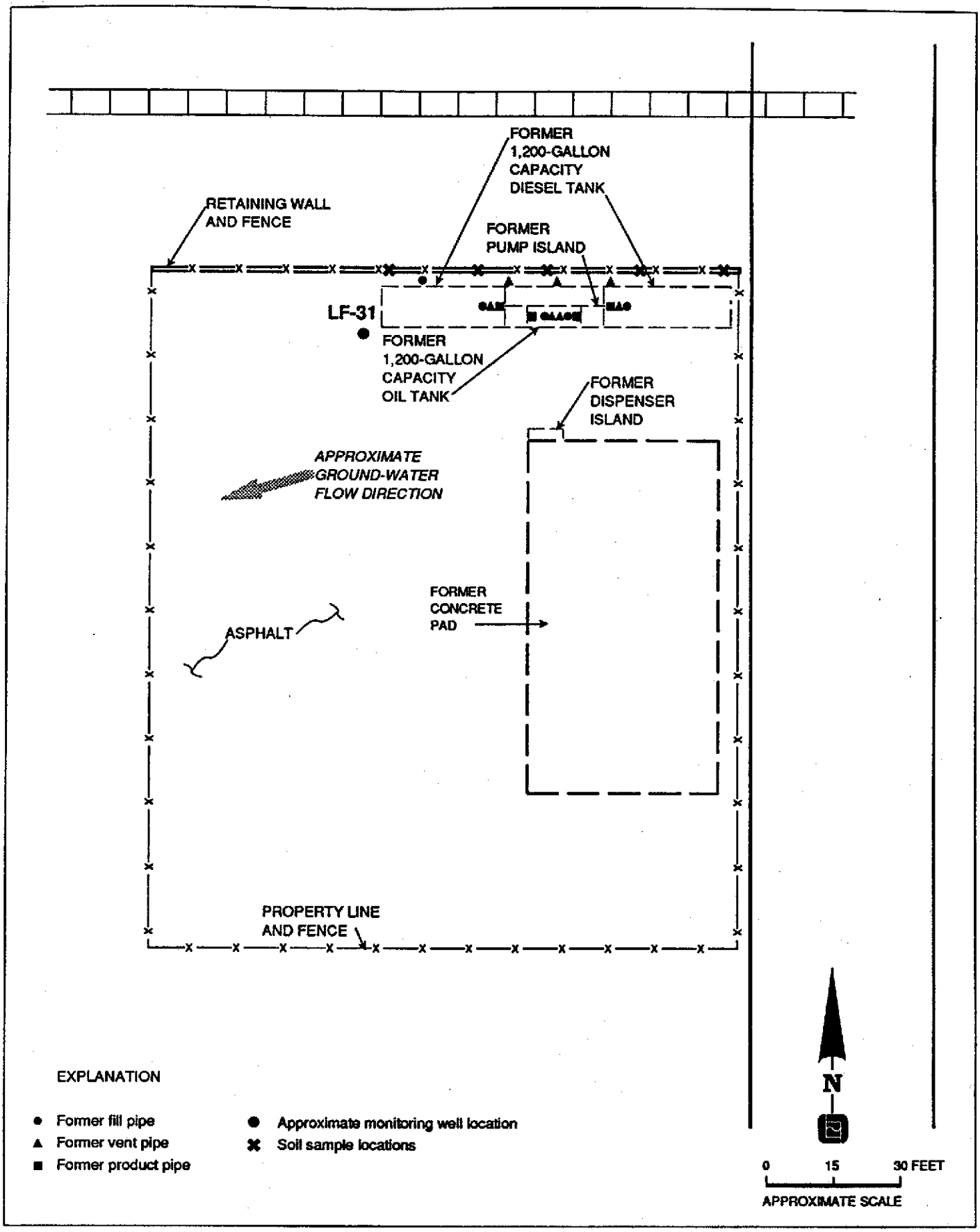


Figure 2: SITE PLAN SHOWING MONITORING WELL LF-31 AND SOIL SAMPLE LOCATIONS

ANAMETRIX INC
Environmental & Analytical Chemistry

Part of INCHCAPE ENVIRONMENTAL

REPORT

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

Workorder # : 9302007
Date Received : 02/01/93
Project ID : 1649.10
Purchase Order: N/A

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

ANAMETRIX ID	CLIENT SAMPLE ID
9302007- 1	SS-1-4.5
9302007- 2	SS-2-4.5
9302007- 3	SS-3-4.5
9302007- 4	SS-4-4.5
9302007- 5	SS-5-3
9302007- 6	SS-6-4.5
9302007- 7	SS-7-3
9302007- 8	SS-9-6.5

This report consists of 27 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

02-16-93
Date

COPY

ANAMETRIX REPORT DESCRIPTION
GC

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.

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.

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

Workorder # : 9302007
Date Received : 02/01/93
Project ID : 1649.10
Purchase Order: N/A
Department : GC
Sub-Department: VOA

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9302007- 1	SS-1-4.5	SOIL	02/01/93	8010
9302007- 2	SS-2-4.5	SOIL	02/01/93	8010
9302007- 3	SS-3-4.5	SOIL	02/01/93	8010
9302007- 4	SS-4-4.5	SOIL	02/01/93	8010
9302007- 6	SS-6-4.5	SOIL	02/01/93	8010

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

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

Workorder # : 9302007
Date Received : 02/01/93
Project ID : 1649.10
Purchase Order: N/A
Department : GC
Sub-Department: VOA

QA/QC SUMMARY :

- The amount of methylene chloride reported in the samples is within normal laboratory background levels.

Corinne Tham 2/16/93
Department Supervisor Date

Chemist Date

DESCRIPTIONS FOR SPECIFIC COMPOUNDS ANALYZED
EPA METHOD 601/8010

CAS #	COMPOUND NAME	ABBREVIATED NAME
74-87-3	Chloromethane	Chloromethane
74-83-9	Bromomethane	Bromoethane
75-71-8	Dichlorodifluoromethane	Freon 12
75-01-4	Vinyl Chloride	Vinyl Chloride
75-00-3	Chloroethane	Chloroethane
75-09-2	Methylene Chloride	Methylene Chlor
75-69-4	Trichlrofluoromethane	Freon 11
75-35-4	1,1-Dichloroethene	1,1-DCE
75-34-3	1,1-Dichloroethane	1,1-DCA
156-59-2	Cis-1,2-Dichloroethene	Cis-1,2-DCE
156-60-5	Trans-1,2-Dichloroethene	Trans-1,2-DCE
67-66-3	Chloroform	Chloroform
76-13-1	Trichlorotrifluoroethane	Freon 113
107-06-2	1,2-Dichloroethane	1,2-DCA
71-55-6	1,1,1-Trichloroethane	1,1,1-TCA
56-23-5	Carbon Tetrachloride	Carbon Tet
75-27-4	Bromodichloromethane	BromodichloroMe
78-87-5	1,2-Dichloropropane	1,2-DCPA
10061-02-6	Trans-1,3-Dichloropropene	Trans-1,3-DCPE
79-01-6	Trichloroethene	TCE
124-48-1	Dibromochloromethane	DibromochloroMe
79-00-5	1,1,2-Trichloroethane	1,1,2-TCA
10061-01-5	Cis-1,3-Dichloropropene	Cis-1,3-DCPE
110-75-8	2-Chloroethylvinylether	Chloroethylvinl
75-25-2	Bromoform	Bromoform
127-18-4	Tetrachloroethene	PCE
79-34-5	1,1,2,2-Tetrachloroethane	PCA
108-90-7	Chlorobenzene	Chlorobenzene
95-50-1	1,2-Dichlorobenzene	1,2-DCB
541-73-1	1,3-Dichlorobenzene	1,3-DCB
106-46-7	1,4-Dichlorobenzene	1,4-DCB
352-33-0	p-Chlorofluorobenzene	Chlorofluoroben

mh/3426 - 10MH

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.10
Sample ID : SS-1-4.5
Matrix : SOIL
Date Sampled : 2/ 1/93
Date Analyzed : 2/ 4/93
Instrument ID : HP10

Anametrix ID : 9302007-01
Analyst : KK
Supervisor : CP

Dilution Factor : 1.0
Conc. Units : ug/Kg

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	1.8	
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.10
Sample ID : SS-2-4.5
Matrix : SOIL
Date Sampled : 2/ 1/93
Date Analyzed : 2/ 4/93
Instrument ID : HP10

Anametrix ID : 9302007-02
Analyst : KL
Supervisor : CP

Dilution Factor : 1.0
Conc. Units : ug/Kg

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	2.4	
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.10
Sample ID : SS-3-4.5
Matrix : SOIL
Date Sampled : 2/ 1/93
Date Analyzed : 2/ 4/93
Instrument ID : HP10

Anametrix ID : 9302007-03
Analyst : KK
Supervisor : CP

Dilution Factor : 1.0
Conc. Units : ug/Kg

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	1.3	
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.10
Sample ID : SS-4-4.5
Matrix : SOIL
Date Sampled : 2/ 1/93
Date Analyzed : 2/ 5/93
Instrument ID : HP10

Anametrix ID : 9302007-04
Analyst : KK
Supervisor : CP

Dilution Factor : 1.0
Conc. Units : ug/Kg

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	1.5	
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.10
Sample ID : SS-6-4.5
Matrix : SOIL
Date Sampled : 2/ 1/93
Date Analyzed : 2/ 5/93
Instrument ID : HP10

Anametrix ID : 9302007-06
Analyst :
Supervisor : CP KK

Dilution Factor : 1.0
Conc. Units : ug/Kg

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.1
Sample ID : BLK204
Matrix : SOIL
Date Sampled : 0/ 0/ 0
Date Analyzed : 2/ 4/93
Instrument ID : HP10

Anametrix ID : 10B0204H01
Analyst : KK
Supervisor : CP

Dilution Factor : 1.0
Conc. Units : ug/Kg

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.1
Sample ID : BLK205
Matrix : SOIL
Date Sampled : 0/ 0/ 0
Date Analyzed : 2/ 5/93
Instrument ID : HP10

Anametrix ID : 10B0205H01
Analyst : KK
Supervisor : CQ

Dilution Factor : 1.0
Conc. Units : ug/Kg

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

SURROGATE RECOVERY SUMMARY -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.10
Matrix : SOLID

Anametrix ID : 9302007
Analyst : KK
Supervisor : CP

	SAMPLE ID	SU1	SU2	SU3
1	BLK204	96		
2	SS-1-4.5	92		
3	SS-2-4.5	92		
4	SS-3-4.5	91		
5	BLK205	96		
6	SS-4-4.5	83		
7	SS-6-4.5	90		
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

	QC LIMITS
SU1 = CHLOROFLUOROBEN	(33-134)

* Values outside of Anametrix QC limits

LABORATORY CONTROL SAMPLE
EPA METHOD 601/8010
ANAMETRIX, INC. (408)432-8192

Project/Case	: LABORATORY CONTROL SAMPLE	Anametrix I.D.	: WO020493
Matrix	: WATER	Analyst	: KK
SDG/Batch	: N/A	Supervisor	: CD
Date analyzed	: 02/04/93	Instrument I.D.	: HP14

COMPOUND	SPIKE AMOUNT (ug/L)	AMOUNT RECOVERED (ug/L)	PERCENT RECOVERY	%RECOVERY LIMITS
FREON 113	10	12.0	120%	34 - 128
1,1-DICHLOROETHENE	10	9.4	94%	63 - 133
trans-1,2-DICHLOROETHENE	10	9.9	99%	55 - 145
1,1-DICHLOROETHANE	10	9.8	98%	49 - 121
cis-1,2-DICHLOROETHENE	10	9.9	99%	66 - 168
1,1,1-TRICHLOROETHANE	10	10.2	102%	72 - 143
TRICHLOROETHENE	10	9.6	96%	63 - 147
TETRACHLOROETHENE	10	9.4	94%	60 - 133
CHLOROBENZENE	10	10.4	104%	70 - 148
1,3-DICHLOROBENZENE	10	9.3	93%	49 - 139
1,4-DICHLOROBENZENE	10	9.9	99%	70 - 133
1,2-DICHLOROBENZENE	10	9.7	97%	69 - 140

* Limits based on data generated by Anametrix, Inc., August, 1992.

LABORATORY CONTROL SAMPLE
EPA METHOD 601/8010
ANAMETRIX, INC. (408)432-8192

Project/Case : LABORATORY CONTROL SAMPLE
Matrix : WATER
SDG/Batch : N/A
Date analyzed : 02/05/93

Anametrix I.D. : WO020593
Analyst :
Supervisor : CP KK
Instrument I.D.: HP14

COMPOUND	SPIKE AMOUNT (ug/L)	AMOUNT RECOVERED (ug/L)	PERCENT RECOVERY	%RECOVERY LIMITS
FREON 113	10	12.7	127%	34 - 128
1,1-DICHLOROETHENE	10	10.2	102%	63 - 133
trans-1,2-DICHLOROETHENE	10	10.8	108%	55 - 145
1,1-DICHLOROETHANE	10	10.4	104%	49 - 121
cis-1,2-DICHLOROETHENE	10	10.8	108%	66 - 168
1,1,1-TRICHLOROETHANE	10	11.3	113%	72 - 143
TRICHLOROETHENE	10	10.8	108%	63 - 147
TETRACHLOROETHENE	10	10.5	105%	60 - 133
CHLOROBENZENE	10	11.2	112%	70 - 148
1,3-DICHLOROBENZENE	10	10.1	101%	49 - 139
1,4-DICHLOROBENZENE	10	10.7	107%	70 - 133
1,2-DICHLOROBENZENE	10	10.8	108%	69 - 140

* Limits based on data generated by Anametrix, Inc., August, 1992.

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

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

Workorder # : 9302007
Date Received : 02/01/93
Project ID : 1649.10
Purchase Order: N/A
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9302007- 1	SS-1-4.5	SOIL	02/01/93	TPHd
9302007- 2	SS-2-4.5	SOIL	02/01/93	TPHd
9302007- 3	SS-3-4.5	SOIL	02/01/93	TPHd
9302007- 4	SS-4-4.5	SOIL	02/01/93	TPHd
9302007- 6	SS-6-4.5	SOIL	02/01/93	TPHd
9302007- 1	SS-1-4.5	SOIL	02/01/93	TPHg/BTEX
9302007- 2	SS-2-4.5	SOIL	02/01/93	TPHg/BTEX
9302007- 3	SS-3-4.5	SOIL	02/01/93	TPHg/BTEX
9302007- 4	SS-4-4.5	SOIL	02/01/93	TPHg/BTEX
9302007- 6	SS-6-4.5	SOIL	02/01/93	TPHg/BTEX

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

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

Workorder # : 9302007
Date Received : 02/01/93
Project ID : 1649.10
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- The concentration reported as diesel for sample SS-4-4.5 is primarily due to the presence of a heavier petroleum product, possibly motor oil.

Cheryl Balman 2/12/93
Department Supervisor Date

Lucia Shen 2/12/93
Chemist Date

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

Anametrix W.O.: 9302007
Matrix : SOIL
Date Sampled : 02/01/93

Project Number : 1649.10
Date Released : 02/12/93

COMPOUNDS	Reporting Limit (mg/Kg)	Sample I.D.# SS-1-4.5 -01	Sample I.D.# SS-2-4.5 -02	Sample I.D.# SS-3-4.5 -03	Sample I.D.# SS-4-4.5 -04	Sample I.D.# SS-6-4.5 -06
Benzene	0.005	ND	ND	ND	ND	ND
Toluene	0.005	ND	ND	ND	ND	ND
Ethylbenzene	0.005	ND	ND	ND	ND	ND
Total Xylenes	0.005	ND	ND	ND	ND	ND
TPH as Gasoline	0.5	ND	ND	ND	ND	ND
% Surrogate Recovery		90%	99%	80%	102%	95%
Instrument I.D.		HP21	HP21	HP21	HP21	HP21
Date Analyzed		02/03/93	02/03/93	02/03/93	02/03/93	02/03/93
RLMF		1	1	1	1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is 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.

Luna Shor 2/12/93
Analyst Date

Cheryl Balmer 2/12/93
Supervisor Date

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

Anametrix W.O.: 9302007
Matrix : SOIL
Date Sampled : 02/01/93

Project Number : 1649.10
Date Released : 02/12/93

COMPOUNDS	Reporting Limit (mg/Kg)	Sample I.D.# BF0301E3 BLANK
Benzene	0.005	ND
Toluene	0.005	ND
Ethylbenzene	0.005	ND
Total Xylenes	0.005	ND
TPH as Gasoline	0.5	ND
% Surrogate Recovery		110%
Instrument I.D.		HP21
Date Analyzed		02/03/93
RLMF		1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is 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.

Luna Shor 2/12/93
Analyst Date

Cheryl Balman 2/12/93
Supervisor Date

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

Anametrix W.O.: 9302007
Matrix : SOIL
Date Sampled : 02/01/93
Date Extracted: 02/04/93

Project Number : 1649.10
Date Released : 02/12/93
Instrument I.D.: HP23

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (mg/Kg)	Amount Found (mg/Kg)
9302007-01	SS-1-4.5	02/06/93	10	ND
9302007-02	SS-2-4.5	02/06/93	10	ND
9302007-03	SS-3-4.5	02/06/93	10	ND
9302007-04	SS-4-4.5	02/06/93	10	31
9302007-06	SS-6-4.5	02/06/93	10	ND
DSBL020493	METHOD BLANK	02/06/93	10	ND

Note : Reporting limit is obtained by multiplying the dilution factor times 10 mg/Kg.
ND - Not detected at or above the practical quantitation limit for the method.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following sample extraction by EPA Method 3550.

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

Luna Shor 2/12/93
Analyst Date

Cheryl Balmer 2/12/93
Supervisor Date

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

Sample I.D. : 1649.10 SS-6-4.5
Matrix : SOIL
Date Sampled : 02/01/93
Date Analyzed : 02/03/93

Anametrix I.D. : 9302007-06
Analyst : IS
Supervisor : OY
Date Released : 02/12/93
Instrument I.D.: 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
BENZENE	0.010	0.000	0.012	120%	0.012	120%	0%	45-139
TOLUENE	0.010	0.000	0.012	120%	0.012	120%	0%	51-138
ETHYLBENZENE	0.010	0.000	0.012	120%	0.012	120%	0%	48-146
TOTAL XYLENES	0.010	0.000	0.012	120%	0.013	130%	8%	50-139
p-BFB				86%		84%		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 : 02/03/93

Anametrix I.D. : LCSS0203
Analyst : IS
Supervisor : [illegible]
Date Released : 02/12/93
Instrument ID : HP21

COMPOUND	SPIKE AMT (mg/Kg)	LCS (mg/Kg)	%REC LCS	%REC LIMITS
BENZENE	0.010	0.0100	100%	52-133
TOLUENE	0.010	0.0110	110%	57-136
ETHYLBENZENE	0.010	0.0110	110%	56-139
TOTAL-XYLENES	0.010	0.0110	110%	56-141
P-BFB			108%	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.	: 1649.10 SS-1-4.5	Anametrix I.D.	: 9302007-01
Matrix	: SOIL	Analyst	: IS
Date Sampled	: 02/01/93	Supervisor	:
Date Extracted	: 02/04/93	Date Released	: 02/16/93
Date Analyzed	: 02/06/93	Instrument I.D.	: HP23

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	84	67%	88	70%	5%	32-143

* 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.	: LCSS0204
Matrix	: SOIL	Analyst	: IJ
Date Sampled	: N/A	Supervisor	: [illegible]
Date Extracted	: 02/04/93	Date Released	: 02/16/93
Date Analyzed	: 02/05/93	Instrument I.D.	: HP23

COMPOUND	SPIKE AMT (mg/Kg)	REC LCS (mg/Kg)	% REC LCS	% REC LIMITS
Diesel	125	94	75%	72-143

*Limits 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 # : 9302007
Date Received : 02/01/93
Project ID : 1649.10
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9302007- 1	SS-1-4.5	SOIL	02/01/93	5520EF
9302007- 2	SS-2-4.5	SOIL	02/01/93	5520EF
9302007- 3	SS-3-4.5	SOIL	02/01/93	5520EF
9302007- 4	SS-4-4.5	SOIL	02/01/93	5520EF
9302007- 6	SS-6-4.5	SOIL	02/01/93	5520EF

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

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

Workorder # : 9302007
Date Received : 02/01/93
Project ID : 1649.10
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9302007- 1	SS-1-4.5	SOIL	02/01/93	5520EF
9302007- 2	SS-2-4.5	SOIL	02/01/93	5520EF
9302007- 3	SS-3-4.5	SOIL	02/01/93	5520EF
9302007- 4	SS-4-4.5	SOIL	02/01/93	5520EF
9302007- 6	SS-6-4.5	SOIL	02/01/93	5520EF

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

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

Workorder # : 9302007
Date Received : 02/01/93
Project ID : 1649.10
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

QA/QC SUMMARY :

- High recoveries are due to spiking solution that has concentrated over time.

Department Supervisor 2/16/93 Date

Chemist 02.16.93 Date

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

Project # : 1649.10
Matrix : SOIL
Date sampled : 02/01/93
Date extracted: 02/03/93
Date analyzed : 02/04/93

Anametrix I.D. : 9302007
Analyst : PD
Supervisor : CM
Date released : 02/16/93

Workorder #	Sample I.D.	Reporting Limit (mg/Kg)	Amount Found (mg/Kg)
9302007-01	SS-1-4.5	30	30
9302007-02	SS-2-4.5	30	50
9302007-03	SS-3-4.5	30	87
9302007-04	SS-4-4.5	30	50
9302007-06	SS-6-4.5	30	100
GSBL020393A	METHOD BLANK	30	ND

ND - Not detected at or above the practical quantitation limit for the method.
TRPH - Total Recoverable Petroleum Hydrocarbons are determined by - Standard Method 5520EF.

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

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS LAB CONTROL SAMPLE REPORT
STANDARD METHOD 5520EF
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : SOIL
Date sampled : N/A
Date extracted : 02/03/93
Date analyzed : 02/04/93

Anametrix I.D. : LCSS020393
Analyst : PD
Supervisor : CW
Date Released : 02/11/93

COMPOUND	SPIKE AMT. (mg/Kg)	LCS (mg/Kg)	%REC LCS	%REC LIMITS
Motor Oil	300	410	137%	68-113%

Quality control established by Anametrix, Inc.

18:50 NB

9302007

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

(16)

Project No.: 1649.10	Field Logbook No.:	Date: 2/1/93	Serial No.: 9896
Project Name: Yerba-Buena (Bashland)	Project Location: Emeryville		
Sampler (Signature): Gillian Quadrini			Samplers: WEM

	SAMPLES						ANALYSES								
	SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 8010 8020	EPA 8015 TPHd	EPA 3510 8015/8020 TPHg	BTEX SM 5520E			HOLD	RUSH	REMARKS
1	SS-1-4.5	2/1/93			1	Soil	X	X	X	X					Standard TAT
2	SS-2-4.5						X	X	X	X					" "
3	SS-3-4.5						X	X	X	X					" "
4	SS-4-4.5						X	X	X	X					" "
5	SS-5-3												X		Hold
6	SS-6-4.5						X	X	X	X					" "
7	SS-7-3												X		Hold
8	SS-8-4.5													X	1-Week Turnaround *
9	SS-9-6.5	↓			↓	↓							X		Hold

* Analyze For TPH: 8015, EPA 8240, Priority Pollutant Metals PCBs (8080 - PCBs ONLY - not suite of compounds

Results to Jenifer Beatty

RELINQUISHED BY: (Signature)	Gillian Quadrini	DATE 2/1/93	TIME 17:00	RECEIVED BY: (Signature)		DATE 2/1/93	TIME 17:00
RELINQUISHED BY: (Signature)		DATE 2/1/93	TIME 18:15	RECEIVED BY: (Signature)		DATE 2/1/93	TIME 18:15
RELINQUISHED BY: (Signature)		DATE	TIME	RECEIVED BY: (Signature)		DATE	TIME
METHOD OF SHIPMENT:		DATE	TIME	LAB COMMENTS:			

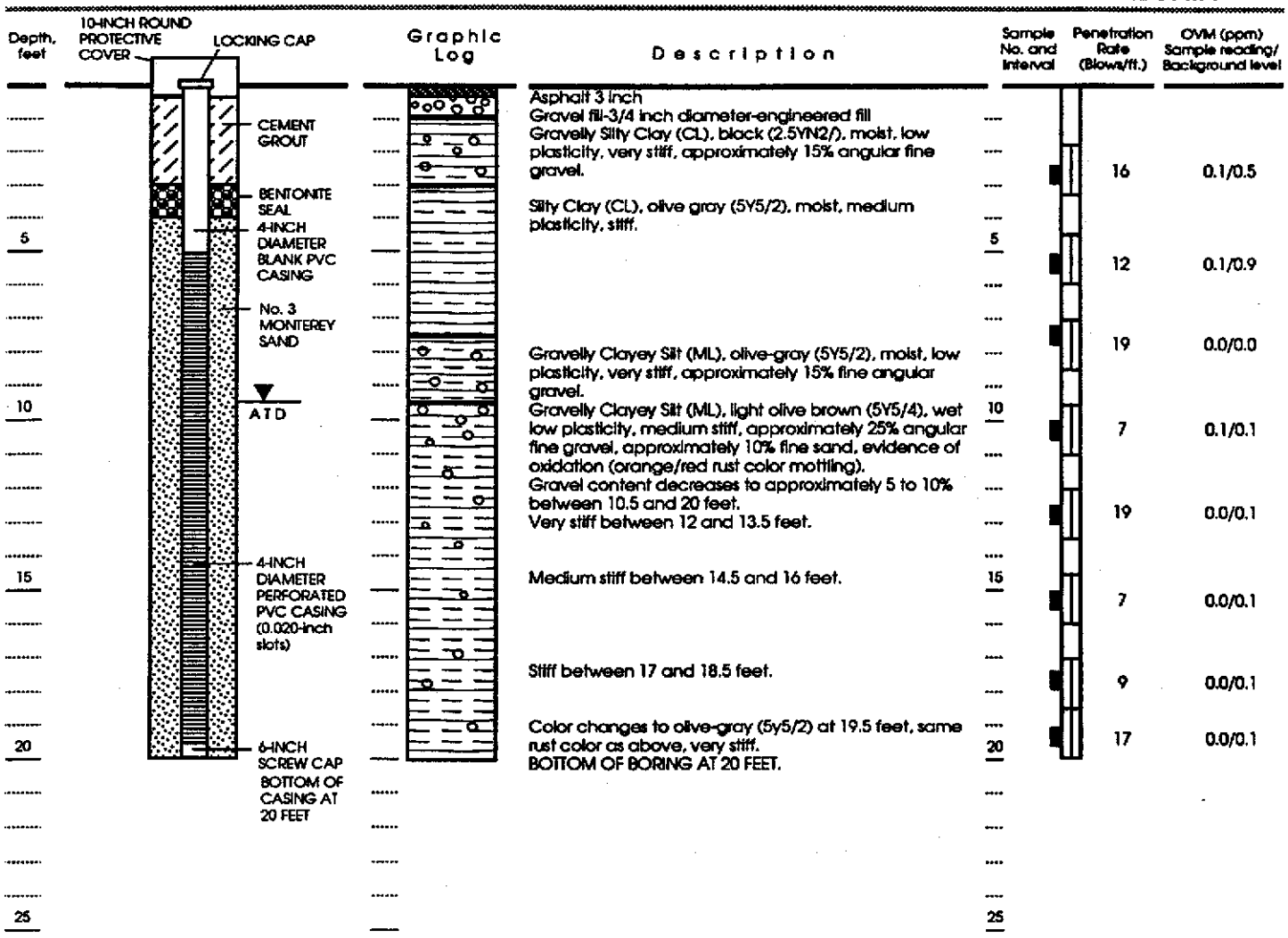
Sample Collector:
LEVINE-FRICKE
1900 Powell Street, 12th Floor
Emeryville, Ca 94608
(415) 652-4500

Analytical Laboratory: Ametrix

Note: If oil & grease is >100 ppb, please notify Jenifer for possible further analyses. (per W... Jm Madison 2-1-93)

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

FORM NO. 86/COC/ARF



EXPLANATION

- Clay
- Silt
- Sand
- Gravel

Well Permit No: 93048
Date well drilled: February 8, 1993
Date water level measured: February 8, 1993
Hammer weight: 140 lbs/30-inch
LF Geologist: William Madison

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

Approved by: Karen L. Braun — RG # 5106

Figure : WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-31

Project No. 1649.10

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

WEM 05APR93 jam/mp

10-30-89
LEVINE • FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name YERBA BUENA Project No. 1649.10

Date 2/12/93 Sample No. LF·31

Samplers Name JCK

Sampling Location EMERYVILLE

Sampling Method CENT PUMP / TEFLON BAILER

Analyses Requested TPH as gas + BTEX (8015/8020); 8270 (semi-volatiles) TPH as Diesel (8015); Sr. 5520 (Oil + Grease) 5 Metals (field filtered)

Number and Types of Sample Bottles used

Method of Shipment COURIER

20.27
4.95
15.32
.65
7 6 0
9 1 2
9.9580

LOCATION MAP

GROUND WATER

Well No. LF·31

Well Diameter (in.) ~~2~~ 4 in

Depth to Water, Static (ft) 4.95

Water in Well Box NO

Well Depth (ft) 20.27

Height of Water Column in Well 15.32

Water Volume in Well 9.96

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently ?

Other

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
10:03								START
10:04		10	17.5	7.43	2590			TURBID, HEAVY SED.
10:05		20	17.9	7.23	2400			
10:06	DEWATERED	30	19.1	7.22	2190			
10:07		+5	19.3	7.20	2090			↓ / OFF
10:08	5519		D8	D21				
10:09	07 18							
10:16	05 1350							
10:17								ON
10:19		40	18.4	7.01	1901			TURBID
10:21	DEWATERED	45						OFF
10:35	11.28							ON

= TOTAL

Suggested Method for Purging Well

LEVINE-FRICKE

2 of 2

WATER-QUALITY SAMPLING INFORMATION

Project Name: YERBA BUENA — Project No.: 1649.10

Date: 2/12/93 — Sample No.: LF-31

Samplers Name: _____

Sampling Location: _____

Sampling Method: _____

Analyses Requested: _____

Number and Types of Sample Bottles used: _____

Method of Shipment: _____

GROUND WATER

Well No. _____

Well Diameter (in.) _____

Depth to Water, Static (ft) _____

Water in Well Box _____

Well Depth (ft) _____

Height of Water Column in Well _____

Water Volume in Well _____

SURFACE WATER

Stream Width _____

Stream Depth _____

Stream Velocity _____

Rained recently ? _____

Other _____

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (umhos/cm)	OTHER		REMARKS
10:36		50	19.8	6.89	1619			TURBID
10:38		60	18.7	6.86	1659			TURBID/CLEARING
10:40	DEWATERED	70	19.6	6.93	1690			" / OFF
10:50	13.20							ON
10:52		80	18.5	6.88	1714			TURBID/CLEARING
10:52	DEWATERED	85						OFF
11:11	9.30							ON
11:13		90	19.0	6.81	1584			SL. TURBID
11:15		100	18.7	6.85	1665			MOD. TURBID
11:17		110	19.0	6.92	1601			" " / OFF
11:25								SAMPLE

Suggested Method for Purging Well _____

ANAMETRIX INC
Environmental & Analytical Chemistry

Part of INCHCAPE ENVIRONMENTAL

REPORT

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

Workorder # : 9302187
Date Received : 02/12/93
Project ID : 1649.10
Purchase Order: N/A

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

ANAMETRIX ID	CLIENT SAMPLE ID
9302187- 1	LF-31

This report consists of 25 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

03-01-93
Date

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

Workorder # : 9302187
Date Received : 02/12/93
Project ID : 1649.10
Purchase Order: N/A
Department : GCMS
Sub-Department: GCMS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9302187- 1	LF-31	WATER	02/12/93	8270

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

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

Workorder # : 9302187
Date Received : 02/12/93
Project ID : 1649.10
Purchase Order: N/A
Department : GCMS
Sub-Department: GCMS

QA/QC SUMMARY :

- No QA/QC problems.

Department Supervisor — Date: 2-26-93

Chemist — Date: 2.26.93

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8270
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.10
Sample ID : LF-31
Matrix : WATER
Date Sampled : 2/12/93
Date Extracted : 2/16/93
Amount Extracted : 1000.0 mL
Date Analyzed : 2/22/93
Instrument ID : F3

Anametrix ID : 9302187-01
Analyst : MCT
Supervisor : [illegible]

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
108-95-2	PHENOL	10.	ND	U
111-44-4	BIS(2-CHLOROETHYL)ETHER	10.	ND	U
95-57-8	2-CHLOROPHENOL	10.	ND	U
541-73-1	1,3-DICHLOROBENZENE	10.	ND	U
106-46-7	1,4-DICHLOROBENZENE	10.	ND	U
100-51-6	BENZYL ALCOHOL	10.	ND	U
95-50-1	1,2-DICHLOROBENZENE	10.	ND	U
95-48-7	2-METHYLPHENOL	10.	ND	U
108-60-1	2,2'-OXYBIS(1-CHLOROPROPANE)	10.	ND	U
106-44-5	4-METHYLPHENOL	10.	ND	U
621-64-7	N-NITROSO-DI-N-PROPYLAMINE	10.	ND	U
67-72-1	HEXACHLOROETHANE	10.	ND	U
98-95-3	NITROBENZENE	10.	ND	U
78-59-1	ISOPHORONE	10.	ND	U
88-75-5	2-NITROPHENOL	10.	ND	U
105-67-9	2,4-DIMETHYLPHENOL	10.	ND	U
65-85-0	BENZOIC ACID	50.	ND	U
111-91-1	BIS(2-CHLOROETHOXY)METHANE	10.	ND	U
120-83-2	2,4-DICHLOROPHENOL	10.	ND	U
120-82-1	1,2,4-TRICHLOROBENZENE	10.	ND	U
91-20-3	NAPHTHALENE	10.	ND	U
106-47-8	4-CHLOROANILINE	10.	ND	U
87-68-3	HEXACHLOROBUTADIENE	10.	ND	U
59-50-7	4-CHLORO-3-METHYLPHENOL	10.	ND	U
91-57-6	2-METHYLNAPHTHALENE	10.	ND	U
77-47-4	HEXACHLOROCYCLOPENTADIENE	10.	ND	U
88-06-2	2,4,6-TRICHLOROPHENOL	10.	ND	U
95-95-4	2,4,5-TRICHLOROPHENOL	50.	ND	U
91-58-7	2-CHLORONAPHTHALENE	10.	ND	U
88-74-4	2-NITROANILINE	50.	ND	U
131-11-3	DIMETHYLPHTHALATE	10.	ND	U
208-96-8	ACENAPHTHYLENE	10.	ND	U
99-09-2	3-NITROANILINE	50.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8270
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.10
Sample ID : LF-31
Matrix : WATER
Date Sampled : 2/12/93
Date Extracted : 2/16/93
Amount Extracted : 1000.0 mL
Date Analyzed : 2/22/93
Instrument ID : F3

Anametrix ID : 9302187-01
Analyst : MCS
Supervisor : UY

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
83-32-9	ACENAPHTHENE	10.	ND	U
51-28-5	2,4-DINITROPHENOL	50.	ND	U
100-02-7	4-NITROPHENOL	50.	ND	U
132-64-9	DIBENZOFURAN	10.	ND	U
121-14-2	2,4-DINITROTOLUENE	10.	ND	U
606-20-2	2,6-DINITROTOLUENE	10.	ND	U
84-66-2	DIETHYLPHTHALATE	10.	ND	U
7005-72-3	4-CHLOROPHENYL-PHENYLETHER	10.	ND	U
86-73-7	FLUORENE	10.	ND	U
100-01-6	4-NITROANILINE	50.	ND	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	50.	ND	U
86-30-6	N-NITROSODIPHENYLAMINE (1)	10.	ND	U
101-55-3	4-BROMOPHENYL-PHENYLETHER	10.	ND	U
118-74-1	HEXACHLOROBENZENE	10.	ND	U
87-86-5	PENTACHLOROPHENOL	50.	ND	U
85-01-8	PHENANTHRENE	10.	ND	U
120-12-7	ANTHRACENE	10.	ND	U
84-74-2	DI-N-BUTYLPHTHALATE	10.	ND	U
206-44-0	FLUORANTHENE	10.	ND	U
129-00-0	PYRENE	10.	ND	U
85-68-7	BUTYLBENZYLPHTHALATE	10.	ND	U
91-94-1	3,3'-DICHLOROBENZIDINE	20.	ND	U
56-55-3	BENZO(A)ANTHRACENE	10.	ND	U
218-01-9	CHRYSENE	10.	ND	U
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	10.	8.	J
117-84-0	DI-N-OCTYLPHTHALATE	10.	ND	U
205-99-2	BENZO(B)FLUORANTHENE	10.	ND	U
207-08-9	BENZO(K)FLUORANTHENE	10.	ND	U
50-32-8	BENZO(A)PYRENE	10.	ND	U
193-39-5	INDENO(1,2,3-CD)PYRENE	10.	ND	U
53-70-3	DIBENZ[A,H]ANTHRACENE	10.	ND	U
191-24-2	BENZO(G,H,I)PERYLENE	10.	ND	U
62-75-9	N-NITROSODIMETHYLAMINE	10.	ND	U
4165-61-1	ANILINE	10.	ND	U
103-33-3	AZOBENZENE	10.	ND	U
92-87-5	BENZIDINE	10.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8270
ANAMETRIX, INC. (408)432-8192

Project ID :
Sample ID : BLANK
Matrix : WATER
Date Sampled : 0/ 0/ 0
Date Extracted : 2/16/93
Amount Extracted : 1000.0 mL
Date Analyzed : 2/19/93
Instrument ID : F3

Anametrix ID : BF1901B1
Analyst : MC
Supervisor : M

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
108-95-2	PHENOL	10.	ND	U
111-44-4	BIS(2-CHLOROETHYL)ETHER	10.	ND	U
95-57-8	2-CHLOROPHENOL	10.	ND	U
541-73-1	1,3-DICHLOROBENZENE	10.	ND	U
106-46-7	1,4-DICHLOROBENZENE	10.	ND	U
100-51-6	BENZYL ALCOHOL	10.	ND	U
95-50-1	1,2-DICHLOROBENZENE	10.	ND	U
95-48-7	2-METHYLPHENOL	10.	ND	U
108-60-1	2,2'-OXYBIS(1-CHLOROPROPANE)	10.	ND	U
106-44-5	4-METHYLPHENOL	10.	ND	U
621-64-7	N-NITROSO-DI-N-PROPYLAMINE	10.	ND	U
67-72-1	HEXACHLOROETHANE	10.	ND	U
98-95-3	NITROBENZENE	10.	ND	U
78-59-1	ISOPHORONE	10.	ND	U
88-75-5	2-NITROPHENOL	10.	ND	U
105-67-9	2,4-DIMETHYLPHENOL	10.	ND	U
65-85-0	BENZOIC ACID	50.	ND	U
111-91-1	BIS(2-CHLOROETHOXY)METHANE	10.	ND	U
120-83-2	2,4-DICHLOROPHENOL	10.	ND	U
120-82-1	1,2,4-TRICHLOROBENZENE	10.	ND	U
91-20-3	NAPHTHALENE	10.	ND	U
106-47-8	4-CHLOROANILINE	10.	ND	U
87-68-3	HEXACHLOROBUTADIENE	10.	ND	U
59-50-7	4-CHLORO-3-METHYLPHENOL	10.	ND	U
91-57-6	2-METHYLNAPHTHALENE	10.	ND	U
77-47-4	HEXACHLOROCYCLOPENTADIENE	10.	ND	U
88-06-2	2,4,6-TRICHLOROPHENOL	10.	ND	U
95-95-4	2,4,5-TRICHLOROPHENOL	50.	ND	U
91-58-7	2-CHLORONAPHTHALENE	10.	ND	U
88-74-4	2-NITROANILINE	50.	ND	U
131-11-3	DIMETHYLPHTHALATE	10.	ND	U
208-96-8	ACENAPHTHYLENE	10.	ND	U
99-09-2	3-NITROANILINE	50.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 8270
ANAMETRIX, INC. (408)432-8192

Project ID :
Sample ID : BLANK
Matrix : WATER
Date Sampled : 0/ 0/ 0
Date Extracted : 2/16/93
Amount Extracted : 1000.0 mL
Date Analyzed : 2/19/93
Instrument ID : F3

Anametrix ID : BF1901B1
Analyst : MCT
Supervisor : [illegible]

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
83-32-9	ACENAPHTHENE	10.	ND	U
51-28-5	2,4-DINITROPHENOL	50.	ND	U
100-02-7	4-NITROPHENOL	50.	ND	U
132-64-9	DIBENZOFURAN	10.	ND	U
121-14-2	2,4-DINITROTOLUENE	10.	ND	U
606-20-2	2,6-DINITROTOLUENE	10.	ND	U
84-66-2	DIETHYLPHTHALATE	10.	ND	U
7005-72-3	4-CHLOROPHENYL-PHENYLETHER	10.	ND	U
86-73-7	FLUORENE	10.	ND	U
100-01-6	4-NITROANILINE	50.	ND	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	50.	ND	U
86-30-6	N-NITROSODIPHENYLAMINE (1)	10.	ND	U
101-55-3	4-BROMOPHENYL-PHENYLETHER	10.	ND	U
118-74-1	HEXACHLOROBENZENE	10.	ND	U
87-86-5	PENTACHLOROPHENOL	50.	ND	U
85-01-8	PHENANTHRENE	10.	ND	U
120-12-7	ANTHRACENE	10.	ND	U
84-74-2	DI-N-BUTYLPHTHALATE	10.	ND	U
206-44-0	FLUORANTHENE	10.	ND	U
129-00-0	PYRENE	10.	ND	U
85-68-7	BUTYLBENZYLPHTHALATE	10.	ND	U
91-94-1	3,3'-DICHLOROBENZIDINE	20.	ND	U
56-55-3	BENZO(A)ANTHRACENE	10.	ND	U
218-01-9	CHRYSENE	10.	ND	U
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	10.	ND	U
117-84-0	DI-N-OCTYLPHTHALATE	10.	ND	U
205-99-2	BENZO(B)FLUORANTHENE	10.	ND	U
207-08-9	BENZO(K)FLUORANTHENE	10.	ND	U
50-32-8	BENZO(A)PYRENE	10.	ND	U
193-39-5	INDENO(1,2,3-CD)PYRENE	10.	ND	U
53-70-3	DIBENZ[A,H]ANTHRACENE	10.	ND	U
191-24-2	BENZO(G,H,I)PERYLENE	10.	ND	U
62-75-9	N-NITROSODIMETHYLAMINE	10.	ND	U
4165-61-1	ANILINE	10.	ND	U
103-33-3	AZOBENZENE	10.	ND	U
92-87-5	BENZIDINE	10.	ND	U

SURROGATE RECOVERY SUMMARY -- EPA METHOD 8270
ANAMETRIX, INC. (408)432-8192

Project ID : 1649.10
Matrix : LIQUID

Anametrix ID : 9302187
Analyst : MET
Supervisor : MY

	SAMPLE ID	SU1	SU2	SU3	SU4	SU5	SU6
1	BLANK	25	17	49	48	41	69
2	LCS	25	17	49	48	46	67
3	LF-31	28	19	52	55	53	60
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

	QC LIMITS
SU1 = 2-FLUOROPHENOL	(21-100)
SU2 = PHENOL-D5	(10- 94)
SU3 = NITROBENZENE-D5	(35-114)
SU4 = 2-FLUOROBIPHENYL	(43-116)
SU5 = 2,4,6-TRIBROMOPHENOL	(10-123)
SU6 = TERPHENYL-D14	(33-141)

* Values outside of Anametrix QC limits

LABORATORY CONTROL SPIKE RECOVERY FORM --- EPA METHOD 625
ANAMETRIX, INC. (408)432-8192

Project/Case	:	Anametrix ID	: NF1901B1
Matrix	: WATER	Analyst	: MCT
Date Sampled	: 00/00/00	Supervisor	: UM
Date Extracted	: 02/16/93	SDG/Batch	: N/A
Date Analyzed	: 02/19/93		
Instrument ID	: F3		

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	%REC LIMITS
Phenol	75	0	17	23	12-110
2-Chlorophenol	75	0	37	49	27-123
1,4-Dichlorobenzene	50	0	22	44	36-97
N-nitroso-di-n-propylamine	50	0	28	56	41-116
1,2,4-Trichlorobenzene	50	0	25	50	39-98
4-Chloro-3-methylphenol	75	0	42	56	23-97
Acenaphthene	50	0	25	50	46-118
4-Nitrophenol	75	0	20	27	10-80
2,4-Dinitrotoluene	50	0	33	66	24-96
Pentachlorophenol	75	0	28	37	10-103
Pyrene	50	0	33	66	26-127

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

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

Workorder # : 9302187
Date Received : 02/12/93
Project ID : 1649.10
Purchase Order: N/A
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9302187- 1	LF-31	WATER	02/12/93	TPHd
9302187- 1	LF-31	WATER	02/12/93	TPHg/BTEX

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

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

Workorder # : 9302187
Date Received : 02/12/93
Project ID : 1649.10
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for this sample.

Cheryl Balmer 3/11/93
Department Supervisor Date

Chemist 1 March 93
Date

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

Anametrix W.O.: 9302187
Matrix : WATER
Date Sampled : 02/12/93

Project Number : 1649.10
Date Released : 03/01/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# LF-31 -01	Sample I.D.# BF1802E3 BLANK
Benzene	0.5	ND	ND
Toluene	0.5	ND	ND
Ethylbenzene	0.5	ND	ND
Total Xylenes	0.5	ND	ND
TPH as Gasoline	50	ND	ND
% Surrogate Recovery		94%	88%
Instrument I.D.		HP12	HP12
Date Analyzed		02/18/93	02/18/93
RLMF		1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is 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.

Analyst — 1 March 93 Date

Supervisor — 3/1/93 Date

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

Anametrix W.O.: 9302187
Matrix : WATER
Date Sampled : 02/12/93
Date Extracted: 02/16/93

Project Number : 1649.10
Date Released : 03/01/93
Instrument I.D.: HP23

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)
9302187-01	LF-31	02/18/93	50	56
DWBL021693	METHOD BLANK	02/18/93	50	ND

Note : Reporting limit is obtained by multiplying the dilution factor times 50 ug/L.
ND - Not detected at or above the practical quantitation limit for the method.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following sample extraction by EPA Method 3510.

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

Analyst — 1 March 93 Date

Supervisor — Cheryl Balma 3/1/93 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
Matrix : WATER
Date Sampled : N/A
Date Analyzed : 02/18/93

Anametrix I.D. : LCSW0218
Analyst : [illegible]
Supervisor : [illegible]
Date Released : 02/27/93
Instrument I.D.: HP12

COMPOUND	SPIKE AMT. (ug/L)	REC LCS (ug/L)	%REC LCS	% REC LIMITS
GASOLINE	250	250	100%	67-127
SURROGATE			92%	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	Anametrix I.D.	: LCS0216
Matrix	: WATER	Analyst	: F.
Date Sampled	: N/A	Supervisor	:
Date Extracted	: 02/16/93	Date Released	: 02/01/93
Date Analyzed	: 02/21/93	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	850	68%	650	52%	-27%	47-130

*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 # : 9302187
Date Received : 02/12/93
Project ID : 1649.10
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9302187- 1	LF-31	WATER	02/12/93	5520BF

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

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

Workorder # : 9302187
Date Received : 02/12/93
Project ID : 1649.10
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

QA/QC SUMMARY :

- No QA/QC problems encountered for this sample.

Department Supervisor 2/25/93 Date

Chemist 2/25/93 Date

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

Project I.D. : 1649.10
Matrix : WATER
Date sampled : 02/12/93
Date extracted: 02/18/93
Date analyzed : 02/19/93

Anametrix I.D. : 9302187
Analyst :
Supervisor :
Date released : 02/25/93

Workorder #	Sample I.D.	Reporting Limit (mg/L)	Amount Found (mg/L)
9302187-01	LF-31	5	ND
GWBL021893A	METHOD BLANK	5	ND

ND - Not detected at or above the practical quantitation 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.

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

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: LCSW021893
Matrix	: WATER	Analyst	:
Date sampled	: N/A	Supervisor	:
Date extracted	: 02/18/93	Date Released	: 02/23/93
Date analyzed	: 02/19/93		

COMPOUND	SPIKE AMT. (mg/L)	LCS (mg/L)	%REC LCS	LCSD (mg/L)	%REC LCSD	%RPD	%REC LIMITS
Motor Oil	50	42	84%	45	90%	7%	54-106%

* Quality control limits 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 # : 9302187
Date Received : 02/12/93
Project ID : 1649.10
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9302187- 1	LF-31	WATER	02/12/93	6010

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

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

Workorder # : 9302187
Date Received : 02/12/93
Project ID : 1649.10
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

QA/QC SUMMARY :

- No QA/QC problems encountered for sample.

Department/Supervisor 2/22/93 Date

Chemist 2/22/93 Date

INORGANIC ANALYSIS DATA SHEET
ANAMETRIX, INC. (408) 432-8192

Anametrix I.D.: 9302187-01
Client I.D. : LF-31
Project I.D. : 1649.10
Matrix : WATER
Reporting Unit: ug/L

Date Sampled : 02/12/93
Analyst :
Supervisor :
Date Released : 02/22/93
Instrument I.D. : ICP1

ANALYTE-METHOD	DATE PREPARED	DATE ANALYZED	REPORT LIMIT	DIL. FACTOR	RESULT	Q
Cadmium-6010	02/17/93	02/17/93	5.0	1	ND	
Chromium-6010	02/17/93	02/17/93	10.0	1	ND	
Nickel-6010	02/17/93	02/17/93	40.0	1	ND	
Lead-6010	02/17/93	02/17/93	40.0	1	ND	
Zinc-6010	02/17/93	02/17/93	20.0	1	ND	

COMMENT:

METHOD BLANK REPORT
ANAMETRIX, INC. (408) 432-8192

Anametrix I.D. : 9302187
Method Blank I.D.: MB0217W
Project I.D. : 1649.10
Matrix : WATER
Reporting Unit : ug/L

Analyst : MK
Supervisor : MW
Date Released : 02/22/93
Instrument I.D. : ICP1

ANALYTE-METHOD	DATE PREPARED	DATE ANALYZED	REPORTING LIMIT	RESULT	Q
Cadmium-6010	02/17/93	02/17/93	5.0	ND	
Chromium-6010	02/17/93	02/17/93	10.0	ND	
Nickel-6010	02/17/93	02/17/93	40.0	ND	
Lead-6010	02/17/93	02/17/93	40.0	ND	
Zinc-6010	02/17/93	02/17/93	20.0	ND	

COMMENT:

MATRIX SPIKE REPORT
ANAMETRIX, INC. (408) 432-8192

Spike I.D. : 9302187-01MS,MD
Client I.D. : LF-31
Project I.D. : 1649.10
Matrix : WATER
Reporting Unit: ug/L

Date Prepared : 02/17/93
Date Analyzed : 02/17/93
Analyst : MK
Supervisor : MW
Date Released : 02/22/93
Instrument I.D. : ICP1

ANALYTE-METHOD	SPIKE AMOUNT	SAMPLE CONC.	M.S. CONC.	% REC.	M.S.D. CONC.	% REC.	RPD	Q
Cadmium-200.7	50.0	0.0	51.2	102	55.3	111	7.7	
Chromium-200.7	200	0.0	203	102	215	108	5.7	
Nickel-200.7	500	0.0	516	103	549	110	6.2	
Lead-200.7	500	0.0	515	103	542	108	5.1	
Zinc-200.7	500	0.0	509	102	545	109	6.8	

COMMENT:

LABORATORY CONTROL SAMPLE REPORT
ANAMETRIX, INC. (408) 432-8192

Anametrix I.D. : 9302187
Spike I.D. : LCS0217W
Project I.D. : 1649.10
Matrix : WATER
Reporting Unit : ug/L

Analyst : MK
Supervisor : MW
Date Released : 02/22/93
Instrument I.D : ICP1

ANALYTE-METHOD	DATE PREPARED	DATE ANALYZED	SPIKE AMT.	METHOD SPIKE	% REC.	Q
Cadmium-6010	02/17/93	02/17/93	50.0	53.4	107	
Chromium-6010	02/17/93	02/17/93	200	216	108	
Nickel-6010	02/17/93	02/17/93	500	545	109	
Lead-6010	02/17/93	02/17/93	500	532	106	
Zinc-6010	02/17/93	02/17/93	500	515	103	

COMMENT:

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 1649.10	Field Logbook No.:	Date: 2/12/93	Serial No.: 9829
Project Name: YERBA BUENA	Project Location: EMERYVILLE, CA		
Sampler (Signature): J. C. Le			

SAMPLES						ANALYSES								Samplers: JCK
SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	TPH-GAS BTEX	TPH-DIESEL EPA 8270	OIL & GREASE	METALS			HOLD	RUSH	REMARKS
(1) LF-31	2/12/93	11:25		10	H_2O	X	X	X	X	X				NORMAL TAT
														TPH-G BTEX 8015/8020
														TPH-D 8015
														OIL + GREASE 5520
														METALS: Pb, Ni, CADMIUM, ZINC, Cr
														RESULTS TO KIMBERLY BRANDT, CATELLUS
														ANAMETRIX REF# 2052J

RELINQUISHED BY: (Signature) J. C. Le	DATE 2/12/93	TIME 18:00	RECEIVED BY: (Signature)	DATE 2/12/93	TIME 18:00
RELINQUISHED BY: (Signature)	DATE 2/12/93	TIME 20:10	RECEIVED BY: (Signature) Michele D Aguilar	DATE 2-12-93	TIME 2010
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
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 SAN JOSE

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