Soil and Ground-Water Investigation Report
Former Safeway Ice Cream Manufacturing Plant
2240 Filbert Street
Oakland, California

January 17, 1995
LF 3230.94-05

Prepared for
Western Investment Real Estate Trust (WIRET)
3450 California Street
San Francisco, California 94118

LEVINE·FRICKE

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

January 17, 1995

LF 3230.94-05

Jennifer Eberle
Hazardous Materials Specialist
Alameda County Health Care Services Agency
Dept. of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502-6577

Subject: Final Soil and Ground-Water Investigation Report, Former Safeway Ice Cream Manufacturing Plant, 2240 Filbert Street, Oakland, California

Dear Ms. Eberle:

Enclosed is the final version of the subject report. Please call me or Don Bradshaw, R.G., if you have any questions.

Sincerely,

Jenifer Beatty

Jenifer J. Beatty
Senior Project Hydrogeologist

Enclosure

cc: Mary Clemens, WIRET
Eddie Orton, Orbit Property
Kevin Graves, RWQCB

3230\S&GWRPT.PH2:FNC

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

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

January 17, 1995

LF 3230.00-05

Ms. Mary Clemens
Western Investment Real Estate Trust (WIRET)
3450 California Street
San Francisco, California 94118

Subject: Final Soil and Ground-Water Investigation Report, Former Safeway Ice Cream Manufacturing Plant, 2240 Filbert Street, Oakland, California

Dear Ms. Clemens:

Enclosed is the final version of the subject report. We are submitting this report to the Alameda County Health Care Services Agency.

Please call me or Don Bradshaw, R.G., if you have any questions.

Sincerely,

Jenifer Beatty

Jenifer Beatty
Senior Project Hydrogeologist

Enclosures

cc: Eric Laurence, Esq., Steinhart & Falconer
Eddie Orton, Orbit Property

3230\S&GWRPT.PH2:FNC

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

LIST OF TABLES

LIST OF FIGURES

CERTIFICATION

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

Donald T. Bradshaw
Senior Associate Hydrogeologist
California Registered Geologist (5300)

11/16/95
Date

January 17, 1995 LF 3230.00-05

**SOIL AND GROUND-WATER INVESTIGATION REPORT
FORMER SAFEWAY ICE CREAM MANUFACTURING PLANT
2240 FILBERT STREET
OAKLAND, CALIFORNIA**

1.0 INTRODUCTION

Between November 7 and 18, 1994, Levine·Fricke completed further soil and ground-water investigation activities at the former Safeway ice cream manufacturing plant, 2240 Filbert Street, Oakland, California ("the Site"; Figure 1). Those activities were conducted to further characterize suspected on-site source areas (i.e., areas with affected soils) identified during our initial environmental investigation conducted in July 1994, and in an attempt to delineate the limits of affected shallow ground water associated with suspected on-site sources.

Levine·Fricke described the proposed investigation activities in its November 30, 1994 "Revised Proposal to Perform Additional Soil and Ground-Water Investigation in the Vicinity of Safeway's Former Ice Cream Manufacturing Facility, 2240 Filbert Street, Oakland, California" (Levine·Fricke 1994b). The scope of investigation was developed based on:

- the results of Levine·Fricke's initial soil and ground-water investigations conducted between July 18 and 22, 1994 (Levine·Fricke 1994a).
- a letter dated November 1, 1994 from Steinhart & Falconer, legal counsel to Western Investment Real Estate Trust (WIRET)

This report has been prepared to summarize previous and recent soil and ground-water investigations conducted by Levine·Fricke at the Site.

1.1 Site Description

The Site is located in Oakland, California, west of Interstate 980 near the intersection of West Grand and Market avenues. It occupies a full city block bordered by 24th Street to the north, Myrtle Street to the east, West Grand Avenue to the south, and Filbert Street to the west (Figures 1 and 2).

Site topography is fairly flat, ranging from 15 to 13 feet above mean sea level with a gentle dip to the west-southwest. Specific areas at the Site, including loading dock areas on the north end and east side of the Site, are topographically lower than natural grade down to approximately 8 feet below grade.

Figure 2 identifies the locations of current and former industrial activities on the Site and in the site vicinity. Previous on-site facilities included:

- a cleaning and dyeing works and a benzin room in the northwestern portion of the Site
- a paint facility in the north-central portion of the Site
- a carpenter shop in the southeastern portion of the Site
- an ammonia refrigeration engine room and former Safeway hazardous materials storage area in the south-central portion of the Site
- a former garage, a former auto repair shop, a refrigerator room, a former cabinet shop, two separate elevators, a former paint room, and a former horse collar factory in the west-central portion of the Site
- underground storage tanks (USTs) at various locations throughout the Site

The area surrounding the Site consists of commercial, residential, and industrial properties.

1.2 Regional Geology and Hydrogeology

The Site is located on the flatland deposits of the southern part of the San Francisco Bay Region. Soils immediately beneath the Site are classified as Holocene estuarine deposits consisting primarily of unconsolidated clay and silty clays containing lenses and stringers of well-sorted silts and sands and beds of peat (Helley and LaJoie 1979).

Topographically upgradient and east of the Site are exposures of late Pleistocene, weakly consolidated alluvial deposits. These soils, which consist of clay, silt, sand, and gravel, were derived from the uplands and extend to the west, underlying the Holocene estuarine deposits at the Site.

The assumed direction of ground-water flow as determined from the surrounding properties is to the northwest.

2.0 PREVIOUS INVESTIGATIONS

In March 1994, McCulley, Frick & Gilman, Inc. (MFG) completed an environmental site assessment (ESA; MFG 1994a) to evaluate soil and ground-water quality at the Site. MFG then conducted a geophysical survey on June 2 and 3, 1994, to further assess the possible presence of USTs at the Site.

In July 1994, Levine·Fricke conducted an initial soil and ground-water investigation based on the results of the ESA and geophysical survey. That investigation included drilling 27 soil borings and collecting "grab" ground-water samples from each boring after temporary wells had been installed in the borings. Results of that investigation were presented in Levine·Fricke's September 14, 1994 report (Levine·Fricke 1994a).

In late September 1994, MFG installed two off-site, upgradient (east and southeast) ground-water monitoring wells to evaluate the potential presence of petroleum hydrocarbons in shallow ground water related to possible releases from off-site USTs. Figure 2 shows the locations for wells MW-1 (along the west side of Myrtle Street) and MW-2 (in the parking area just west of Market Street). MFG presented the results of that investigation in a November 8, 1994 report entitled "Report on Investigation of Impacts From Off-Site Sources, Former Safeway Ice Cream Plant, 2240 Filbert Street, Oakland, California" (MFG 1994b).

In early November 1994, Steinhart & Falconer identified additional historical files and provided information concerning former and current USTs at the Site to Levine·Fricke. Levine·Fricke reviewed the information provided to further clarify potential soil and ground-water sampling locations (Phase II) and identify potential releases from the USTs. In addition, Levine·Fricke also reviewed additional information to attempt to identify additional potentially responsible parties in the site vicinity.

A brief summary of these previous investigation activities is presented in Sections 2.1 through 2.3.

2.1 Environmental Site Assessment and Geophysical Survey

MFG's March 1994 ESA report summarized site usage history, including information obtained from a review of Sanborn fire insurance maps. In that report, MFG identified possible sources of chemical releases to the subsurface from on-site historical light industrial activities, and identified five possible UST locations that represented potential areas of environmental concern. To further investigate the potential presence of USTs at the Site, MFG conducted a geophysical survey of the Site on June 2 and 3, 1994. That survey identified the location of one UST and indicated two areas that were likely previous UST locations.

2.2 July 1994 Soil and Ground-Water Investigations

Between July 18 and 22, 1994, Levine·Fricke drilled 27 soil borings, B1 through B27 (Phase I), at the Site to assess site conditions, evaluate whether potential releases from the existing USTs had affected soil and ground-water quality beneath the Site, and investigate additional possible UST locations. Sediments encountered beneath the Site generally consisted of interbedded silty clays and clays to the total depth of the borings (25 feet bgs). More permeable sand and gravel zones 1 to 5 feet thick were encountered at approximately 8 to 12 feet bgs. A silty sand was typically encountered between 20 and 25 feet bgs. Ground water was generally encountered in this zone and rose to 12 feet bgs, indicating semiconfined to confined conditions. Soil samples were collected from 11 of the borings, and grab ground-water samples were collected from all borings after temporary wells had been installed. Analytical results indicated concentrations of petroleum hydrocarbons in soil and ground water in the following areas:

- in the vicinity of a former benzin room/cleaning and dyeing works
- in the vicinity of former automobile repair/garage/ cabinet shop/paint room facilities and the hazardous materials storage area
- adjacent to two existing elevator sumps

The compounds detected primarily consisted of a mixture of benzin, mineral spirits, and/or naphtha-type compounds, and possibly weathered gasoline.

2.3 September 1994 MFG Soil and Ground-Water Investigation

In late September 1994, MFG installed off-site monitoring wells MW-1 and MW-2 to total depths of 21.5 and 23.2 feet below ground surface (bgs), respectively (MFG 1994b). The wells were installed east and southeast of the Site, the apparent upgradient direction, to assess whether possible releases from off-site USTs could have affected site soil or ground-water quality. Soil samples were collected from each well boring at the time of drilling. The wells were then developed and sampled in early October 1994.

Analytical results indicated petroleum hydrocarbons in the soil sample collected from boring MW-1. Results of ground-water sample analyses indicated dissolved petroleum hydrocarbons in both wells. These results are included in Tables 1 and 2.

2.4 Existing Potential Responsible Parties in Site Neighborhood

The Alameda County Health Care Services Agency (ACHCSA) currently monitors three UST fuel leak sites in the neighborhood that could potentially affect on-site shallow ground-water quality. Two of these existing fuel leak sites are located approximately 400 feet (Arco) and 700 feet (Chevron) east-southeast of the Site, and the third fuel leak site is located approximately 100 feet due north of the Site (Cal West Periodicals; Figure 2).

In addition, another fuel leak site was identified in September 1994 across the street from the Site. ACHCSA personnel were present in September 1994 to observe the removal of three 2,000-gallon gasoline USTs at the former Langendorf warehouse 40 feet west of the Site. Two of the three USTs reportedly had holes in them. Levine·Fricke contacted the ACHCSA for results of the observed tank removal. A report prepared by SEMCO and dated November 1994 (SEMCO 1994) indicated concentrations up to 661 milligrams per kilogram (mg/kg) of total petroleum hydrocarbons as gasoline (TPHg) and up to 1.9 mg/kg benzene in soil collected from beneath the UST at 11.6 feet bgs. These results indicate a release from the USTs. The UST removal report and ACHCSA field notes for these activities are included in Appendix A.

3.0 ADDITIONAL INVESTIGATION OF POTENTIAL SOURCES FOR PETROLEUM HYDROCARBONS

In October 1994, Steinhart & Falconer recovered additional Union Ice Company files that identified the location of a 550-gallon former gasoline UST, fuel pump piping, and a fuel pump in the former auto repair shop/garage, just east of Filbert Street. The locations of this suspected UST is illustrated on Figures 2 and 3.

Levine·Fricke received and reviewed portions of the Union Ice Company files to obtain additional background information that could be used in further evaluating site soil and ground-water conditions. Levine·Fricke also reviewed historical aerial photographs from Pacific Aerial Survey of Oakland, California, in an attempt to identify additional potential source areas that may have contributed to the petroleum hydrocarbons detected in the site vicinity. Aerial photographs for 14 separate years between 1947 and 1992 were reviewed.

Review of the aerial photographs indicated three former fuel stations in addition to the off-site fuel leak sites discussed in Section 2.4 (former Langendorf facility and Cal West Periodicals, Arco, and Chevron), located within approximately 45 to 370 feet east and southeast of the Site. An additional diesel UST is located 250 feet due south of the Site. The locations of these facilities are illustrated in Figure 2.

According to the Polk City of Oakland and Haines City of Oakland directories, the stations included (in order of proximity) a former Mohawk Service Station; a former Gulf Oil Service Station; and a former Mobil Service Station. The station buildings are still present at the former Mohawk and former Gulf Oil fuel stations. The former Mobil station was demolished in the early 1970s. However, Cal West Periodicals reportedly removed a UST from the area within the last two years.

Discussions with local business people indicate that the UST at the former Mohawk Service Station was reportedly removed within the last two years. No records were reviewed to confirm UST removal.

The islands at the former Gulf Oil Service Station were removed in the late 1970s. However, it is unclear whether the UST(s) associated with this facility have been removed.

Although aerial photographs indicated that the former Mobil Service Station was demolished in the early 1970s, it is

unclear whether the UST(s) associated with the station also were removed at that time.

4.0 RECENT SOIL AND GROUND-WATER INVESTIGATIONS

Between November 7 and 18, 1994, Levine·Fricke completed a Phase II soil and ground-water investigation at the Site to further characterize suspected on-site source areas (i.e., areas with affected soils), and to delineate the limits of affected shallow ground water associated with suspected on-site sources. The scope of the Phase II investigation was developed based on the results of Levine·Fricke's initial soil and ground-water investigations conducted between July 18 and 22, 1994 (Levine·Fricke 1994a) and on site background information obtained from Union Ice Company files.

Tasks completed during the Phase II investigation consisted of the following:

- collecting and analyzing multiple soil samples from 23 locations
- collecting and analyzing ground-water grab samples from 36 locations
- collecting and characterizing two samples of floating product

Phase I and Phase II sampling locations are indicated on Figure 3. These locations were selected to provide more focused information about on-site areas where chemicals released during previous activities may have affected shallow soil and ground water. The corresponding information collected during Phase I activities has been included on the figures to help characterize the limits of chemicals in shallow ground water.

4.1 Field Activities

Levine·Fricke observed the drilling of 36 soil borings between November 7 and 18, 1994. Temporary ground-water monitoring wells were then installed in the borings to allow collection of 36 grab ground-water samples. Sections 4.1.1 through 4.1.4 describe the field activities completed during this Phase II soil and ground-water investigation.

4.1.1 Mobilization

Before drilling activities began, Levine·Fricke obtained permits from the City of Oakland Engineering Services and Zone 7 Water Agency that allowed drilling of borings in on-site areas and in city streets and sidewalks. Levine·Fricke personnel coordinated efforts with Underground Service Alert to clear all proposed drilling locations. In addition, Levine·Fricke had all proposed drilling locations cleared by a private utility locator (downUnder Technologies, Inc.).

During utility clearance activities, suspected UST locations outside the former auto repair facility and in the southern-most yard on the east flank of the Site (Figure 2) were scanned further. No metal objects were detected during this investigation.

4.1.2 Drilling

Under the observation of a Levine·Fricke hydrogeologist and geologist, Precision Sampling of San Rafael, California, used an XD-1 hydraulic drilling rig to drill 36 borings to depths ranging from 15 to 25 feet bgs (borings B-28 through B-64). Boring logs for borings B-28 through B-64 are included in Appendix B. All drilling and sampling equipment was steam cleaned before drilling activities began and between sampling locations. Appendix C provides additional details concerning drilling procedures.

4.1.3 Soil Sampling

Soil samples were collected on a continuous basis using the methods described in Appendix C. On-site Levine·Fricke personnel recorded descriptions of soil lithology using Unified Soil Classification System (USCS) terminology and field screened soil samples using a photoionization detector (PID). The USCS descriptions and PID measurements are presented on the lithologic logs in Appendix B.

Multiple soil samples were collected from soil borings located within enclosed spaces (i.e., rooms) at the Site. As WIRET requested, Levine·Fricke collected soil samples from each boring immediately below the flooring, at approximately 2 feet bgs, at approximately 5 feet bgs, and near the potentiometric surface of ground water (at approximately 10 feet bgs). A minimum of two soil samples were collected from each soil boring in the north-central and northwest portion of the Site, generally at depths of approximately 5 and 10 feet bgs.

4.1.4 Ground-Water Grab Sampling

Temporary wells were constructed in all 36 borings by inserting a 1-inch-diameter screened section of slotted PVC casing into the annular space of the drive casing to the bottom of the boring. The screen was exposed by raising the drive casing so that ground water was able to move into the borehole. In some cases, the temporary wells were left open for several hours so that sufficient ground water would fill the borehole; at sampling location B-40, the temporary well remained open overnight.

After each temporary well had filled with ground water, 3/4-inch-diameter stainless steel bailers were inserted into the screened section of the temporary well to withdraw ground-water samples. Samples were placed in laboratory-supplied 40-milliliter vials or 1-liter bottles, as appropriate for the analyses to be performed. Appendix C contains a summary of the field methods used to collect ground-water grab samples.

In borings B-43 and B-44, hydrocarbon product was found floating on ground water; samples of the product were collected and sent to Friedman & Bruya, Environmental Chemists, of Seattle, Washington, for characterization. Results are discussed in Section 4.2.3.

4.2 Analysis Methods and Investigation Results

Soil samples were submitted for laboratory analysis based on PID readings, olfactory observations, lithology, and each sample's proximity to the water table. Soil samples collected from depths ranging from 1.0 to 19.0 feet bgs were submitted for chemical analysis. All ground-water samples collected during the investigation were also submitted for chemical analysis. Both soil and ground water were analyzed using EPA methods as indicated on Tables 1 and 2.

Sections 4.2.1 through 4.2.6 provide a summary of the soil and ground-water samples collected and analyzed for each area of the Site. Table 1 presents the analytical results for the soil samples and is organized according to suspected source area based on historical information and results of Levine·Fricke's initial (Phase I) investigation. Analytical results for soil samples collected from 0 to 5 feet bgs are also presented on Figure 3. Table 2 presents the analytical results for the ground-water grab samples. Figures 4 and 5 present isoconcentration contours for TPHg and total petroleum hydrocarbons as mineral spirits (TPHms) in shallow ground

water beneath the Site, based on Phase I and Phase II investigation results. The laboratory reports and chain-of-custody forms for soil and ground-water samples are included in Appendix D.

4.2.1 Former Auto Repair Shop, Garage, Cabinet Shop, and Paint Room (B-32 through B-37 and B-64)

Soil and ground-water grab samples were collected from seven locations throughout the former auto repair shop, garage, cabinet shop, and paint room (B-32 through 37, and B-64). Samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 5030; TPHms by gas chromatograph-flame ionization detector (GC-FID); benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8020; oil and grease (O&G) by Standard Methods 5520 B/E; and nonpolar hydrocarbons (NPH) by Standard Method 5520F. In addition, soil and ground-water samples collected from locations in the former paint room and cabinet shop (B-32 and B-33) and samples collected from the former auto repair shop and garage (B-36, B-37 and B-64 [soil sample only]) were analyzed for VOCs by EPA Methods 8010 and 8020. One soil sample each collected from locations B-32 and B-37 was also analyzed for semivolatile organic compounds (SVOCs) by EPA Method 8270, as were ground-water samples collected from borings B-32 and B-37.

Soil

TPHg results for soil samples indicate that elevated concentrations of TPHg (up to 300 mg/kg) are primarily present in soils at depths of approximately 10 feet bgs in borings B-34, B-35, and B-37 in the former auto repair shop. Low concentrations of TPHg (up to 1.9 mg/kg) and benzene (up to 0.090 mg/kg) were detected in shallow soils (at depths of less than 10 feet bgs) in borings B-36 and B-37 in this area (Table 1).

Elevated TPHms concentrations (up to 410 mg/kg) were detected in soil at depths of approximately 10 feet bgs at six locations. The highest concentrations were detected in samples collected from B-64 in the former garage outside the former paint room. Shallow soils less than 10 feet bgs did not contain detectable concentrations of TPHms.

No SVOCs were detected in soil samples collected from borings in this area and analyzed for these compounds. Various VOCs were detected in shallow soils less than 3 feet bgs in three locations. Methylene chloride (up to 0.007 mg/kg) was

detected in shallow samples collected from borings B-33 and B-37; however, the positive detection was most likely the result of laboratory contamination. Both 1,2-dichlorobenzene (1,2-DCB; up to 0.770 mg/kg) and 1,4-dichlorobenzene (1,4-DCB; up to 0.008 mg/kg) were detected in samples collected from boring B-36, located in the former garage. Cis-1,2-dichloroethene (cis-1,2-DCE; 0.310 mg/kg) was also detected in shallow samples collected from boring B-37, located in the former auto shop. Deeper soil samples collected at 5 and 10 feet bgs from both B-36 and B-37 did not contain detectable concentrations of VOCs.

Low concentrations (160 mg/kg or less) of O&G and NPH were detected in shallow soils (less than 3 feet bgs) collected from borings B-32, B-34, and B-37. Higher concentrations of these compounds were detected in samples collected at 10 feet bgs at locations B-35, located near the former garage and existing elevator sump, and B-64, located at the southwest corner of the former garage.

Ground Water

TPHg was detected in seven of eight ground-water grab samples, at concentrations ranging from 0.07 to 7.3 milligrams per liter (mg/l), while benzene was detected in four of eight locations, at concentrations ranging from 0.003 to 0.045 mg/l (Table 2). The most elevated concentrations of TPHg and benzene were detected in ground-water grab samples collected from boring B-64 in the southwestern end of the former garage.

4.2.2 Existing Elevator Sumps

Results for soil samples collected from Phase I locations B-9 and B-14, located near elevators 1 and 2, respectively (see Figure 3), indicated concentrations of O&G and NPH in soil up to 4,400 mg/kg each and in shallow ground water up to 270 ppm O&G (Tables 1 and 2).

To assess the extent of petroleum hydrocarbon-affected soil in these areas, soil borings B-33 through B-35 and B-38 through B-40 were installed during the recent investigation (Figure 3). Soil and ground-water grab samples collected from these borings were analyzed for O&G and NPH using Standard Methods 5520 B/E and 5520F. Samples collected from borings B-33 through B-35 were additionally analyzed for TPHg, TPHms, and BTEX, as discussed in Section 4.2.1, to assess the potential impact of former activities in the area on soil and ground-water quality.

Soil

Moderate concentrations (up to 790 mg/kg) of O&G and NPH were detected in samples collected from 10 feet bgs in borings B-35 and B-39 located north of elevators 1 and 2, respectively. These compounds, which may be associated with a possible release from the elevator hydraulic systems, were not detected in the remainder of soil samples collected in these areas, although low concentrations (up to 70 mg/kg O&G) were detected in a sample from location B-34 at 1 foot bgs.

Ground Water

O&G and NPH were not detected in ground-water samples collected from borings located near the elevator sumps, with the exception of low concentrations (up to 15 ppm O&G) reported for the sample collected from location B-40 (Table 2).

4.2.3 Former Cleaning and Dyeing Works and Benzin Room Area, and the Area Downgradient from These Former Facilities

Results for soil and ground-water samples collected from this area during Phase I indicated the presence of TPHg, TPH as benzin, and associated compounds at elevated concentrations. Additional soil and ground-water samples were collected in the vicinity of the former cleaning and dyeing works and benzin room (borings B-41 through B-46) during the recent investigation to identify a possible source for these compounds and to assess the lateral extent of affected soil and ground water.

Soil

Analytical results for soil samples collected from borings B-41 through B-46 generally indicated elevated concentrations of TPHg (up to 1,900 mg/kg) and TPHms (1,100 mg/kg). The highest concentrations were reported for samples collected from borings B-41, B-43, and B-44. Benzene was not reported above laboratory detection limits for any of the samples collected. However, laboratory detection limits for some of the samples were raised significantly because of interference from the TPHg.

Ground Water

Ground-water samples were collected from soil borings B-41 through B-46, and also from locations B-58 through B-63. Borings B-58 through B-63 were located off site, in an

approximate downgradient direction (northwest) from the investigation area, to assess the extent of petroleum hydrocarbon-affected ground water identified during the Phase I investigation.

No TPHg, TPHms, or BTEX compounds were detected in the samples collected from locations B-59 and B-60, located approximately 85 feet and 140 feet northwest of the Site, respectively (Figures 4 and 5). Analytical results indicated low (0.07 ppm) to moderate (93 ppm) concentrations of TPHg and low (2.9 ppm) to moderate (62 ppm) concentrations of TPHms in samples collected from the remaining locations. An elevated concentration of TPHms (270 ppm) was detected in the sample collected from location B-43, located just west of the former benzin room (Figure 5).

Product Samples

Free-phase fuel product was encountered floating on ground water in several of the soil borings located in the northwestern area. Samples of this product were collected from two borings (B-43 and B-44) and submitted to Friedman and Bruya, Inc., of Seattle, Washington, for fuel characterization analysis. Results of this analysis indicated that the product consisted of low boiling point compounds, possibly a weathered gasoline, mineral spirits, JP-4, or naphtha. These results are similar to those reported for a product sample collected from boring B-8 during the Phase I investigation conducted in July 1994.

4.2.4 Suspected Former UST Location in Southeast Yard

Soil boring B-47 was installed just west of a suspected former tank location in the southeast yard of the Site to assess whether there had been a release from the tank. Three soil samples and one ground-water sample collected from location B-47 were submitted for analysis of TPHg, TPHms, and BTEX compounds.

Soil

No TPHg, TPHms, or BTEX compounds were reported above laboratory detection limits for the samples collected from location B-47 at depths of 3 and 5 feet bgs. TPHg and TPHms were detected in the sample collected from 10 feet bgs at concentrations of 62 ppm and 1,000 ppm, respectively.

Ground Water

No TPHg, TPHms, or BTEX compounds were detected in the ground-water sample collected from boring B-47, indicating that shallow ground water in this area has not been affected by a possible release of these compounds.

4.2.5 Suspected Former UST Locations: Outside Auto Repair Shop; Adjacent to Former Langendorf Facility; and Along Filbert Street (Downgradient from Auto Shop Area)

Additional sampling locations were identified along Filbert Street to survey soil and ground-water quality adjacent to former UST locations, and to collect ground-water samples downgradient from the Site to attempt to delineate the limits of TPH in shallow ground water.

Soil

Soil samples were collected from borings B-49, B-50, and B-56 to assess the possible presence of petroleum hydrocarbons in soil associated with existing USTs in the street; former USTs located east of the former Langendorf facility; and the UST formerly located outside the auto repair shop, respectively.

Sample B-49-8 was submitted for analysis of O&G and NPH only. Results for sample B-49-8 indicated a low (30 mg/kg) concentration of O&G and less than 30 mg/kg (the laboratory detection limit) for NPH analysis. Samples B-50 and B-56 were analyzed for TPHg, TPHms, and BTEX compounds. TPHg was detected at a concentration of 540 mg/kg and 20 mg/kg at locations B-50 (12 feet) and B-56 (11.5 feet), respectively. Benzene (0.270 mg/kg), toluene (1.7 mg/kg), and ethylbenzene (1.5 mg/kg) were also detected in the sample collected from location B-50-12 adjacent to the former Langendorf UST facilities.

Ground Water

Ground-water samples were collected from boring locations B-49 through B-57 to attempt to assess the downgradient extent of petroleum hydrocarbons detected in ground water in the vicinity of Phase I borings B-5, B-6, B-11, and B-12. Concentrations of TPHg ranging from 0.3 ppm to 8.2 ppm were detected in samples from locations B-50, B-52, B-56 and B-57 (Table 2 and Figure 4). The highest concentration was detected in the sample from location B-50, located immediately east of three USTs formerly located at the Langendorf facility and removed in 1994 (Section 2.4).

4.2.6 Former Engine Room and Hazardous Materials Room

Sample locations B-28 through B-31 were selected to assess soil and ground-water quality beneath the engine room and hazardous materials room located in the southwestern portion of the Site. Samples collected from these locations were submitted for analysis of TPHg, TPHms, BTEX, O&G, and NPH. Selected samples were also submitted for analysis of SVOCs and VOCs.

Soil

Results for analytes generally did not indicate the presence of any of the analytes listed above, with the exception of the 10-foot samples collected from locations B-29 and B-31. Results for sample B-29-10 indicated concentrations of TPHg, TPHms, and ethylbenzene at concentrations of 370 mg/kg, 120 mg/kg, and 1.6 mg/kg, respectively. TPHg (330 mg/kg), TPHms (10 mg/kg), O&G (40 mg/kg), and BTEX (3.75 mg/kg combined concentration) were detected in sample B-31-10.

No SVOCs or VOCs were detected in any of the samples except for sample B-29-6 (see Table 1, Note 19).

Ground Water

No O&G, NPH, SVOCs (except B-31; see Table 2, Note 17), or VOCs were detected in ground-water samples from borings B-28 through B-31. Low concentrations (5.6 ppm or less) of TPHg and TPHms were detected in all of the samples. BTEX compounds were generally detected at concentrations ranging from 0.002 ppm to 0.110 ppm.

5.0 SUMMARY AND DISCUSSION

Results for soil and ground-water samples collected during environmental investigations indicate that soil and ground water beneath certain portions of the Site have been affected by petroleum hydrocarbons. Source areas for these compounds appear to be located in the northwest (former cleaning and dyeing works and former benzin room) and western (former auto repair shop, former garage, hazardous material storage room, etc.) portions of the Site. In addition, localized areas of elevated O&G and NPH concentrations in soil and ground water appear to be associated with the existing elevator sumps and are likely due to a release of hydraulic fluid in these areas. Low concentrations of petroleum hydrocarbons were detected in ground water in other localized areas (i.e., borings B-1, B-2,

B-25, MW-1) of the Site. However, these concentrations may be attributable to known off-site releases of these compounds.

5.1 Soil

Analytical results for soil samples indicate that soil affected by petroleum hydrocarbons is generally restricted to deeper soil encountered at 10 feet bgs, the approximate depth of ground water.

5.1.1 Northwest Area

Concentrations of up to 1,900 mg/kg TPHg and 1,100 mg/kg TPHms were detected in soil samples collected at approximately 10 feet bgs in the northwestern area of the Site.

Although the northwestern portion of the Site is a suspected source area (i.e., elevated concentrations would be expected in shallow soils), a large area of the ground surface in that area is approximately 5 to 9 feet below the natural grade, and the shallowest samples collected correspond to relative depths of approximately 10 feet bgs. Boring B-44, located in the vicinity of the former cleaning and dyeing works and benzin room (Figure 3), was installed along the northern edge of the Site, at natural grade. Results for shallow (5 feet bgs or less) soil samples collected from boring B-44 indicated concentrations of TPHg up to 240 mg/kg and TPHms up to 49 mg/kg.

Soil samples collected in this area do not appear to be affected by O&G, SVOCs, or VOCs (Figure 3).

5.1.2 Western Area

Concentrations of up to 370 mg/kg TPHg and 410 mg/kg TPHms were detected in soil samples collected at approximately 10 feet bgs in the western area of the Site. Elevated concentrations of O&G were detected in boring B-64, located in the former garage.

Results for soil samples collected from 0 to 5 feet bgs did not contain elevated concentrations of TPHg or TPHms. Shallow soil samples do not appear to be affected by O&G (Figure 3).

VOCs and SVOCs were detected only in shallow (less than 2 feet deep) soil samples collected from borings B-36 and B-37, located in the former garage and auto repair shop, respectively. These compounds were not detected in deeper

samples collected from these locations, indicating that these compounds in soil may have resulted from isolated spills.

5.1.3 Elevator Sumps

Elevated concentrations of O&G (up to 4,400 mg/kg) were detected in soil samples collected from approximately 10 feet bgs in borings B-9, B-14, B-35, and B-39, located adjacent to the existing elevator sumps.

5.2 Ground Water

Elevated concentrations of TPHg (up to 62 ppm), TPHms (up to 270 ppm) and benzene (up to 0.34 ppm) were detected in grab ground-water samples collected from several borings in the northwest and western portions of the Site. As presented on Figures 4 through 6, two on-site source areas appear to be located in the northwestern and western portions of the Site and are likely associated with historical site use. Free-phase fuel product was encountered in several borings located in the northwestern portion of the Site.

Elevated concentrations of O&G and NPH were detected in grab ground-water samples collected from localized areas adjacent to and downgradient from existing elevators 1 and 2. The presence of these compounds is likely attributable to a possible release of hydraulic fluid from the elevators.

As discussed previously and indicated on Figure 2 and Figures 4 through 6, off-site sources for petroleum hydrocarbons include three USTs recently removed from the former Langendorf facility, located just west of the Site, and several former and existing fuel service stations, located east and southeast (the approximate upgradient direction) of the Site. While migration of the compounds in ground water may affect water quality beneath portions of the Site, it does not appear likely that the elevated concentrations of petroleum hydrocarbons detected in the northwestern and western portions of the Site are attributable to these off-site releases.

Shallow ground-water quality beneath the Site does not appear to be significantly affected by VOCs or SVOCs. However, 1,2-DCA, a gasoline additive, was detected at concentrations ranging from 0.0006 ppm to 0.028 ppm in eight samples collected from the western portion of the Site. The presence of this compound and TPHg indicates that there has been a gasoline release. Low concentrations of 1,2-DCE (0.005 ppm or less) were detected in ground-water samples collected from two locations (B-6 and B-11). Bis-(2-ethylhexyl)-phthalate was

detected in sample B-11 (0.270 ppm) and 2-methylnaphthalene (0.018 ppm) and naphthalene (0.011 ppm) were detected in sample B-31.

6.0 RECOMMENDATIONS

6.1 Soil

Analytical results, PID readings, and olfactory observations indicate that surface soil in the northwestern area contains elevated concentrations of petroleum hydrocarbons. We recommend that soil concentrations be assessed to evaluate whether soil will require remediation, and if so, that a remedial goal be developed.

Since no obvious source soils were identified in the western area, we do not recommend further investigation of soils in this area. We do, however, recommend further assessment of ground-water quality.

6.2 Ground Water

To assess ground-water flow direction and the concentrations and extent of petroleum-affected ground water beneath the Site, we recommend that ground-water monitoring wells be installed and monitored. Specifically, we recommend that a minimum of three wells each be located in the northwestern and western portions of the Site, and that the proposed wells be surveyed in conjunction with off-site MFG wells MW-1 and MW-2 to allow an accurate determination of ground-water flow. Three wells are recommended for each apparent source area to provide an accurate assessment of local ground-water flow direction in these areas and to assess the downgradient extent of petroleum hydrocarbon-affected ground water in each area (and product in the northwestern area). Once these wells are installed and concentrations are determined, it may be appropriate to pursue a nonattainment zone designation for ground water at the Site. This may depend upon the ultimate disposition of the floating product detected in the northwest area.

We recommend that ground-water elevations in the proposed wells and existing wells MW-1 and MW-2 initially be monitored quarterly for one year, and that ground-water samples be collected for chemical analysis on a quarterly (proposed wells) and semiannual (MW-1 and MW-2) basis. Following one year of quarterly monitoring, ground-water quality data would

be reviewed and a recommendation made regarding the frequency of any continued monitoring program.

In addition, we recommend that regulatory agency files be reviewed periodically to monitor off-site releases that may affect water quality beneath the Site.

REFERENCES

Alameda County Department of Environmental Health. 1994. Hazardous Materials Inspection Form and Field Notes. September 27.

Helley, E.J., and K.R. LaJoie. 1979. Flatland Deposits of the San Francisco Bay Region, California—Their Geology and Engineering Properties, and Their Importance to Comprehensive Planning. Geological Survey Professional Paper 943.

Levine·Fricke, Inc. 1994a. Soil and Ground-Water Investigation Report, Former Safeway ice Cream Manufacturing Plant, 2240 Filbert Street, Oakland, California. September 14.

——. 1994b. Revised Proposal to Perform Additional Soil and Ground-Water Investigation in the Vicinity of Safeway's Former Ice Cream Manufacturing Facility, 2240 Filbert Street, Oakland, California. November 30.

McCulley, Frick & Gilman, Inc. 1994a. Phase I Environmental Site Assessment, Safeway Ice Cream Plant, Oakland, California. March 14.

——. 1994b. Report on Investigation of Impacts from Off-Site Sources, Former Safeway Ice Cream Plant, 2240 Filbert Street, Oakland, California. November 8.

SEMCO Environmental Contractors and General Engineering. 1994. Tank Removal Activity Report, 1000 West Grand Avenue, Oakland, California. November.

TABLE 1
HISTORICAL ANALYTICAL RESULTS FOR SOIL SAMPLES
2240 FILBERT STREET, OAKLAND, CALIFORNIA
(all results in milligrams per kilogram [mg/kg])

Sample ID	Sample Depth	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHms	Oil & Grease	NPH	SVOCs	VOCs
SUSPECTED FORMER UST LOCATIONS OUTSIDE AUTO REPAIR SHOP, ADJACENT TO FORMER LANGENDORF FACILITY, AND ALONG FILBERT STREET												
Phase I Investigation												
B-5-9.5	9.5	20-Jul-94	---	---	---	---	---	---	37	<10	---	---
B-6-13.5 (2,5,9,20,21)	13.5	19-Jul-94	0.45	0.58	0.9	0.28	<200	---	140	120	---	---
B-11-9.5 (1)	9.5	20-Jul-94	<0.1	0.52	1.1	1.7	170	---	---	---	---	---
Phase II Investigation												
B-49-8	8.0	07-Nov-94	---	---	---	---	---	---	30	<30	---	---
B-50-12	12.0	07-Nov-94	0.270	1.7	1.5	<0.050	540	<50	---	---	---	---
B-56-11.5	11.5	08-Nov-94	<0.030	<0.030	0.061	<0.030	20	3	---	---	---	---
EXISTING ELEVATOR SUMPS												
Phase I Investigation												
B-9-10 (23)	10.0	19-Jul-94	---	---	---	---	---	---	4400	4400	---	---
B-14-9.5 (23)	9.5	19-Jul-94	---	---	---	---	---	---	630	610	---	---
Phase II Investigation												
B-33-1	1.0	11-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	<30	<30	---	(12)
B-33-2	2.0	11-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	<10	<10	---	(13)
B-33-5	5.0	11-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	<10	<10	---	ND
B-33-10	10.0	11-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	<10	<10	---	ND
B-34-1	1.0	10-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	70	40	---	---
B-34-2	2.0	10-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	<30	<30	---	---
B-34-5	5.0	10-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	<30	<30	---	---
B-34-10	10.0	10-Nov-94	<0.300	0.310	0.630	<0.300	170	82	<30	<30	---	---
B-35-2	2.0	14-Nov-94	<0.005	<0.005	<0.005	<0.005	0.4	<1	<30	<30	---	---
B-35-5	5.0	14-Nov-94	<0.005	<0.005	<0.005	<0.005	0.4	<1	<30	<30	---	---
B-35-10	10.0	14-Nov-94	<0.5	<0.5	1.1	<0.5	300	51	790	690	---	---
B-38-1	1.0	09-Nov-94	---	---	---	---	---	---	<30	<30	---	---
B-38-5	5.0	09-Nov-94	---	---	---	---	---	---	<30	<30	---	---
B-38-10	10.0	09-Nov-94	---	---	---	---	---	---	<30	<30	---	---
B-39-0.5	0.5	10-Nov-94	---	---	---	---	---	---	<30	<30	---	---
B-39-1.5	1.5	10-Nov-94	---	---	---	---	---	---	<30	<30	---	---
B-39-5.0	5.0	10-Nov-94	---	---	---	---	---	---	<30	<30	---	---
B-39-10.0	10.0	10-Nov-94	---	---	---	---	---	---	470	400	---	---
B-40-1	1.0	09-Nov-94	---	---	---	---	---	---	<30	<30	---	---
B-40-2	2.0	09-Nov-94	---	---	---	---	---	---	<30	<30	---	---
B-40-5	5.0	09-Nov-94	---	---	---	---	---	---	<30	<30	---	---
B-40-10	10.0	09-Nov-94	---	---	---	---	---	---	<30	<30	---	---

TABLE 1
HISTORICAL ANALYTICAL RESULTS FOR SOIL SAMPLES
2240 FILBERT STREET, OAKLAND, CALIFORNIA
(all results in milligrams per kilogram [mg/kg])

Sample ID	Sample Depth	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHms Oil & Grease		NPH	SVOCs	VOCs
FORMER CLEANING AND DYEING WORKS AND BENZIN AREA												
Phase I Investigation												
B-16-9 (4,8,25)	9.0	21-Jul-94	<0.005	<0.005	0.2	0.17	---	---	---	---	---	(6)
B-17-9.5 (1,7,10,11,20,24)	9.5	22-Jul-94	<0.5	<0.5	<0.5	2.4	1000	---	---	---	---	ND
Phase II Investigation (sample depths corrected using site's natural grade for borings located in loading dock areas)												
B-41-1.5	10.5	11-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	8	---	---	---	---
B-41-3	19.0	11-Nov-94	<0.300	<0.300	<0.300	0.370	260	330	---	---	---	---
B-41-5	12.0	11-Nov-94	<1.000	<1.000	<1.000	<1.000	1600	320	---	---	---	---
B-41-10	14.0	11-Nov-94	<0.005	<0.005	<0.005	<0.005	0.6	18	---	---	---	---
B-42-1.5	9.5	11-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	---	---	---	---
B-42-3	11.0	11-Nov-94	<0.100	<0.100	<0.100	0.140	130	7	---	---	---	---
B-42-5	13.0	11-Nov-94	<0.500	<0.500	<0.500	<0.500	440	460	---	---	---	---
B-42-10	18.0	11-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	28	---	---	---	---
B-43-1.5	8.5	11-Nov-94	<0.005	<0.005	<0.005	1.100	720	82	---	---	---	---
B-43-3	10.0	11-Nov-94	<0.300	<0.300	1.400	4.400	1900	1100	---	---	---	---
B-43-5	12.0	11-Nov-94	<1.000	<1.000	1.300	7.200	1200	550	---	---	---	---
B-43-10	17.0	11-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	12	---	---	---	---
B-44-1	1.0	14-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	---	---	---	---
B-44-2	2.0	14-Nov-94	<0.5	<0.5	<0.5	<0.5	240	49	---	---	---	---
B-44-5	5.0	14-Nov-94	<0.005	<0.005	<0.005	0.010	3.1	17	---	---	---	---
B-44-10	10.0	14-Nov-94	<3.0	<3.0	<3.0	<3.0	1600	850	---	---	---	---
B-45-6	9.0	10-Nov-94	<0.100	<0.100	<0.100	0.150	95	16	---	---	---	---
B-45-9.5	12.5	10-Nov-94	<0.300	<0.300	<0.300	0.980	350	32	---	---	---	---
B-46-5	5.0	11-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	---	---	---	---
B-46-10	10.0	11-Nov-94	<0.050	<0.050	<0.050	0.310	72	67	---	---	---	---
SUSPECTED FORMER UST IN SOUTHEAST YARD (WEST OF MYRTLE STREET)												
Phase I Investigation												
B-25-13 (20,26)	13.0	18-Jul-94	<0.005	<0.005	<0.005	<0.005	<0.2	---	---	---	---	---
B-26-12.5 (20)	12.5	18-Jul-94	<0.005	<0.005	<0.005	<0.005/<0.020	<0.2	---	---	---	---	---
Phase II Investigation												
B-47-3	3.0	15-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	---	---	---	---
B-47-5	5.0	15-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	---	---	---	---
B-47-10	10.0	15-Nov-94	<0.3	<0.3	<0.3	<0.3	62	1000	---	---	---	---

TABLE 1
HISTORICAL ANALYTICAL RESULTS FOR SOIL SAMPLES
2240 FILBERT STREET, OAKLAND, CALIFORNIA
(all results in milligrams per kilogram [mg/kg])

Sample ID	Sample Depth	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHms	Oil & Grease	NPH	SVOCs	VOCs
FORMER ENGINE ROOM AND HAZARDOUS MATERIALS STORAGE AREA												
Phase I Investigation												
B-5-9.5	9.5	20-Jul-94	---	---	---	---	---	---	37	<10	---	---
B-6-13.5 (2,5,9, 20, 21)	13.5	19-Jul-94	0.45	0.58	0.9	0.28	<200	---	140	120	---	---
B-7-11	11.0	21-Jul-94	---	---	---	---	---	---	<10	<1	---	---
Phase II Investigation												
B-28-4	4.0	18-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	---	---	---	ND
B-28-5.5	5.5	18-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	<10	<10	ND	ND
B-28-10	10.0	18-Nov-94	<0.005	<0.005	<0.005	<0.005	0.4	<1	---	---	---	---
B-29-6	6.0	18-Jul-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	<10	<10	(19)	ND
B-29-10	10.0	18-Jul-94	<0.005	<0.005	1.600	<0.005	370	120	---	---	---	---
B-30-4 (18)	4.0	15-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	<30	<30	ND	ND
B-30-7 (18)	7.0	15-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	<30	<30	---	ND
B-30-3	3.0	18-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	---	---	---	ND
B-30-5	5.0	18-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	<10	<10	ND	ND
B-30-10	10.0	18-Nov-94	<0.030	<0.030	<0.030	<0.030	<1	<1	---	---	---	---
B-31-1	1.0	11-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	40	<30	---	---
B-31-2	2.0	11-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	30	<30	---	---
B-31-5	5.0	11-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	<30	<30	ND	---
B-31-10	10.0	11-Nov-94	0.720	0.790	1.500	0.740	330	10	40	<30	---	---
FORMER AUTO REPAIR SHOP, CABINET SHOP, PAINT ROOM, AND GARAGE												
Phase I Investigation												
B-8-10 (3,5,22)	10.0	19-Jul-94	<0.01	0.066	0.2	0.21	<50	---	---	---	---	---
B-9-10 (23)	10.0	19-Jul-94	---	---	---	---	---	---	4400	4400	---	---
Phase II Investigation												
B-32-2	2.0	10-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	53	46	---	ND
B-32-5	5.0	10-Nov-94	<0.005	<0.005	<0.005	<0.005	0.3	<1	<30	<30	ND	ND
B-32-9.5	9.5	10-Nov-94	<0.005	<0.005	<0.005	<0.005	0.6	<1	<30	<30	---	ND
B-33-1	1.0	11-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	<30	<30	---	(12)
B-33-2	2.0	11-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	<10	<10	---	(13)
B-33-5	5.0	11-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	<10	<10	---	ND
B-33-10	10.0	11-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	<10	<10	---	ND
B-34-1	1.0	10-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	70	40	---	---
B-34-2	2.0	10-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	<30	<30	---	---
B-34-5	5.0	10-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	<30	<30	---	---
B-34-10	10.0	10-Nov-94	<0.300	0.310	0.630	<0.300	170	82	<30	<30	---	---
B-35-2	2.0	14-Nov-94	<0.005	<0.005	<0.005	<0.005	0.4	<1	<30	<30	---	---
B-35-5	5.0	14-Nov-94	<0.005	<0.005	<0.005	<0.005	0.4	<1	<30	<30	---	---
B-35-10	10.0	14-Nov-94	<0.5	<0.5	1.1	<0.5	300	51	790	690	---	---

TABLE 1
HISTORICAL ANALYTICAL RESULTS FOR SOIL SAMPLES
2240 FILBERT STREET, OAKLAND, CALIFORNIA
(all results in milligrams per kilogram [mg/kg])

Sample ID	Sample Depth	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHms	Oil & Grease	NPH	SVOCs	VOCs
B-36-1	1.0	14-Nov-94	<0.005	<0.005	<0.005	<0.005	<0.2	<1	<30	<30	---	(14)
B-36-2	2.0	14-Nov-94	<0.005	<0.005	0.013/0.030	<0.005	1.4	<1	<30	<30	---	(15)
B-36-5	5.0	14-Nov-94	<0.005	<0.005	0.021	<0.005	0.6	<1	<30	<30	---	ND
B-36-10	10.0	14-Nov-94	<0.005	<0.005	0.051/0.280	0.018/0.031	6.9	5	<30	<30	---	ND
B-37-1	1.0	14-Nov-94	0.009/0.090	0.005/0.033	0.006/0.016	0.007/0.020	1.9	<1	160	120	---	(16)
B-37-2	2.0	14-Nov-94	<0.005	<0.005	0.006/0.089	0.006	1.0	1	40	<30	---	(17)
B-37-5	5.0	14-Nov-94	<0.005	<0.005	0.036	<0.005	0.3	<1	<10	<10	ND	ND
B-37-10	10.0	14-Nov-94	0.120	0.610	0.950/0.780	<0.300	210	13	40	<30	---	ND
B-56-11.5	11.5	08-Nov-94	<0.030	<0.030	0.061	<0.030	20	3	---	---	---	---
B-64-1	1.0	14-Nov-94	<0.005	<0.005	<0.005	<0.005	0.7	<1	<30	<30	---	---
B-64-2	2.0	14-Nov-94	<0.005	<0.005	<0.005	0.006	1.0	<1	<30	<30	---	---
B-64-5	5.0	14-Nov-94	<0.005	<0.005	<0.005	<0.005	0.4	<1	<30	<30	---	---
B-64-10	10.0	14-Nov-94	<0.030	<0.030	0.031	<0.030	8	410	480	350	---	---
OFF-SITE, UPGRADIENT WELLS INSTALLED BY MCCULLEY, FRICK, AND GILMAN INC.												
MW-1-4-1 (27)	11.5	03-Oct-94	<0.01	<0.01	0.032	0.079	7.9	---	---	---	---	---
MW-2-3-2 (28)	14.0	03-Oct-94	<0.005	<0.005	<0.005	<0.005	<1.0	---	---	---	---	---

Data entered by DLM/15 Dec 94 Data proofed by SXS QA/QC by SXS

NOTES:

All compounds scanned are not included in table. Please see notes for specific compounds detected and laboratory data sheets for detection limits.

--- = not analyzed
ND = not detected above laboratory detection limits

Benzene, toluene, ethylbenzene, and total xylenes by EPA Method 8020.
TPHg - total petroleum hydrocarbons as gasoline by EPA Method 5030.
TPHms - total petroleum hydrocarbons as mineral spirits by EPA Method 5030.
Oil and grease by Standard Method 5520 E.
NPH - nonpolar hydrocarbons by Standard Method 5520 F.
SVOCs - semivolatile organic compounds by EPA Method 8270.
VOCs - volatile organic compounds by EPA Method 8240.

(1) The gasoline analysis showed a pattern not typical of gasoline.
(2) Reporting limit elevated for gasoline due to hydrocarbon interference. The pattern in the analysis run was not typical of gasoline.
(3) Reporting limit elevated for benzene and gasoline due to hydrocarbon interference. The pattern in the analysis run was not typical of gasoline.
(4) Sample contains nontarget compounds in 8240 analysis.
(5) Mineral spirits range hydrocarbons detected also.
(6) Acetone detected at 0.250 mg/kg.
(7) Reporting limit elevated for BTEX due to a dilution.
(8) Result for benzin is in the benzin and gasoline range but the pattern is not typical of either compound.
(9) The gasoline result shows a pattern not typical of gasoline. There may be a mixture.
(10) Results for diesel are in the mineral spirits range.
(11) Oil range hydrocarbons were also detected.
(12) Methylene chloride detected at 0.006 mg/kg.

TABLE 1
HISTORICAL ANALYTICAL RESULTS FOR SOIL SAMPLES
2240 FILBERT STREET, OAKLAND, CALIFORNIA
(all results in milligrams per kilogram [mg/kg])

Sample ID	Sample Depth	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHms Oil & Grease	NPH	SVOCs	VOCs

(13) Methylene chloride detected at 0.007 mg/kg.
(14) 1,2-Dichlorobenzene detected at 0.770 mg/kg, 1,4-Dichlorobenzene detected at 0.008 mg/kg.
(15) 1,2-Dichlorobenzene detected at 0.052 and 0.053 mg/kg.
(16) Cis-1,2-dichloroethene detected at 0.310 mg/kg.
(17) Methylene chloride detected at 0.006 mg/kg.
(18) Boring was terminated after reaching a 7-foot depth.
(19) Benzo(b)fluoranthene detected at 0.330 mg/kg; Fluoranthene detected at 0.750 mg/kg; Pyrene detected at 0.410 mg/kg.
(20) The sample was analyzed for organic lead. This compound was not reported above laboratory detection limits.
(21) The sample was analyzed for TPH as diesel. TPHd was detected at a concentration of 2 mg/kg.
(22) The sample was analyzed for TPH as diesel and organic lead. These compounds were not reported above laboratory detection limits.
(23) The sample was analyzed for PCBs by EPA Method 8080. None of these compounds were reported above laboratory detection limits.
(24) The sample was analyzed for TPH as benzin and diesel. TPH as benzin was reported as a concentration less than 1,000 mg/kg and TPH as diesel was reported at a concentration of 1,300 mg/kg.
(25) The sample was analyzed for TPH as benzin. Results indicate that this compound was present at a concentration of 2,100 mg/kg.
(26) The sample was analyzed for TPH as diesel. This compound was not reported above laboratory detection limits.
(27) The sample was analyzed for TPH as diesel and motor oil. TPH as diesel and motor oil were reported at concentrations of 3.8 mg/kg and 14 mg/kg, respectively.
(28) The sample was analyzed for TPH as diesel and motor oil. These compounds were not detected above laboratory detection limits.

TABLE 2
HISTORICAL ANALYTICAL RESULTS FOR GROUND-WATER GRAB SAMPLES
2240 FILBERT STREET, OAKLAND, CALIFORNIA
(all results in milligrams per liter [mg/l])

Sample ID	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHd	TPHms	Oil & Grease	Hydro-carbons	Organic Lead	SVOCs	VOCs	Ethylene Glycol
FORMER SUSPECTED UST NEAR THE SOUTHWEST LOADING DOCK AND ALONG WEST GRAND STREET														
Phase I Investigation														
B-1	20-Jul-94	<0.0005	<0.0005	<0.0005	<0.002	<0.05	<0.05	---	---	---	---	---	---	<50
B-2 (2)	20-Jul-94	0.002	0.0009	0.002	<0.002	0.8	---	---	---	---	---	---	---	<50
B-3	20-Jul-94	---	---	---	---	---	<0.05	---	---	---	---	---	---	<50
B-4 (2)	20-Jul-94	<0.0005	<0.0005	<0.0005	<0.002	0.1	<0.05	---	---	---	---	---	---	<50
SUSPECTED FORMER UST LOCATIONS OUTSIDE THE HAZARDOUS MATERIALS STORAGE AREA AND AUTO REPAIR SHOP, ADJACENT TO FORMER LANGENDORF FACILITY, AND ALONG FILBERT STREET														
Phase I Investigation														
B-5 (2)	20-Jul-94	0.018	0.016	0.04	0.021	5.0	---	---	<1	<1	---	---	---	<50
B-6 (2,4,16)	19-Jul-94	0.093	0.006	0.049	0.029	5.9	<0.05	---	<1	<1	<0.2	ND	(3)	---
B-11	21-Jul-94	0.002	<0.0005	0.001	<0.002	0.3	---	---	<1	<1	<0.2	(5)	(6)	<50
B-12 (2,8,10)	21-Jul-94	<0.005	<0.005	<0.005	<0.02	1.2	---	---	---	---	---	---	---	<50
Phase II Investigation														
B-49	07-Nov-94	<0.0005	<0.0005	<0.0005	<0.002	<0.05	---	<0.05	<1	<1	---	---	---	---
B-50	07-Nov-94	0.023/0.018	0.012/0.003	0.048/0.051	0.012/0.005	8.2	---	<3	<1	<1	---	---	ND	---
B-51	07-Nov-94	<0.0005	<0.0005	<0.0005	<0.002	<0.05	---	<0.05	<1	<1	---	---	---	---
B-52	07-Nov-94	<0.0005	<0.0005	<0.0005	<0.002	0.3	---	0.07	---	---	---	---	(21)	---
B-53	07-Nov-94	<0.0005	<0.0005	<0.0005	<0.002	<0.05	---	<0.05	---	---	---	---	---	---
B-54	08-Nov-94	<0.0005	<0.0005	<0.0005	<0.002	<0.05	---	<0.05	---	---	---	---	(22)	---
B-55	08-Nov-94	<0.0005	<0.0005	<0.0005	<0.002	<0.05	---	<0.05	---	---	---	---	---	---
B-56	08-Nov-94	0.016/0.010	0.0005	<0.0005	<0.002	0.3	---	0.1	<1	<1	---	---	(23)	---
B-57	08-Nov-94	<0.0005	<0.0005	<0.0005	<0.002	0.5	---	1.6	---	---	---	---	---	---
FORMER ENGINE ROOM AND HAZARDOUS MATERIALS STORAGE AREA														
Phase I Investigation														
B-5 (2)	20-Jul-94	0.018	0.016	0.04	0.021	5.0	---	---	<1	<1	---	---	---	<50
B-6 (2,4,16)	19-Jul-94	0.093	0.006	0.049	0.029	5.9	<0.05	---	<1	<1	<0.2	ND	(3)	---
B-7 (2,7)	21-Jul-94	<0.003	0.018	0.037	0.015	1.2	---	---	<1	<1	---	---	---	<50
B-8 (1,2)	20-Jul-94	<0.01	<0.01	0.018	0.022	17	---	---	8	<1	---	---	---	<50
Phase II Investigation														
B-28	18-Nov-94	<0.0005	<0.0005/0.0007	0.004	0.006	0.6	---	0.53	<1	<1	---	ND	ND	---
B-29	18-Nov-94	0.0008	0.0006/0.002	0.010/0.008	0.010	1.4	---	1.2	<1	<1	---	ND	ND	---
B-30	18-Nov-94	0.006/0.008	0.002	0.005/0.006	0.010/0.008	1.1	---	0.59	<1	<1	---	ND	ND	---
B-31	14-Nov-94	0.110	0.011	0.035	0.060	5.6	---	4.5	<1	<1	---	(17)	---	---

TABLE 2
HISTORICAL ANALYTICAL RESULTS FOR GROUND-WATER GRAB SAMPLES
2240 FILBERT STREET, OAKLAND, CALIFORNIA
(all results in milligrams per liter [mg/l])

Sample ID	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHd	TPHms	Oil & Grease	Hydro-carbons	Organic Lead	SVOCs	VOCs	Ethylene Glycol
EXISTING ELEVATOR SUMPS														
Phase I Investigation														
B-9 (24)	19-Jul-94	---	---	---	---	---	---	---	270	230	---	---	---	---
B-10	19-Jul-94	---	---	---	---	---	---	---	<1	<1	---	---	---	<50
B-13 (2,9,10)	21-Jul-94	<0.01	<0.01	<0.01	<0.04	32	---	---	8	1	---	---	---	<50
B-14 (24)	20-Jul-94	---	---	---	---	---	---	---	2	1	---	---	---	---
Phase II Investigation														
B-33	11-Nov-94	<0.0005	<0.0005	<0.0005	<0.002	<0.05	---	<0.05	<1	<1	---	---	(19)	---
B-34	10-Nov-94	0.007	<0.0005	0.012	0.003	1.2	---	<0.05	<1	<1	---	---	---	---
B-35	14-Nov-94	0.006	0.0007	0.0007	<0.002	0.6	---	0.2	<1	<1	---	---	---	---
B-38	09-Nov-94	<0.0005	<0.0005	<0.0005	<0.002	<0.05	---	<0.05	<1	<1	---	---	---	---
B-39	11-Nov-94	<0.0005	<0.0005	<0.0005	<0.002	<0.05	---	<0.05	<1	<1	---	---	---	---
B-40	10-Nov-94	<0.0005	<0.0005	<0.0005	0.016	13	---	31	15	2	---	---	---	---
FORMER CLEANING AND DYEING WORKS AND BENZIN AREA														
Phase I Investigation														
B-13 (2,9,10)	21-Jul-94	<0.01	<0.01	<0.01	<0.04	32	---	---	8	1	---	---	---	<50
B-15 (2)	21-Jul-94	0.34	0.052	0.9	2	59	---	---	170	15	---	---	---	<50
B-16 (2,9,10,12,13,25)	22-Jul-94	<0.005	<0.005	<0.005	<0.005	4.4	---	---	---	---	---	---	ND	---
B-17 (1,10,12,14,15,25)	22-Jul-94	<0.001	0.005	<0.001	0.041	6.3	3.8	---	---	---	<0.2	---	ND	---
B-18 (1,2,10)	22-Jul-94	<0.01	<0.01	0.022	0.024	10	---	---	---	---	---	---	(11)	<50
B-19 (26)	22-Jul-94	<0.0005	<0.0005	0.003	0.009	---	---	---	---	---	---	ND	ND	---
B-20	22-Jul-94	---	---	---	---	---	---	---	---	---	---	---	---	<50
B-21	22-Jul-94	---	---	---	---	---	---	---	---	---	---	---	---	<50
Phase II Investigation														
B-41	11-Nov-94	<0.0005	<0.0005	0.003	0.005	2.9	---	16	---	---	---	---	---	---
B-42	11-Nov-94	<0.005	<0.005	<0.005	0.022	14	---	44	---	---	---	---	---	---
B-43	11-Nov-94	<0.010	0.015	<0.010	0.047	62	---	270	---	---	---	---	---	---
B-44	14-Nov-94	0.004	0.005	<0.003	0.022	23	---	93	---	---	---	---	---	---
B-45	11-Nov-94	<0.003	<0.003	0.035	0.010	4.9	---	41	---	---	---	---	---	---
B-46	11-Nov-94	<0.001	<0.001	<0.001	0.011	4.7	---	5.1	---	---	---	---	---	---
B-58	08-Nov-94	0.041	<0.010	0.013	<0.040	17.0	---	6.3	---	---	---	---	---	---
B-59	09-Nov-94	<0.0005	<0.0005	<0.0005	<0.002	<0.05	---	<0.05	---	---	---	---	---	---
B-60	09-Nov-94	<0.0005	<0.0005	<0.0005	<0.002	<0.05	---	<0.05	---	---	---	---	---	---
B-61	10-Nov-94	<0.0005	<0.0005	<0.0005	<0.002	0.3	---	0.07	---	---	---	---	---	---
B-62	10-Nov-94	<0.0005	<0.0005	<0.0005	<0.002	2.0	---	0.2	---	---	---	---	---	---
B-63	10-Nov-94	0.062	0.013	<0.0005	0.047	9.3	---	5	---	---	---	---	---	---

TABLE 2
HISTORICAL ANALYTICAL RESULTS FOR GROUND-WATER GRAB SAMPLES
2240 FILBERT STREET, OAKLAND, CALIFORNIA
(all results in milligrams per liter [mg/l])

Sample ID	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHd	TPHms	Oil & Grease	Hydro-carbons	Organic Lead	SVOCs	VOCs	Ethylene Glycol
SUSPECTED FORMER UST IN SOUTHEAST YARD (WEST OF MYRTLE STREET)														
Phase I Investigation														
B-22	18-Jul-94	---	---	---	---	---	---	---	---	---	---	---	---	<50
B-23	18-Jul-94	<0.0005	<0.0005	<0.0005	<0.002	<0.05	---	---	---	---	---	---	---	<50
B-24	18-Jul-94	<0.0005	<0.0005	<0.0005	<0.002	<0.05	---	---	---	---	---	---	---	<50
B-25	19-Jul-94	0.0005	<0.0005	<0.0005	<0.002	0.1	<0.05	---	---	---	<0.2	---	---	---
B-26	18-Jul-94	<0.0005	<0.0005	<0.0005	<0.002	<0.05	---	---	---	---	---	---	---	---
B-27	18-Jul-94	<0.0005	<0.0005	<0.0005	<0.002	<0.05	---	---	---	---	---	---	---	<50
Phase II Investigation														
B-47	15-Nov-94	<0.0005	<0.0005	<0.0005	<0.002	<0.05	---	<0.05	---	---	---	---	---	---
FORMER AUTO REPAIR SHOP, FORMER CABINET SHOP, FORMER PAINT ROOM, AND FORMER GARAGE														
Phase I Investigation														
B-8 (1,2)	20-Jul-94	<0.01	<0.01	0.018	0.022	17	---	---	8	<1	---	---	---	<50
B-9 (24)	19-Jul-94	---	---	---	---	---	---	---	270	230	---	---	---	---
Phase II Investigation														
B-11	21-Jul-94	0.002	<0.0005	0.001	<0.002	0.3	---	---	<1	<1	<0.2	(5)	(6)	<50
B-12 (2,8,10)	21-Jul-94	<0.005	<0.005	<0.005	<0.02	1.2	---	---	---	---	---	---	---	<50
B-32	11-Nov-94	0.004/0.003	0.001	0.002/0.001	0.002	0.5	---	<0.05	<1	<1	---	ND	(18)	---
B-33	11-Nov-94	<0.0005	<0.0005	<0.0005	<0.002	<0.05	---	<0.05	<1	<1	---	---	(19)	---
B-34	10-Nov-94	0.007	<0.0005	0.012	0.003	1.2	---	<0.05	<1	<1	---	---	---	---
B-35	14-Nov-94	0.006	0.0007	0.0007	<0.002	0.6	---	0.2	<1	<1	---	---	---	---
B-36	14-Nov-94	<0.0005	<0.0005	0.0005/0.0005	<0.002	0.1	---	<0.05	<1	<1	---	---	ND	---
B-37	14-Nov-94	<0.0005	<0.0005	<0.0005	<0.002	0.07	---	<0.05	<1	<1	---	ND	(20)	---
B-56	08-Nov-94	0.016/0.010	0.0005	<0.0005	<0.002	0.3	---	0.1	<1	<1	---	---	(23)	---
B-64	14-Nov-94	0.045	0.015	0.032	0.039	7.3	---	12	8	6	---	---	---	---
OFF-SITE, UPGRADIENT WELLS INSTALLED BY MCCULLEY, FRICK AND GILMAN, INC. (MFG; from MFG report dated November 8, 1994)														
MW-1 (27,28)	03-Oct-94	<0.0005	<0.0005	<0.0005	<0.0005	0.16	0.084	---	---	---	---	---	---	---
MW-2 (27,28)	03-Oct-94	0.0075	<0.0025	<0.0025	<0.0025	1.1	0.73	---	---	---	---	---	---	---

Data entered by DSM/15 Dec 94 Data proofed by SXS QA/QC by SXS

TABLE 2
HISTORICAL ANALYTICAL RESULTS FOR GROUND-WATER GRAB SAMPLES
2240 FILBERT STREET, OAKLAND, CALIFORNIA
(all results in milligrams per liter [mg/l])

Sample ID	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHd	TPHms	Oil & Grease	Hydro-carbons	Organic Lead	SVOCs	VOCs	Ethylene Glycol

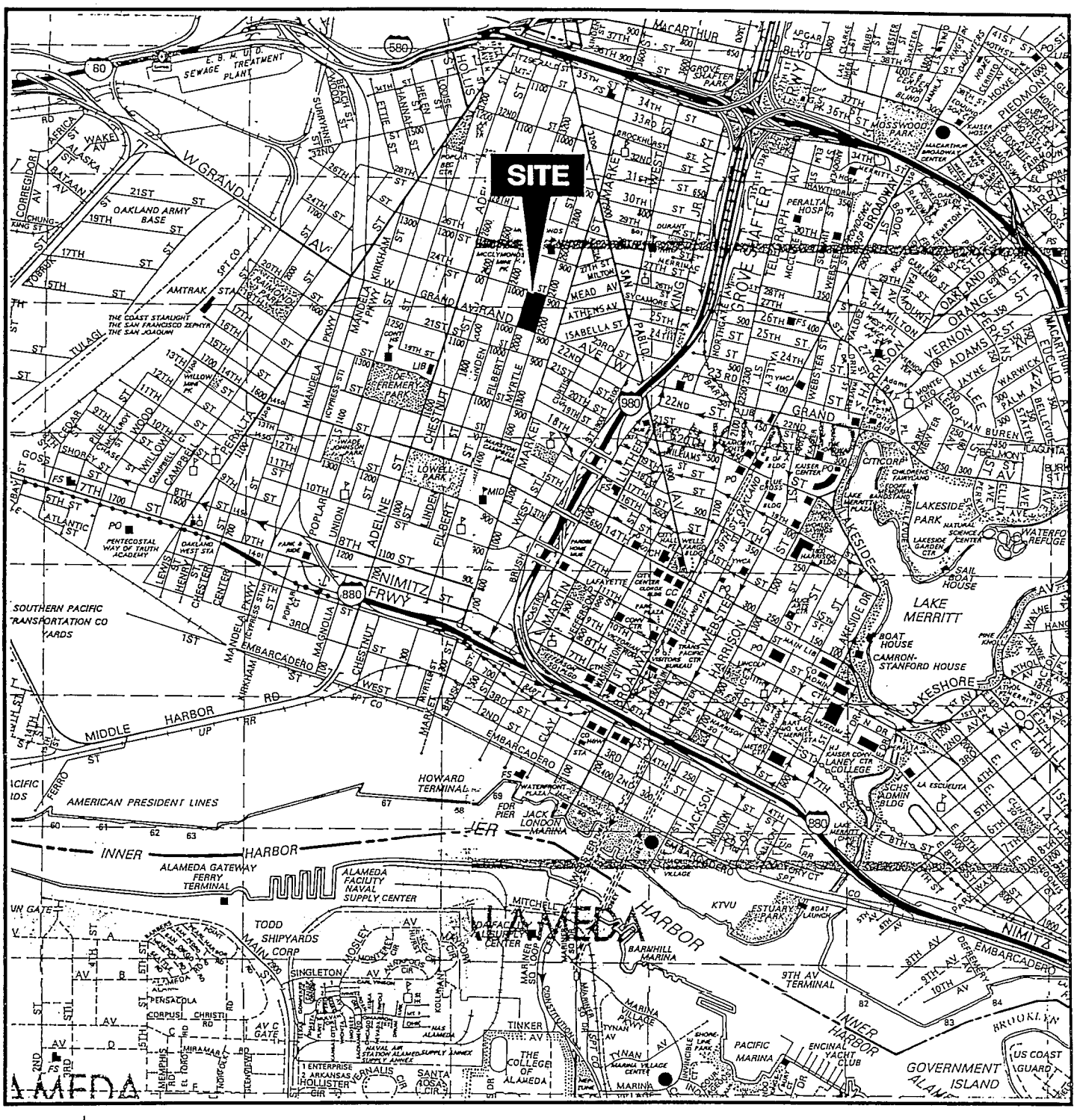
NOTES:

All compounds scanned are not included in table. Please see notes for specific compounds detected and laboratory data sheets for detection limits.

--- = not analyzed
ND = not detected above laboratory detection limits

Benzene, toluene, ethylbenzene, and total xylenes by EPA Method 8020.
TPHg - total petroleum hydrocarbons as gasoline by EPA Method 5030.
TPHd - total petroleum hydrocarbons as diesel by EPA Method 3510.
TPHms - total petroleum hydrocarbons as mineral spirits by GC-FID.
Oil and grease by Standard Method 5520 E.
NPH - nonpolar hydrocarbons by Standard Method 5520 E.
Organic lead by DHS
SVOCs - semivolatile organic compounds by EPA Method 8270.
VOCs - volatile organic compounds by EPA Method 8240.
Ethylene glycol by Modified EPA Method 8015.

(1) Reporting limit elevated for benzene and toluene due to high levels of target compounds. Sample was run at a dilution.
(2) The gasoline analysis showed a pattern not typical of gasoline.
(3) Trans-1,2-dichloroethene detected at 0.005 mg/l.
(4) Sample contains nontarget compounds.
(5) Bis(2-ethylhexyl)phthalate detected at 0.270 mg/l. No other SVOCs detected.
(6) Cis-1,2-dichloroethene detected at 0.003 mg/l. No other VOCs detected.
(7) Reporting limit elevated for benzene due to a dilution. The results were reported from a bottle run with headspace due to a lack of VOAs for all analyses requested.
(8) Reporting limit elevated for BTEX due to a dilution. The results for gasoline was reported from a bottle run with headspace due to a lack of VOAs for all analyses requested.
(9) Reporting limit elevated for BTEX due to a dilution.
(10) Light sheen of fuel on the surface which resulted in many nonmatching runs.
(11) Ethylbenzene detected at 0.021 mg/l.
(12) Reporting limit elevated for benzin due to hydrocarbon interferences.
(13) The gasoline and benzin result was taken from a bottle run with headspace due to a lack of VOAs needed for all the analyses requested.
(14) Reporting limit elevated for benzene and ethylbenzene due to a dilution.
(15) Results for diesel are in the mineral spirits range.
(16) Hydrocarbons in mineral spirits range also detected in TPHg analysis.
(17) 2-Methylnaphthalene detected at 0.018 mg/l, naphthalene detected at 0.011 mg/l.
(18) 1,2-Dichloroethane detected at 0.0007 mg/l.
(19) 1,2-Dichloroethane detected at 0.028 mg/l.
(20) 1,2-Dichloroethane detected at 0.002 mg/l.
(21) 1,2-Dichloroethane detected at 0.0008 mg/l.
(22) 1,2-Dichloroethane detected at 0.0006 mg/l.
(23) 1,2-Dichloroethane detected at 0.003 mg/l, cis-1,2-dichloroethene detected at 0.130 mg/l, trans-1,2-dichloroethene detected at 0.0005 mg/l, and vinyl chloride detected at 0.034 mg/l.
(24) Sample analyzed for PCBs using EPA Method 8080; no compounds were detected.
(25) Sample analyzed for TPH as benzin. This compound was not reported above laboratory detection limits.
(26) Sample analyzed for TPH as benzin. This compound was detected at 1.7 mg/kg.
(27) The laboratory noted that the sample contained weathered gasoline in the carbon range C6 to C12.
(28) The sample was analyzed for TPH as motor oil; this compound was not detected.



MAP SOURCE:
Thomas Bros. Map
Alameda/Contra Costa Counties
1994 EDITION

0 1/2 1 MILE

Figure 1: SITE LOCATION MAP

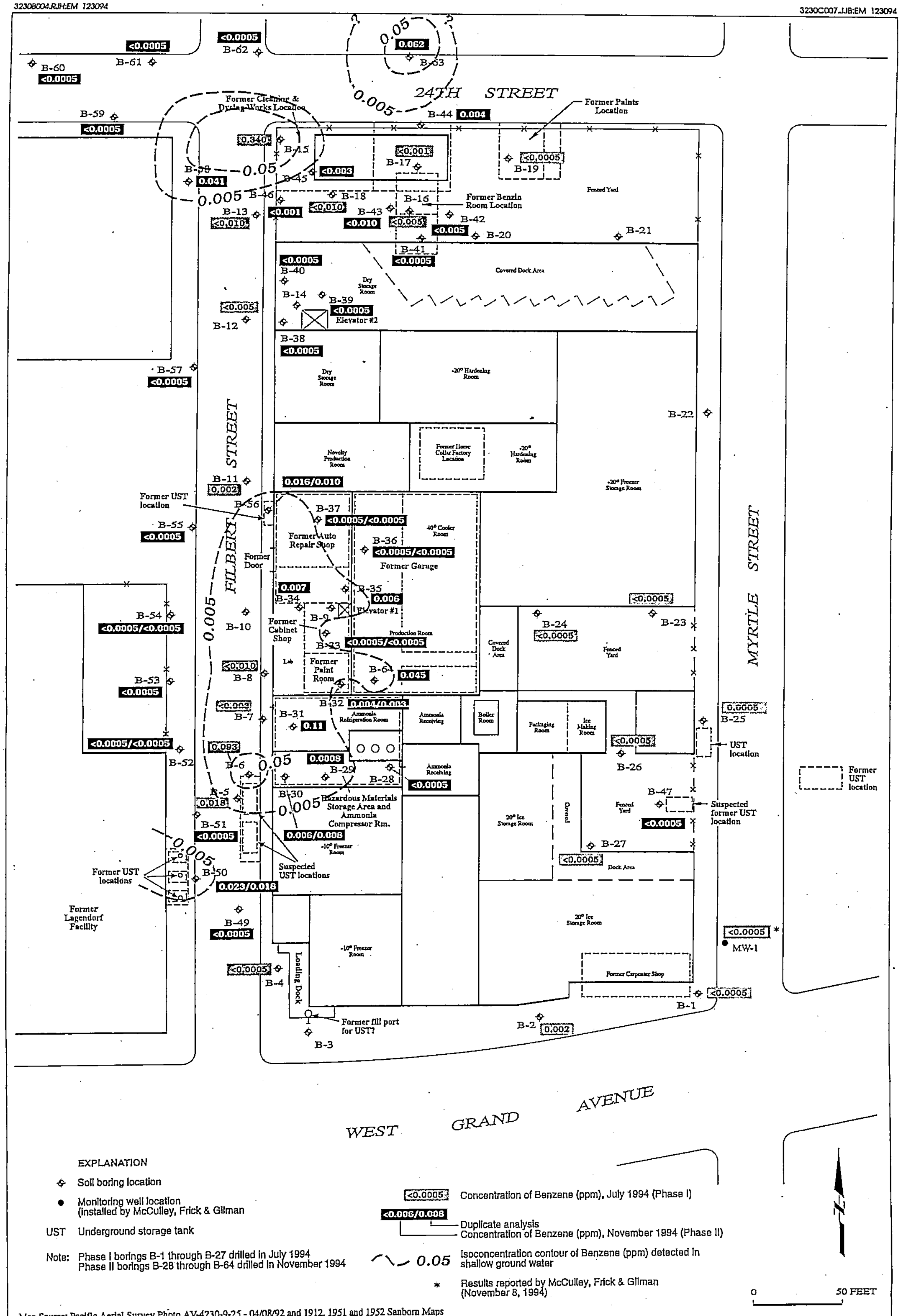
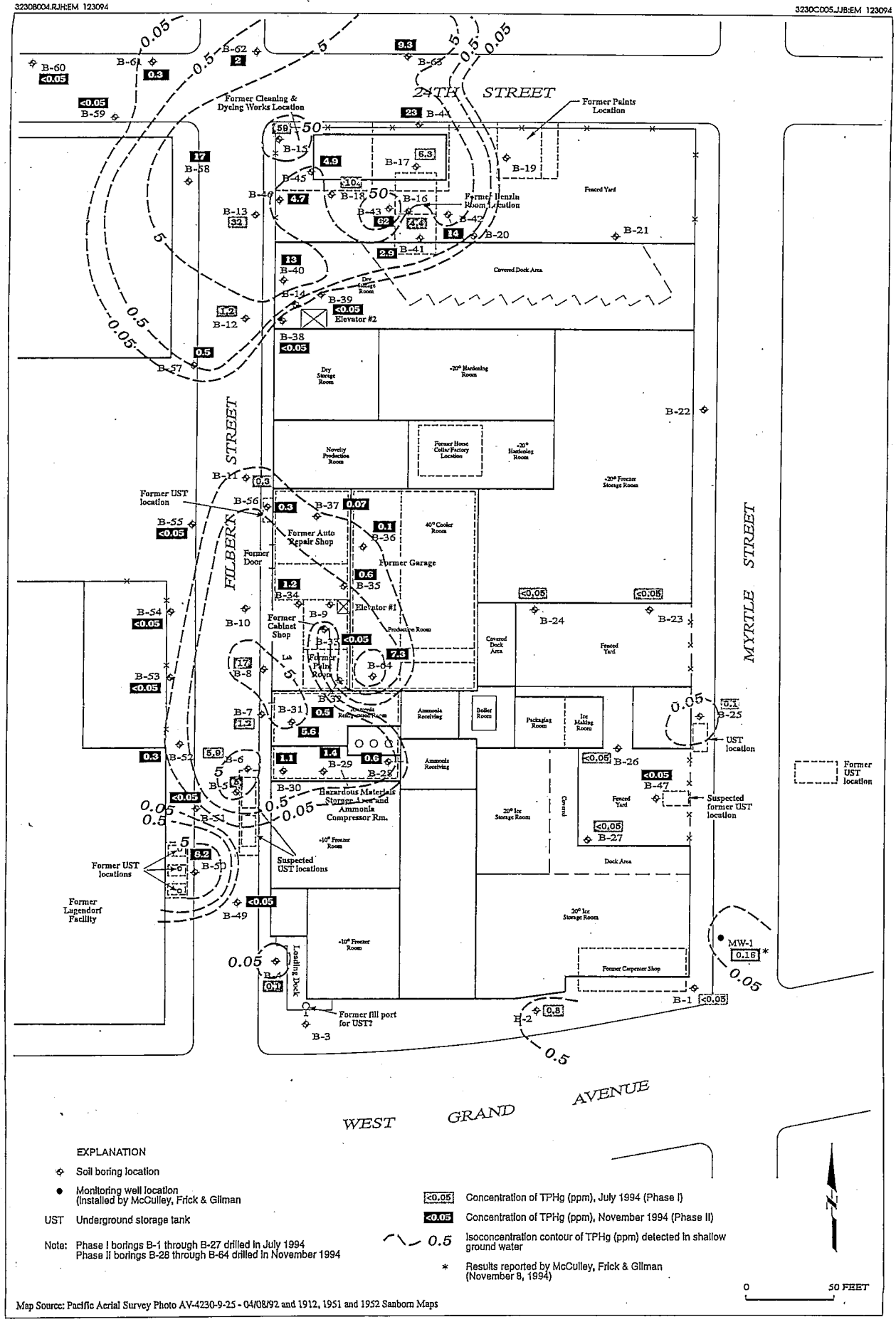


Figure 6 : BENZENE DETECTED IN SHALLOW GROUND WATER (ppm)



EXPLANATION

- Soil boring location
- Monitoring well location (installed by McCulley, Frick & Gilman)

UST Underground storage tank

Note: Phase I borings B-1 through B-27 drilled in July 1994
Phase II borings B-28 through B-64 drilled in November 1994

<0.05 Concentration of TPHg (ppm), July 1994 (Phase I)

<0.05 Concentration of TPHg (ppm), November 1994 (Phase II)

0.5 Isoconcentration contour of TPHg (ppm) detected in shallow ground water

* Results reported by McCulley, Frick & Gilman (November 8, 1994)

N

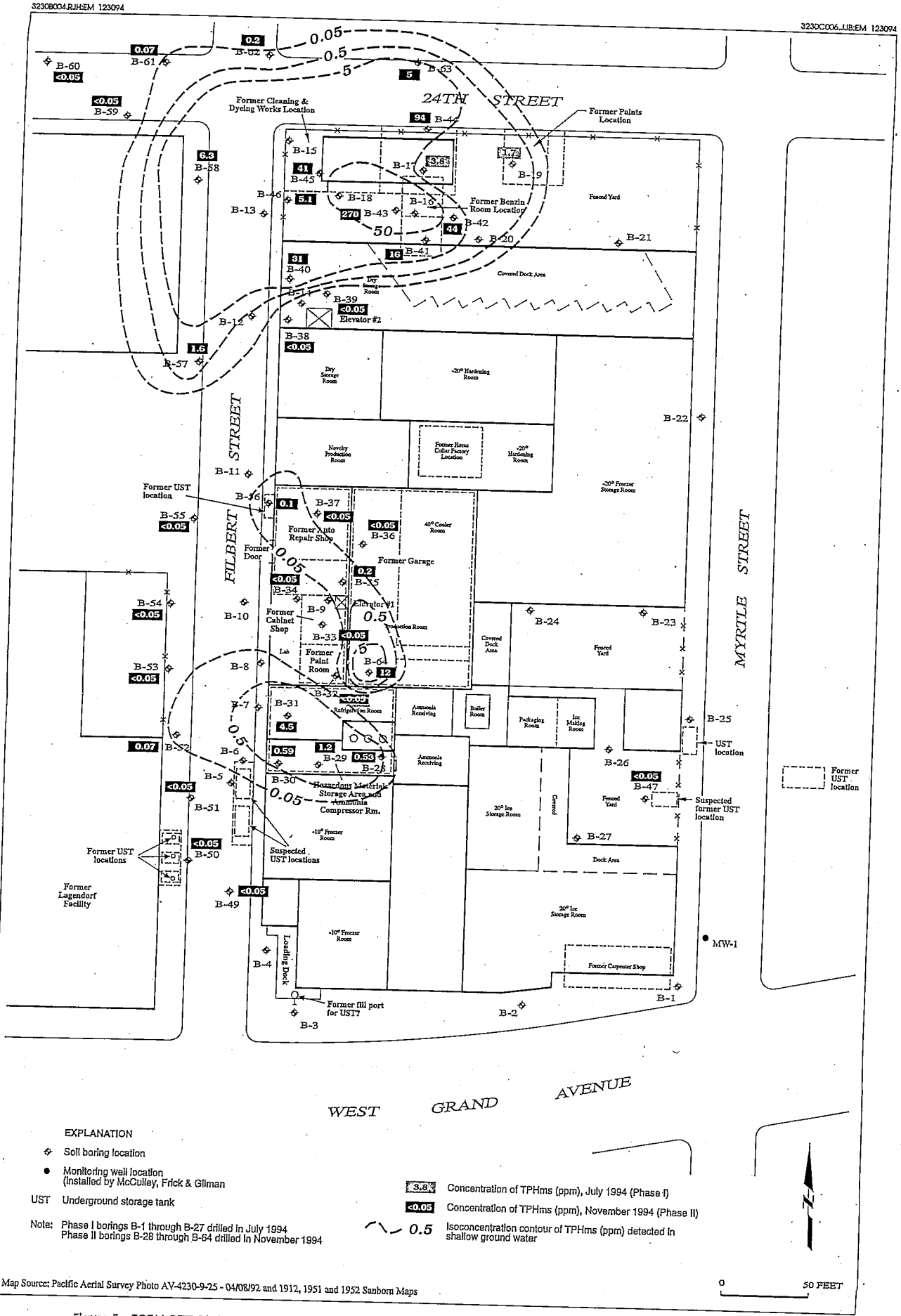
0 50 FEET

Map Source: Pacific Aerial Survey Photo AV-4230-9-25 - 04/08/92 and 1912, 1951 and 1952 Sanborn Maps

Figure 4 : TOTAL PETROLEUM HYDROCARBONS AS GASOLINE (TPHg) DETECTED IN SHALLOW GROUND WATER (ppm)

3230B004.RJH:EM 123094

3230C006.JJB:EM 123094



EXPLANATION

- Soil boring location
- Monitoring well location (Installed by McCulley, Frick & Gilman
- UST Underground storage tank

Note: Phase I borings B-1 through B-27 drilled in July 1994
Phase II borings B-28 through B-64 drilled in November 1994

3.8 Concentration of TPHms (ppm), July 1994 (Phase I)

<0.05 Concentration of TPHms (ppm), November 1994 (Phase II)

0.5 Isoconcentration contour of TPHms (ppm) detected in shallow ground water

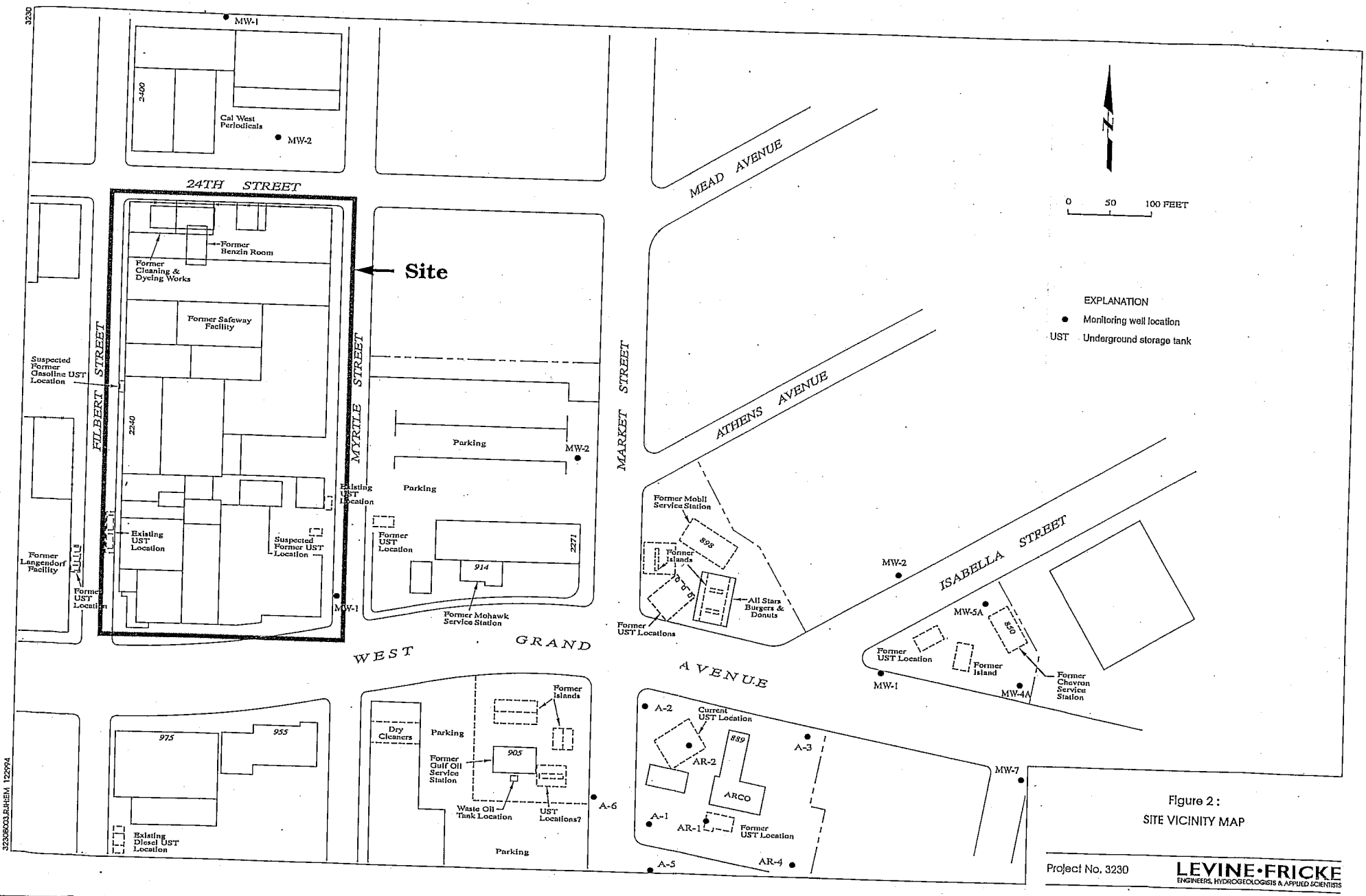
Map Source: Pacific Aerial Survey Photo AV-4230-9-25 - 04/08/92 and 1912, 1951 and 1952 Sanborn Maps

0 50 FEET

Figure 5 : TOTAL PETROLEUM HYDROCARBONS AS MINERAL SPIRITS (TPHms) DETECTED IN SHALLOW GROUND WATER (ppm)

Project No. 3230

LEVINE·FRICKE
ENGINEERS, HYDROGEOLOGISTS, & APPLIED SCIENTISTS



3230B003.R/HEM 122994

Figure 2 :
SITE VICINITY MAP

Project No. 3230

LEVINE·FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

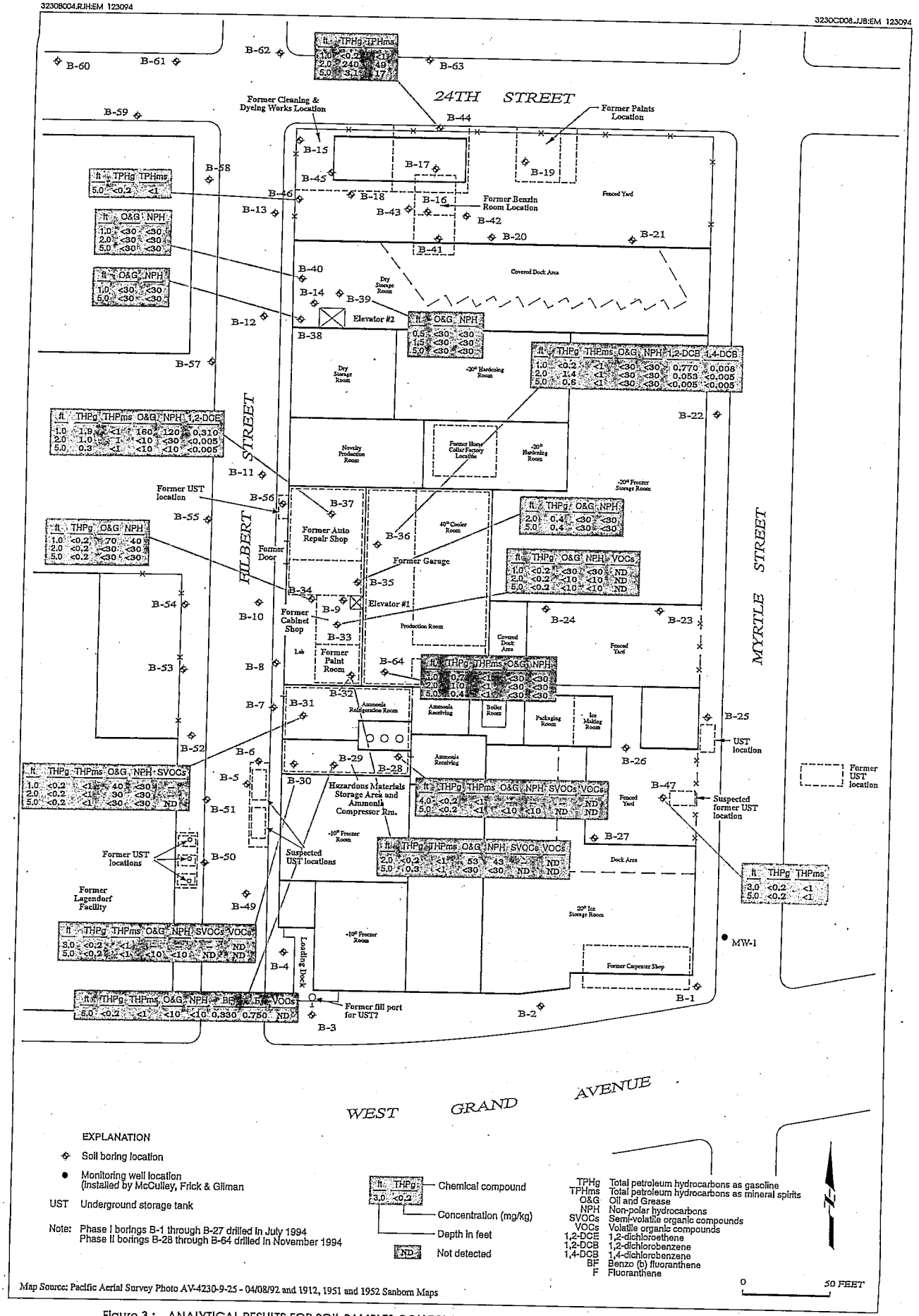


Figure 3 : ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED FROM 0 TO 6 FEET BELOW GROUND SURFACE (mg/kg)
(results for benzene, toluene, ethylbenzene, and xylene are presented in Table 1)

S E M C O
ENVIRONMENTAL CONTRACTORS & GENERAL ENGINEERING
1741 LESLIE STREET
SAN MATEO, CALIFORNIA 94402

November 4, 1994

Jennifer Eberle
Alameda County
Environmental Health Department
1131 Harbor Bay Parkway, # 250
Alameda, California 94502

Re: Tank Removal Report, 1000 W. Grand Ave., Oakland

Dear Jennifer:

Please find enclosed, a copy of the tank removal report for the above mentioned address.

If you have any questions, please give me a call.

Respectfully,

Rhonda Reames-Kiper

Rhonda Reames-Kiper
SEMCO-SAN MATEO

cc: Alan Zatopa
File

License # 449864
A,B, C-61/D40
Hazardous Substances Certification

(800) 831-2344
(415) 572-8033
(415) 572-9734 FAX

TANK REMOVAL
ACTIVITY REPORT

1000 WEST GRAND AVENUE
OAKLAND, CALIFORNIA

Prepared for:

MR. ALAN ZATOPA
2900 RALSTON AVENUE
HILLSBOROUGH, CALIFORNIA 94010

Submitted to:

COUNTY OF ALAMEDA
ENVIRONMENTAL HEALTH DEPARTMENT
1131 HARBOR BAY PARKWAY, SUITE # 250
ALAMEDA, CALIFORNIA 94502
(510) 567-6700

Prepared by:

SEMCO
1741 LESLIE STREET
SAN MATEO, CALIFORNIA 94402
(415) 572-8033

JOB # 94-3878
NOVEMBER 1994

SCOPE OF WORK

The scope of work included the removal of three (3) 2000 gallon gasoline tanks. The tanks were located at the property owned by Mr. Alan Zatopa. This report covers the tank removals, soil sampling, over excavation and soil disposal.

SITE DESCRIPTION

This site is a commercial property, located in Alameda County at 1000 West Grand Avenue, Oakland, California. The tanks were located in the sidewalk, on the East side of the building.

PROJECT DESCRIPTION

On September 27, 1994, SEMCO arrived on site for the tank removals. The tanks were accessed by excavating the soil above and along one side of each tank. The tanks were in a common excavation. The soil excavated was transported and stockpiled inside the building.

Upon removal of all residual product, the tanks were washed and inerted by placing solid carbon dioxide (dry ice) inside,until acceptable levels of Oxygen and Lower Explosive Limits were reached for a safe removal. A total of 250 gallons of product/rinsate was pumped, transported and disposed by Allied Petroleum under manifest # 93391512.

The Alameda County Environmental Health Department and the Oakland Fire Department was on site to verify the tank readings, removal, loading activities and sampling activities. Upon removal, the condition of the tanks was as follows:

Middle 2000 Gas: One hole noted on fill end with only minor rust
North 2000 Gas: Two holes found, one on each end of the tank
South 2000 Gas: No holes found and only minor rust

The tanks were identified with Numbers 14596, 14597, 14598 and placed on RHT's truck for transportation and disposal to Erickson, Inc., Richmond, under manifest # 90795826.

At this time, soil samples were collected. Four sidewall samples were collected as well as 6 bottom samples. The soil was of a clayey sandy consistency. Groundwater began to enter the pit at 12 feet and a water sample was also collected.

Geo Chem Environmental was on site with a mobile lab to analyze samples as they were collected. All samples were analyzed for Total Petroleum Hydrocarbons as Gas (TPH-G), Benzene, Toluene, Ethyl Benzene and Xylenes (BTEX).

Although analytical results demonstrated non detectable levels of TPH-G in all soil samples except for #2-NG-B at 13' and the composite sample, a small area of contamination was noted at the North and South ends. The water sample detected levels of 12677 ppb TPH-G, 53.4 ppb Benzene, 46.9 ppb Toluene, 40.7 ppb Ethyl Benzene and 96.1 ppb Xylenes.

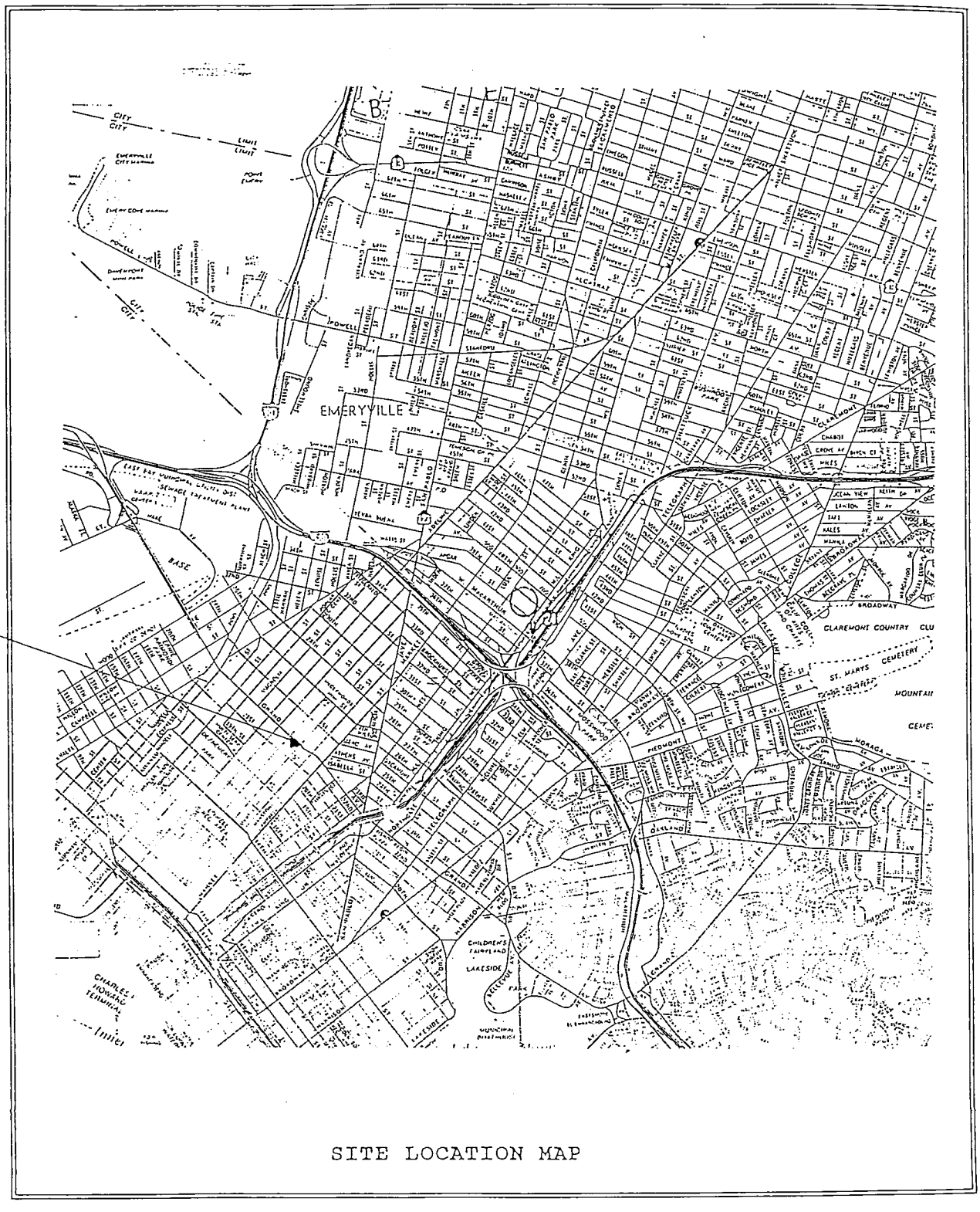
On September 28, 1994, samples were collected at the North Sidewall at 11' and the South sidewall at 11'6". These samples were collected in the morning and analyzed by GeoChem Mobile Lab on site for TPH-G, BTEX. Analytical results demonstrated 446 ppm TPH-G at the North Sidewall at 11' and 661 ppm TPH-G at the South sidewall at 11'6", with only minimal BTEX in both samples.

With the verbal approval of Alameda County Environmental Health Department, the excavation was extended approximately 3 feet at each end. The soil excavated was stockpiled inside the building with the previously excavated soil. Two additional samples were collected at 12' from the North and South ends. The samples were transported to Superior Precision Analytical for the analysis of TPH-G and BTEX.

Analytical results demonstrated non detectable levels of TPH-G and BTEX in Sample # 1 North sidewall at 12'. Sample # 2 South sidewall at 12' had levels of 220 ppm TPH-G with only minimal BTEX. It was apparent that further excavation of the South end would not be possible due to an extensive amount of utilities and the possible compromise to the integrity of the building and street, due to the depth. The site was backfilled and compacted to concrete grade and the sidewalk was replaced.

The excavated soil was profiled and qualified into REMCO, a State Certified Recycle Center for disposal. A total of 252.18 tons of soil was transported and disposed on October 7, 1994.

This report was prepared from informational worksheets and inspector's field notes pertaining to this job site.



SITE LOCATION MAP

APPENDIX A

UST REMOVAL REPORT AND ACHCSA FIELD NOTES

APPENDIX

TANK REMOVAL ANALYTICAL

1000 WEST GRAND AVENUE
OAKLAND, CALIFORNIA

SEPTEMBER 27, 1994

SAMPLE ID	DEPTH	TPH (G)	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES
#1-2NG-S	12′	ND	ND	ND	ND	ND
#2-2NG-B	13′	30 PPM	0.333 PPM	0.429 PPM	0.260 PPM	0.280 PPM
#3-2MG-B	13′	ND	ND	ND	ND	ND
#4-2MG-S	13′	ND	ND	ND	ND	ND
#5-2SG-B	13′	ND	0.192 PPM	ND	ND	ND
#6-2SB-S	13′	ND	0.318 PPM	ND	ND	ND
#7-COMP SP	N/A	222 PPM	ND	ND	3.252 PPM	7.914 PPM
#8-SIDWALL B	5′	ND	0.034 PPM	ND	ND	ND
#9-SIDWALL B	12′6"	ND	0.040 PPM	ND	ND	ND
#10-SDWAL S	5′	ND	ND	0.115 PPM	0.087 PPM	ND
#11-SDWAL S	13′	ND	ND	ND	ND	ND
#12- PIT H2O	N/A	12667 PPB	53.4 PPB	46.9 PPB	40.7 PPB	96.1 PPB

Geochem ENVIRONMENTAL LABORATORIES

Mobile & In-House Laboratories Certified by State of California

Phone: (408) 955-9988 / FAX: (408) 955-9538

SEMCO

OCT 15 1994

Received

ANALYTICAL REPORT

Client: SEMCO
1741 Leslie Dr.
San Mateo, CA 94402
Attn: Chuck Kiper

Date Sampled: 09/27/94
Date Received: 09/27/94
Date Analyzed: 09/27/94
Batch:SA-440 Matrix: Soil
Conc. Unit mg/kg (ppm)

Project: 94-3878 Alan Zatopa

"ND" means "not detected" at indicated detection limit.
B:benzene, T:toluene, E:ethylbenzene & X:total xylenes.
Samples received at job-site with a chain of custody record.

SAMPLE I.D.	Total Lead	8015M/TPH Gasoline	8020 B / T / E / X
DETECTION LIMIT	1 ppm	1 ppm	0.005 ppm
2NG-B-13'		ND	ND / ND / ND / ND
2NG-S-12'		30	0.333 / 0.429 / 0.260 / 0.280
2MG-B-13'		ND	ND / ND / ND / ND
2SB-S-13'		ND	0.318 / ND / ND / ND
2SG-B-13'		ND	0.192 / ND / ND / ND
4MG-S-13'		ND	ND / ND / ND / ND
Sidewall B-5'		ND	0.034 / ND / ND / ND
Sidewall B-12'6"		ND	0.040 / ND / ND / ND
Sidewall S-5'		ND	ND / 0.115 / 0.087 / ND
Sidewall S-13'		ND	ND / ND / ND / ND
Comp Spoils	9	222	ND / ND / 3.252 / 7.914

Reviewed and approved by George Tsai September 29, 1994
George Tsai, Laboratory Director

SEMCO

OCT 15 1994

Geochem ENVIRONMENTAL LABORATORIES

Mobile & In-House Laboratories Certified by State of California
Phone: (408) 955-9988 / FAX: (408) 955-9538

ANALYTICAL REPORT

****

Client: SEMCO
1741 Leslie Dr.
San Mateo, CA 94402
Attn: Chuck Kiper

Date Sampled: 09/27/94
Date Received: 09/27/94
Date Analyzed: 09/27/94
Batch:SA-440 Matrix:Water
Conc. Unit ug/L (ppb)

Project: 94-3878 Alan Zatopa

****

"ND" means "not detected" at indicated detection limit.
B:benzene, T:toluene, E:ethylbenzene & X:total xylenes.
Samples received at job-site with a chain of custody record.

SAMPLE I.D.	8015M/TPH Gasoline	602 B / T / E / X
DETECTION LIMIT	50 ppb	0.5 ppb
Pit H_2O	12667	53.4 / 46.9 / 40.7 / 96.1

Reviewed and approved by George Tsai September 29, 1994
George Tsai, Laboratory Director

Geochem ENVIRONMENTAL LABORATORIES
Mobile & In-House Laboratories Certified by State of California
Phone: (408) 955-9988 / FAX: (408) 955-9538

QUALITY CONTROL RESULTS

Client: SEMCO
1741 Leslie Dr.
San Mateo, CA 94402
Attn: Chuck Kiper

Analysis: 8015M/TPH, 8020 BTEX

Date of Analysis: 09/27/94

Laboratory Sample #:SA092794.1

Project Name: 94-3878 Alan Zatopa

	Sample Conc. (ppm)	Spike Conc. (ppm)	MS (ppm)	Rec. #1 (%)	MSD (ppm)	Rec. #2 (%)	Rel. Diff (%)
8015M/TPH	0	800	819	102	941	118	16
Benzene	0	3.48	3.12	90	3.36	97	7
Toluene	0	3.48	3.14	90	3.38	97	7
Ethyl Benzene	0	3.48	2.96	85	3.21	92	7
Xylenes	0	6.96	6.70	96	6.69	96	0
Total Lead	0	10	10.6	106	10.3	103	3

Reviewed and approved by George Tsai September 30, 1994
George Tsai, Laboratory Director

Geochem ENVIRONMENTAL LABORATORIES

Mobile & In-House Laboratories Certified by State of California
Phone: (714) 222-1020 / FAX: (714) 222-0709

SEMCO
OCT 15 1994
Received

TTLC METAL ANALYSIS

Client: Semco
Matrix: Soil
Sample I.D.. 7-COMP
Project Name: 94-3878 Alan Zatopa

Date sampled: 10/3/94
Date Received: 10/4/94
Date Analyzed: 10/7/94

Metal Analysis by I.C.P.					
Element	Type	Results	Units	M.D.L.	Method
Zinc	G	38	mg/l	1	EPA 6010
Chromium	G	4	mg/l	1	EPA 6010
Cadmium	G	1	mg/l	1	EPA 6010
Nickel	G	7.7	mg/l	0.5	EPA 6010
Lead	G	10	mg/l	1	EPA 6010

TTLC= Total Threshold Limit Concentration.

Reviewed and Approved by: George Tsai Date: 10/10/94
George Tsai, Laboratory Director

Geochem ENVIRONMENTAL LABORATORIES

SEMCO
OCT 15 1994

Mobile & In-House Laboratories Certified by State of California
Phone: (714) 222-1020 / FAX: (714) 222-0709

Matrix Spike Recovery For TTLC Analysis by EPA 6010 (ICP)

Client: Semco
Date Analyzed: 10/7/94
Project Name: 94-3878 Alan Zatopa

Element	Spiked Conc.	Matrix Spike	% Rec.	Matrix Spike Dup.	% Rec.	% RPD
Zinc	10	11.8	118	11.7	117	1
Nickel	10	12.0	120	11.1	111	9
Lead	10	11.4	114	11.4	114	0
Beryllium	10	11.1	111	10.7	107	4
Barium	10	10.9	109	10.2	102	7

Reviewed and Approved by _____ Date: 10/10/94

Advanced Technology
Laboratories

SEMCO
OCT 15 1994
Received

October 4, 1994

ELAP No.: 1838
Exp. Date: 12-31-94

Geochem Environmental Laboratory
780 Montague Expressway, Suite 404
San Jose, CA 95131

ATTN: Mr. George Tsai

Client's Project #: 94-3878
Lab No.: 940930-062

Gentlemen:

Enclosed are the results for sample(s) received by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

The sample(s) arrived chilled, intact, with a chain of custody record attached.

Thank you for the opportunity to service the needs of your company. Please feel free to call me at (310) 989 - 4045 if I can be of further assistance to your company.

Sincerely,

Edgar P. Caballero

Edgar P. Caballero
Laboratory Director
EPC/ra

Enclosures

This cover letter is an integral part of this analytical report.

SEMCO

OCT 15 1994

Received

Client: Geochem Environmental Laboratories
Attn: Mr. George Tsai

Client's Project: 94-3878

Date Received: 09/30/94

Lab No.	Sample I.D.	Analysis	Date Sampled	Date Analyzed	Results	Matrix, Units	MDL	DF	Analyst Initials
940930-062	7	EPA 9030 (Reactive Sulfide)	09/29/94	10/04/94	ND	Soil, mg/kg	0.5	1	IG
940930-062	7	EPA 9010 (Reactive Cyanide)	09/29/94	10/04/94	ND	Soil, mg/kg	0.2	10	DFC
940930-062	7	EPA 9045 (pH)	09/29/94	10/04/94	7.9	Soil, pH units	-	-	IG
940930-062	7	EPA 1010 (Flash Point)	09/29/94	10/04/94	>200	Soil, Degrees F	-	-	IG

MDL = Method Detection Limit
ND = Not Detected (Below MDL)
DLR = MDL X Dilution Factor
DF = Dilution Factor

Reviewed/Approved By: Edgar P. Caballero

Edgar P. Caballero
Laboratory Director

Date: 10/4/94

The cover letter is an integral part of this analytical report.

Spike Recovery and RPD Summary Report

Method: 9030
Analyst: MCC/DFC
Data File: 4273-S

Date: 09/30/94
Sample ID: 940929-051
Matrix: SOIL

ANALYTE	UNITS	LCS Conc	LCS Res	% Rec	METH BLANK	SPL CONC	SPK ADDED	MS RESULT	MSD RESULT	%MS REC	%MSD REC	% REC Limit	RPD	RPD Limit	MDL
SULFIDE	mg/kg	NA	NA	NA	NA	0.20	20	19.6	20	97	99	80 - 120	2	20	0.5

Approved by: _____
Cheryl De Los Reyes
Inorganics Supervisor

Date: 10/4/94

SEMCO

OCT 15 1994

Received

Spike Recovery and RPD Summary Report

Method: 9010
Analyst: DFC
Data File: 4270-S

Date: 09/27/94
Sample ID: 940921-143
Matrix: SOIL

ANALYTE	UNITS	LCS Conc	LCS Res	% Rec	METH BLANK	SPL CONC	SPK ADDED	MS RESULT	MSD RESULT	%MS REC	%MSD REC	% REC Limit	RPD	RPD Limit	MDL
Cyanide	mg/kg	0.4	0.35	88	ND	ND	0.4	0.3	0.3	78	78	70 - 120	0	20	0.2

Approved by: Cheryl de los Reyes
Cheryl De Los Reyes
Inorganics Supervisor

Date: 10/4/94

Advanced Technology Laboratories

Section I

CHAIN OF CUSTODY AND ANALYSIS REQUEST

LAB NO. _____

Consultant Name: SEMCO
Office Location: 1741 Leslie Rd. San Mateo, CA 94402
Fax No.: (415) 572-9734
Project Manager: _____
Phone: (415) 572 8033

TURN AROUND TIME (Circle One)
Same Day | 72 Hrs
24 Hrs | 5 Day
48 Hrs

SUPERIOR ANALYTICAL, INC.
Martinez 415/229-1512 | San Francisco 415/647-2081

Send Coolers to : Modesto ☐ San Mateo ☒
Project No. / P.O. No.: 94-3878 ALAMEDA

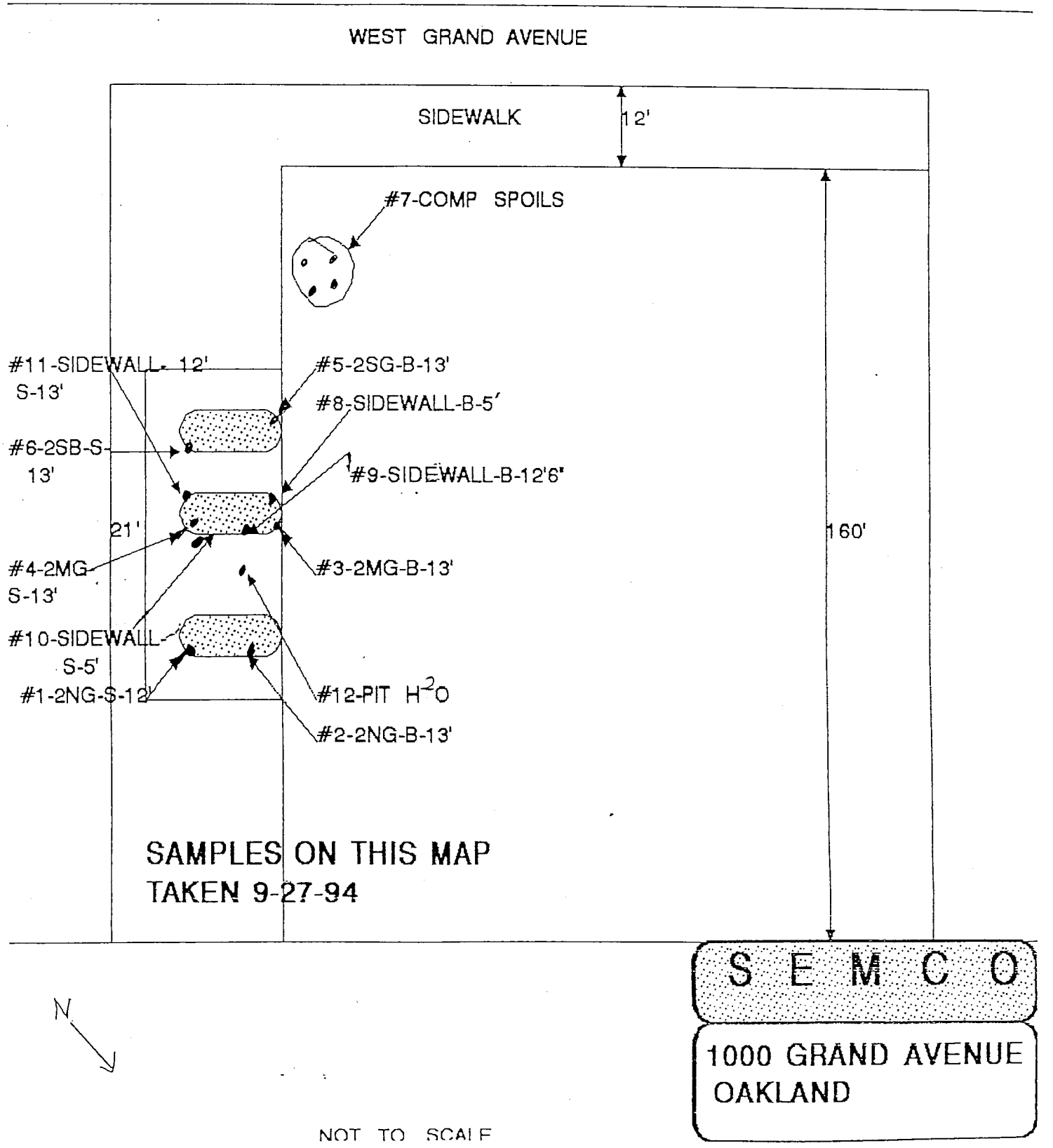
Sampler: _____
Regulatory Agency: _____

SEMCO RECEIVED OCT 15 1994

Section II Analysis Request | Section III Sample Information

Sample Identification	Matrix (S=Soil A=Air W=Water)	TPH - G & D	TPH - Low Level D	TPH - G	BTXE	O&G	8010	8240	Metals	Others * Subject to Subcontracting	RCI	LEAD			Date	Time	Containers: Quantity	Containers: Pres.	Sampling Remarks
																			Bioremediation ☐ Contamination ☐
1 - 2NG-S-12'	SOIL			X	X										9/27	3:00	1		
2 - 2NG-B-13'	SOIL			X	X										1	3:05	1		
3 - 2MG-B-13'	SOIL			X	X										1	3:12	1		
4 - 2MG-S-13'	SOIL			X	X										1	3:15	1		
5 - 2SG-B-13'	SOIL			X	X										1	3:20	1		
6 - 2SB-S-13'	SOIL			X	X										1	3:25	1		
7 - Comp Spoils	SOIL			X	X						X	X			1	3:25	4		Composite
8 - Sidewall-B-5'	SOIL			X	X											3:45	1		
9 - Sidewall B 12'6"	SOIL			X	X												1		FAX TO 415-572-9734 Both
10 - Sidewall S-5'	SOIL			X	X												1		
11 - Sidewall - S - 13'	SOIL			X	X												1		415 - 342 - 9633
12 - Pit H2O	H2O			X	X														

Relinquished by: [signature]	Date/Time: 9/27/94 4:50PM	Received by: [signature]	Please Initial: _____
Organization: Semco		Organization: GTEC/CHEM	Samples Stored in Ice: _____
Relinquished by: _____	Date/Time:	Received by: _____	Appropriate Containers: _____
Organization:		Organization:	Samples Preserved: _____
Relinquished by: _____	Date/Time:	Receive: _____	VOA's without Headspace: _____
Organization:		Organi	Comments: _____


WEST GRAND AVENUE
SIDEWALK
12'
#7-COMP SPOILS
#11-SIDEWALL- 12'
S-13'
#5-2SG-B-13'
#8-SIDEWALL-B-5'
#6-2SB-S-
13'
#9-SIDEWALL-B-12'6"
21'
160'
#4-2MG-
S-13'
#3-2MG-B-13'
#10-SIDEWALL-
S-5'
#1-2NG-S-12'
#12-PIT H2O
#2-2NG-B-13'
SAMPLES ON THIS MAP
TAKEN 9-27-94
N
S E M C O
1000 GRAND AVENUE
OAKLAND
NOT TO SCALE

TANK REMOVAL ANALYTICAL

1000 WEST GRAND AVENUE
OAKLAND, CALIFORNIA

SEPTEMBER 28, 1994

SAMPLE ID	DEPTH	TPH (G)	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES
#1-NORTH SIDEWALL	11′	446 PPM	1.425 PPM	1.902 PPM	10.42 PPM	13.01 PPM
#2-SOUTH SIDEWALL	11′6"	661 PPM	1.942 PPM	2.070 PPM	5.171 PPM	9.653 PPM
#3-PUMP ISLAND		ND	ND	ND	ND	ND

SEPTEMBER 28, 1994

SAMPLE ID	DEPTH	TPH (G)	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES
#4- NORTH SIDEWALL EX	12′	ND	ND	ND	ND	ND
#5-SOUTH SIDEWALL EX	12′	220 PPM	0.69 PPM	0.63 PPM	0.82 PPM	1.7 PPM

Geochem ENVIRONMENTAL LABORATORIES

Mobile & In-House Laboratories Certified by State of California

Phone: (408) 955-9988 / FAX: (408) 955-9538

ANALYTICAL REPORT

****

Client: SEMCO
1741 Leslie Dr.
San Mateo, CA 94402
Attn: Jim Nores

Date Sampled: 09/28/94
Date Received: 09/28/94
Date Analyzed: 09/28/94
Batch: B-722 Matrix: Soil
Conc. Unit mg/kg (ppm)

Project: Zatopa

****

"**ND**" means "not detected" at indicated detection limit.
B:benzene, **T**:toluene, **E**:ethylbenzene & **X**:total xylenes.
Samples received at job-site with a chain of custody record.

SAMPLE I.D.	8015M/TPH Gasoline	8020 B / T / E / X
DETECTION LIMIT	1 ppm	0.005 ppm
#1 North Sidewall	446	1.425/ 1.902 / 10.42 / 13.01
#2 South Sidewall	661	1.942/ 2.070 / 5.171 / 9.653
#3 Pump Island	ND	ND / ND / ND / ND

SEMCO

OCT - 4 1994

Received

Reviewed and approved by George Tsai September 30, 1994
George Tsai, Laboratory Director

Geochem ENVIRONMENTAL LABORATORIE

Mobile & In-House Laboratories Certified by State of California

Phone: (408) 955-9988 / FAX: (408) 955-95[illegible]

QUALITY CONTROL RESULTS

Client: SEMCO
1741 Leslie Dr.
San Mateo, CA 94402
Attn: Jim Nores

Analysis: 8015M/TPH, 8020 BTEX

Date of Analysis: 09/28/94

Laboratory Sample #:B092894.1

Project Name: Zatopa

	Sample Conc. (ppm)	Spike Conc. (ppm)	MS (ppm)	Rec. #1 (%)	MSD (ppm)	Rec. #2 (%)	Rel. Diff (%)
8015M/TPH	0	400	514	129	513	128	1
Benzene	0	1.74	2.08	119	2.08	119	0
Toluene	0	1.74	1.68	97	1.59	91	6
Ethyl Benzene	0	1.74	2.13	122	2.10	120	2
Xylenes	0	3.48	4.25	122	3.96	114	8

SEMCO

OCT - 4 1994

Received

Reviewed and approved by George Tsai September 30 1994
George Tsai, Laboratory Director

Section I

CHAIN OF CUSTODY AND ANALYSIS REQUEST

LAB NO. _____

Consultant Name: SEMCO
Office Location: 1741 Leslie Rd. San Mateo, CA 94402
Fax No.: (415) 572-9734
Project Manager: _____
Phone: (415) 572 8033

TURN AROUND TIME (Circle One)
Same Day | 72 Hrs
24 Hrs | 5 Day
48 Hrs

SUPERIOR ANALYTICAL, INC.
Martinez 415/229-1512 | San Francisco 415/647-2081

Send Coolers to : Modesto ☐ San Mateo ☐

Sampler: Semco/Jim Nores
Project No. / P.O. No.: ZATOPA
Regulatory Agency: Alameda county

Section II Analysis Request | Section III Sample Information

Sample Identification	S=Soil A=Air W=Water Matrix	TPH - G & D	TPH - Low Level D	TPH - G	BTXE	O&G	8010	8240	Metals	Others * Subject to Subcontracting					Date	Time	Containers: Quantity	Containers: Pres.	Sampling Remarks
1 #1 Northsidewall 11'				X	X										9/28	9:28	1		Bioremediation ☐
2 #2 South sidewall 11'6"				X	X										9/28	9:34	1		Contamination ☐
3 #3 Pump Island				X	X										9/28	9:41	1		
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Relinquished by: Jim Nores	Date/Time: 9/28/94 10:16	Received by:	Please Initial _____
Organization: SEMCO		Organization: Geo	Samples Stored in Ice _____
Relinquished by: _____	Date/Time:	Received by: _____	Appropriate Containers _____
Organization		Organization	Samples Preserved _____
Relinquished by: _____	Date/Time:	Received by: _____	VOA's without Headspace _____
Organization		Organization	Comments _____

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

SEMCO
Attn: CHUCK KIPER

Project 94-3878
Reported 04-October-1994

ANALYSIS FOR GASOLINE, BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES
by EPA SW-846 Methods 5030/8015M/8020.

Chronology

Laboratory Number 58760

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
#4 NORTHSIDEWALL	09/28/94	09/29/94	10/02/94	10/02/94		1
#5 SOUTHSIDEWALL	09/28/94	09/29/94	10/02/94	10/02/94		2

Certified Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553

1555 Burke St., Unit I
San Francisco, California 94124

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

SEMCO
Attn: CHUCK KIPER

Project 94-3878
Reported 04-October-1994

ANALYSIS FOR GASOLINE, BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES

Laboratory Number	Sample Identification	Matrix
58760- 1	#4 NORTHSIDEWALL-EX12'	Soil
58760- 2	#5 SOUTHSIDEWALL-EX12'	Soil

RESULTS OF ANALYSIS

Laboratory Number:	58760- 1	58760- 2
Gasoline_Range:	ND<1	220
Benzene:	ND<.005	0.69
Toluene:	ND<.005	0.63
Ethyl Benzene:	ND<.005	0.82
Total Xylenes:	ND<.005	1.7
Concentration:	mg/kg	mg/kg
-- Surrogate % Recoveries --		
Trifluorotoluene (SS):	95	M.I.

M.I. - MATRIX INTERFERENCES.

Certified Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1534

1555 Burke St., Unit I
San Francisco, California 94124
(415) 647-2081 / fax (415) 821-7123

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2993 / fax (206) 763-8429

ANALYSIS FOR GASOLINE, BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES
Quality Assurance and Control Data - Soil

Laboratory Number 58760

Compound	Method Blank (mg/kg)	RL (mg/kg)	Spike Recovery (%)	Limits (%)	RPD (%)
Gasoline Range:	ND<1	1	78/87	50-123	11%
Benzene:	ND<.005	.005	70/70	59-153	0%
Toluene:	ND<.005	.005	83/82	59-153	1%
Ethyl Benzene:	ND<.005	.005	85/85	59-153	0%
Total Xylenes:	ND<.005	.005	99/96	59-153	3%

Definitions:
ND = Not Detected
RPD = Relative Percent Difference
RL = Reporting Limit
mg/kg = Parts per million (ppm)
QC File No. 58760

10/4/94
Senior Chemist
Account Manager

Certified Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553

1555 Burke St., Unit I
San Francisco, California 94124

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108

Section I

CHAIN OF CUSTODY AND ANALYSIS REQUEST

LAB NO. _____

Consultant Name: SEMCO
Office Location: 1741 Leslie Rd. San Mateo, CA 94402
Fax No.: (415) 572-9734
Project Manager: Chuck Kipke
Phone: (415) 572 8033

TURN AROUND TIME (Circle One)
Same Day | 72 Hrs
24 Hrs | 5 Day
48 Hrs

SUPERIOR ANALYTICAL, INC.
Martinez 415/229-1512 | San Francisco 415/647-2081

Send Coolers to : Modesto ☐ San Mateo ☒
Project No. / P.O. No.: ZATOPA 94-3878
Sampler: Semco / Jim Nores
Regulatory Agency: Alameda County

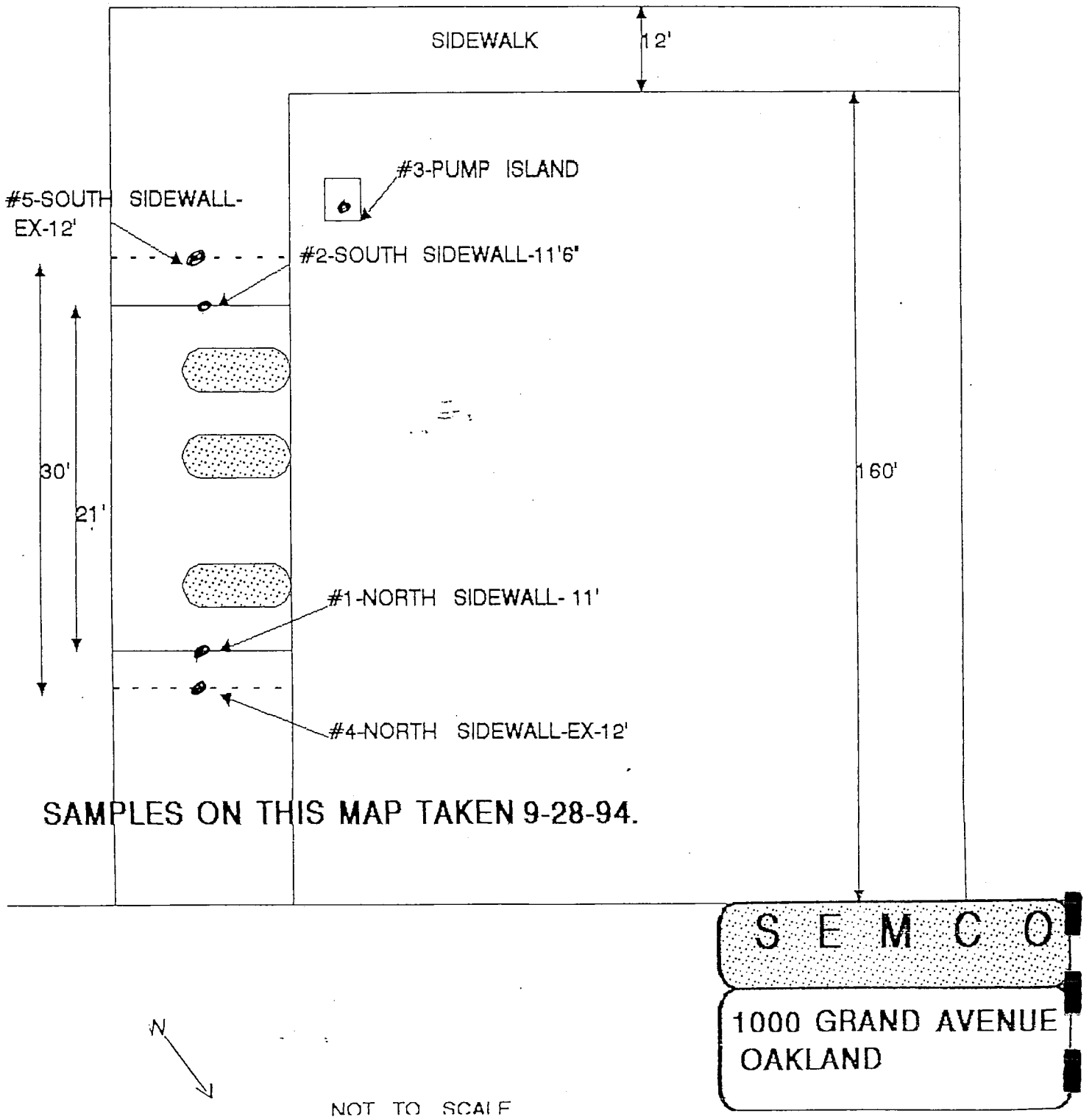
Section II Analysis Request | Section III Sample Information

SEMCO OCT - 6 1994

#	Sample Identification	Matrix (S=Soil A=Air W=Water)	TPH - G & D	TPH - Low Level D	TPH - G	BTXE	O&G	8010	8240	Metals	Others * Subject to Subcontracting	Date	Time	Containers: Quantity	Containers: Pres.	Sampling Remarks
1	#4 North Sidewall-ex 12'	S			X	X						9/28	3:20	1		Bioremediation ☐
2	#5 South Sidewall-ex 12'	S			X	X						9/28	3:51	1		Contamination ☒
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																

Please initial:
Samples Stored in Ice SS
Appropriate containers 4 ea
Samples preserved
VOA's without headspace
Comments:

Relinquished by: Jim Nores	Date/Time: 9/29/94 10:40am	Received by: Steve Gonzalez	Please Initial _____
Organization: Semco		Organization:	Samples Stored in Ice _____
Relinquished by: Steve Gonzalez	Date/Time:	Received by:	Appropriate Containers _____
Organization:		Organization:	Samples Preserved _____
Relinquished by: _____	Date/Time: 9/29/94 12:00	Received by: Sample Storage	VOA's without Headspace _____
Organization:		Organization: SPL SF	Comments _____


WEST GRAND AVENUE
SIDEWALK
12'
#3-PUMP ISLAND
#5-SOUTH SIDEWALL-
EX-12'
#2-SOUTH SIDEWALL-11'6"
30'
21'
160'
#1-NORTH SIDEWALL- 11'
#4-NORTH SIDEWALL-EX-12'
SAMPLES ON THIS MAP TAKEN 9-28-94.
S E M C O
1000 GRAND AVENUE
OAKLAND
N
NOT TO SCALE

SEMCO ENVIRONMENTAL CONTRACTORS

SAN MATEO - (800)831-2344 (415)572-8033
MODESTO - (800)585-9293 (209)524-9653

UST CLOSURE INSPECTION WORKSHEET

1000 W. Grand Ave, Oakland Alan Zatopa 94-3878
UST SITE ADDRESS BUSINESS NAME JOB #

Jennifer Eberle Harry James 9/27/94
ENV. HEALTH INSP. FIRE INSP. DATE

#1-TANK-14596 #2-14597 #3-14598

	Tank ID #	Tank Volume	Date Tank Closed
1	-M-2K-G-	2000	
2	-N-2K-G-	2000	
3	-S-2K-G-	2000	
4			
5			
6			

UST CONDITION	TANK #	1	2	3			
	LEL OK'D	X	X	X			
	PRODUCT FREE	X	X	X			
	HOLES/PITS	X	X	O			
	TANK CUT/CLEANED						
	RUST/SCALES	X	X	X			
SOIL CONDITION	VAPOR						
	DISCOLORATION	X	X	X			
GROUND WATER	SHEEN						
	FLOATING PRODUCT						
ANALYTICALS REQUESTED	TPH GAS	X	X	X			
	TPH DIESEL						
	TOTAL OIL AND GREASE						
	BTXLE (8020)	X	X	X			
	TOTAL LEAD						
	CI HC (8010)						
	8010 & 8020 or 8240						
	8270						
	Cd, Cr, Pb, Zn, Ni						

NOTES

#1-M-2K-G- unwrapped steel single wall tank - no visible holes

#~~2-N-2K-G~~ - 1 hole was discovered on fill end - street side

#2-N-2K-G- UNWRAPPED single wall steel tank - one very large hole, lower end shell on building side

#3-S-2K-G - Single wall steel - surface rust - no holes observed all fills were on street side - (Filbert)

Clayey Sandy Soil - Gravel lense on STREET side

PROJECT MANAGER

DEPTH OF EXCAVATION

DIMENSION OF EXCAVATION

TANK MANIFEST # 907958 26

LIQUID MANIFEST #

DEPTH TO GROUNDWATER

white -env.health
yellow -facility
pink -files

ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH

80 Swan Way, #200
Oakland, CA 94621
(415) 271-4320

Hazardous Materials Inspection Form

II,III

Site ID # ____ Site Name ~~Commercial Property~~ vacant bldg Today's Date 9/27/94

Site Address 1000 W. Grand Av.

City Oakland Zip 94607 Phone ________

___ MAX AMT stored > 500 lbs, 55 gal., 200 cft.?

Inspection Categories:

___ I. Haz. Mat/Waste GENERATOR/TRANSPORTER
___ II. Business Plans, Acute Hazardous Materials
✓ III. Underground Tanks

removal of three 2,000-gal USTs.

I.A BUSINESS PLANS (Title 19)

___	1. Immediate Reporting	2703
___	2. Bus. Plan Stds.	25503(b)
___	3. RR Cars > 30 days	25503.7
___	4. Inventory Information	25504(a)
___	5. Inventory Complete	2730
___	6. Emergency Response	25504(b)
___	7. Training	25504(c)
___	8. Deficiency	25505(a)
___	9. Modification	25505(b)

I.B ACUTELY HAZ. MAT'LS

___	10. Registration Form Filed	25533(a)
___	11. Form Complete	25533(b)
___	12. RMPP Contents	25534(c)
___	13. Implement Sch. Req'd? (Y/N)	
___	14. Offsite Conseq. Assess.	25524(c)
___	15. Probable Risk Assessment	25534(d)
___	16. Persons Responsible	25534(g)
___	17. Certification	25534(f)
___	18. Exemption Request? (Y/N)	25536(b)
___	19. Trade Secret Requested?	25538

III. UNDERGROUND TANKS (Title 23)

General

___	1. Permit Application	25284 (H&S)
___	2. Pipeline Leak Detection	25292 (H&S)
___	3. Records Maintenance	2712
___	4. Release Report	2651
___	5. Closure Plans	2670

___ 6. Method
1) Monthly Test
2) Daily Vadose
Semi-annual gndwater
One time soils
3) Daily Vadose
One time soils
Annual tank test
4) Monthly Gndwater
One time soils
5) Daily Inventory
Annual tank testing
Cont pipe leak det
Vadose/gndwater mon.
6) Daily Inventory
Annual tank testing
Cont pipe leak det
7) Weekly Tank Gauge
Annual tank tsting
8) Annual Tank Testing
Daily Inventory
9) Other ________

___	7. Precis Tank Test Date: ______	2643
___	8. Inventory Rec.	
___	9. Soil Testing.	2644
___	10. Ground Water.	2646, 2647
___	11. Monitor Plan	2632
___	12. Access. Secure	2634
___	13. Plans Submit Date: ______	2711
___	14. As Built Date: ______	2635

38

* Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)

1:30 arrived onsite.

Comments:

~40 to ~60 yd³ soil stockpiled inside bldg. Alan ~~Zap~~ Zatopa & Stan Clemenson (CEC) + Larry James (OFD) onsite. Mr. Zatopa said USTs have not been used in 5-6 yrs.

2:05 Removal of tank 1 (middle): 2K gal, steel, small one obvious hole on bottom, painted w/#14596, minor rust.

2:25 Removal of tank 2 (north): 2K gal, steel, large hole on end/bottom (bldg) + also on bottom (str), #14597

2:35 Removal of tank 3 (South): 2K gal, steel, no obvious holes, #14598, minor rust. USTs transported by RHT under manifest #90795826 (to Erickson).

2:53 Began sampling; see attached map. We took 6 bottom samples + 4 sidewall samples. They plan to offhaul soil SP. Geochem Mobile lab is onsite. GW is entering pit at 12-13' bgs, recharging quickly + has a sheen. 4:40 collected gw sample. We'll sample the other 2 walls tomorrow 9 am. Another ~50 yd³ soil was ~~left site~~ generated from the bottom excavation of dirty soil. It will be analyzed separately.

5:00 left site.

Contact: Chuck Kipa

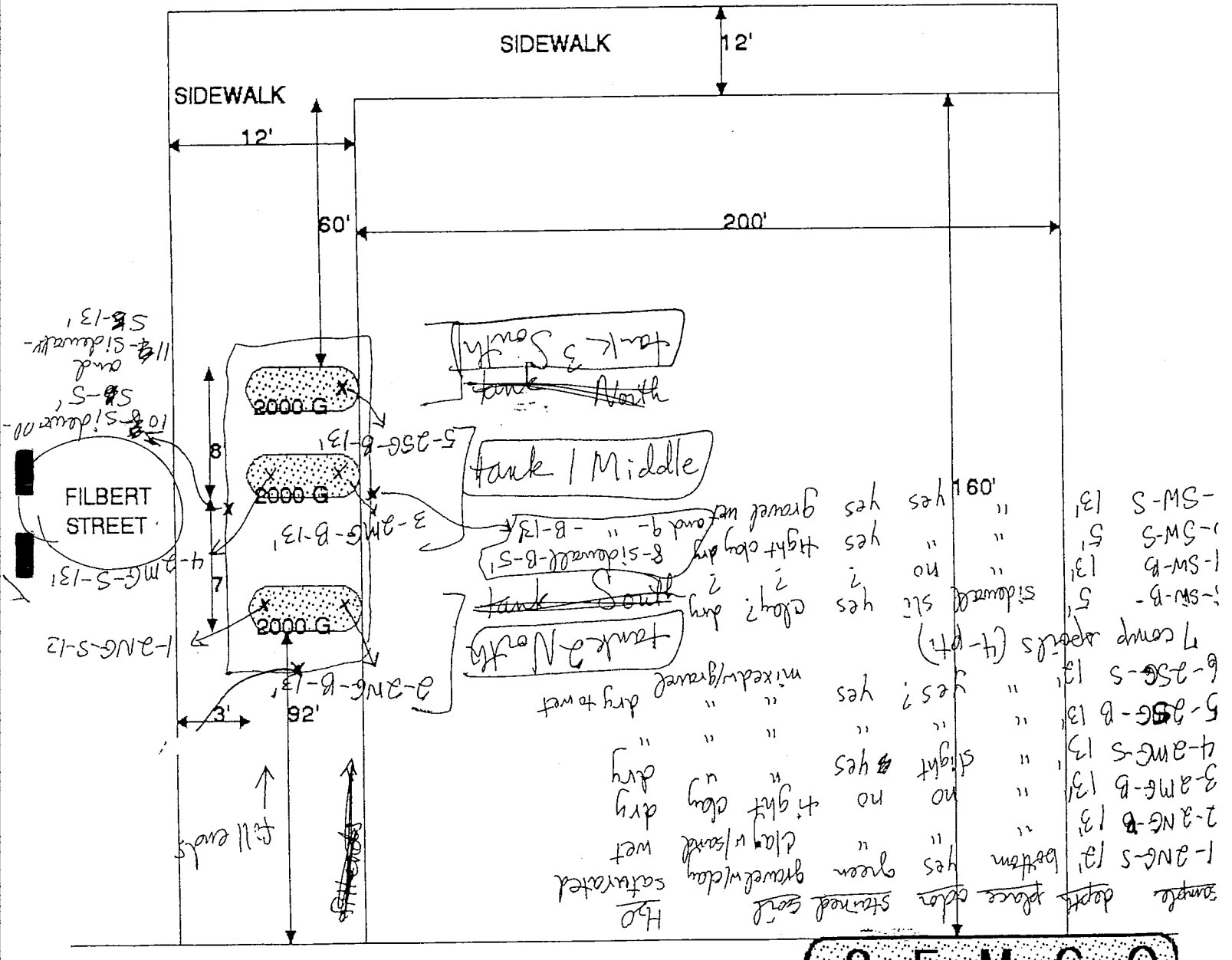
Title: Vice President

Signature: Chuck Kipa

Inspector: Jennifer Eberle

Signature: J Eberle

II, III



SEMCO

1000 GRAND AVENUE
OAKLAND

NOT TO SCALE

7-7-94 North UST
1000 W. Grand Av., Oakland CA

9-28-94 Commercial Property
1000 W. Grand Av, Oakland 607

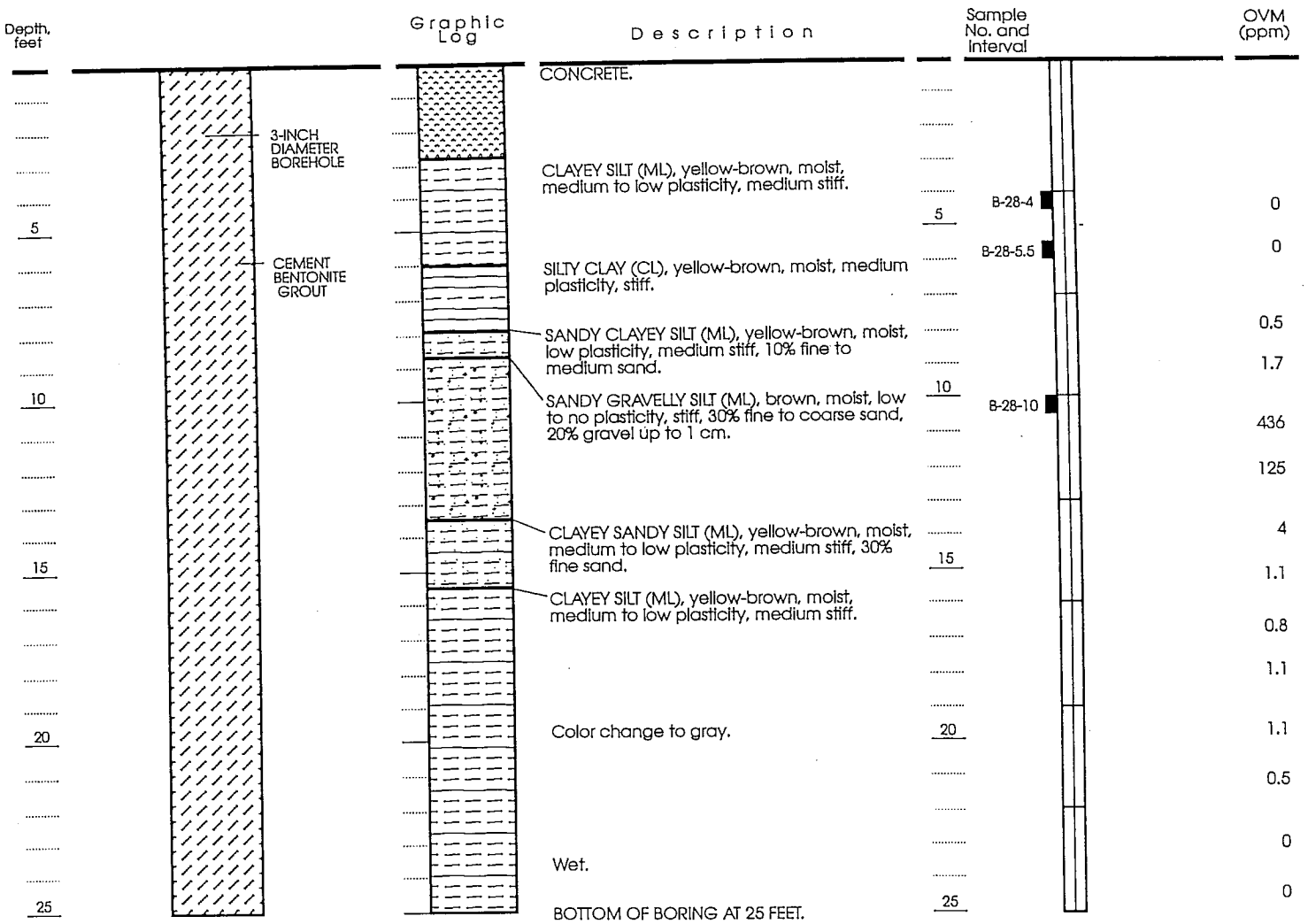
9:00 arrived onsite. ~~They are~~ Semco is finishing the excavation of soil, down to gw level (~12' bgs).
9:22 sampled N wall of pit at ~11'. Soil is gravel w/ clay, odor, stain, ~~moist~~ damp.
9:30 sampled S wall of pit at ~11.5'. Soil is clay w/ gravel, odor, stain, slightly damp.
These samples were taken w/ the bucket.
There are 3 drums of rinsate fm the UST.
They are labelled, & inside the bldg.
9:36 sampled below former dispenser at ~2' bgs. Soil is brown, no odor or stain, clay loam.
Rocky said they'll remove the piping & vent lines today, & ~~they'll~~ remove a hydraulic hoist inside bldg.
9:45 left site.

Chuck Sampled the gw also.

JR Eberle

APPENDIX B

BORING LOGS FOR LEVINE-FRICKE'S PHASE II INVESTIGATION



Date boring drilled: November 18, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

EXPLANATION

Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis
OVM (ppm) Organic Vapor Meter reading in parts per million

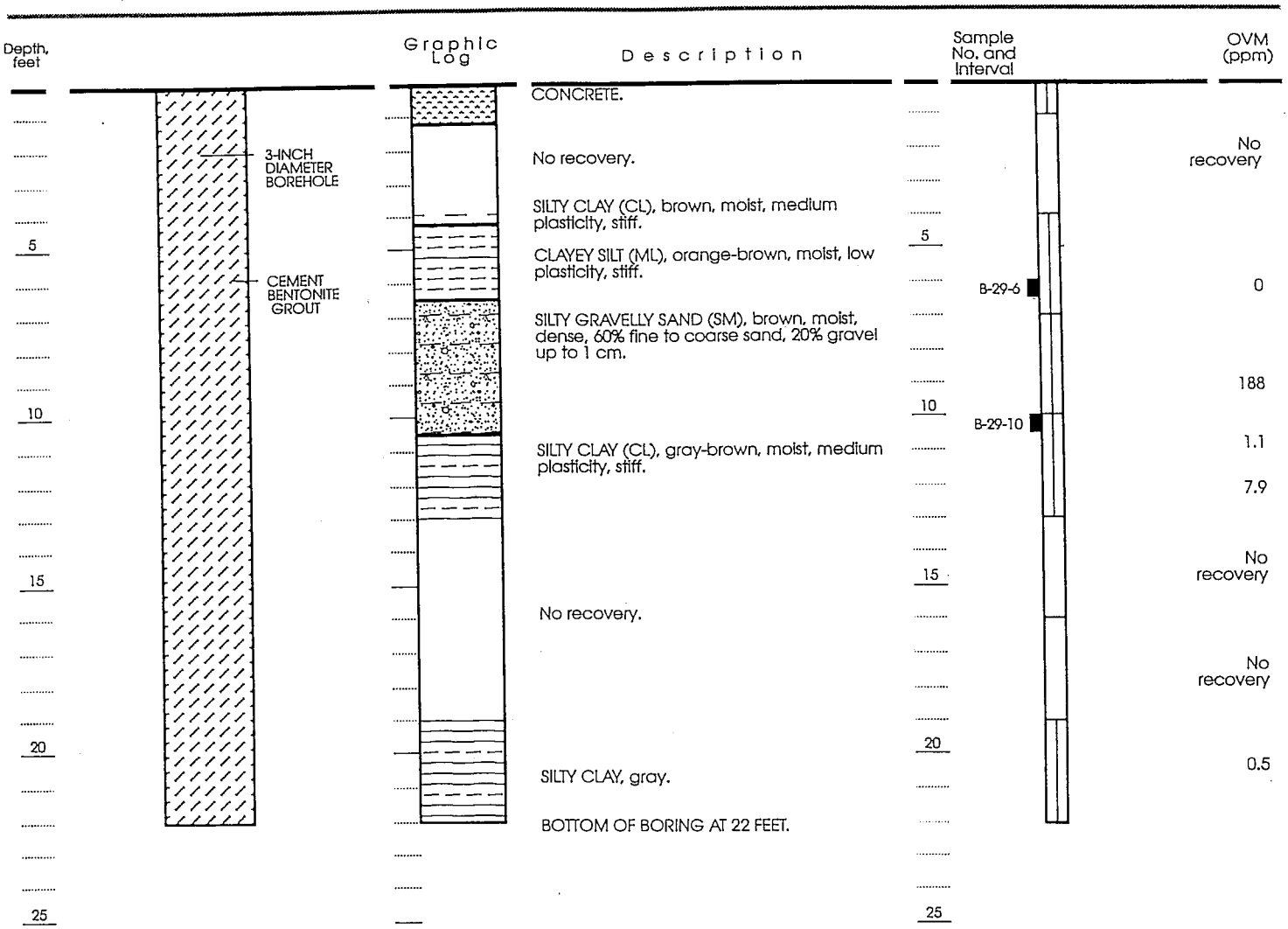
Approved by: rah (EG 1562)

Figure B1: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-28 *(page 1 of 1)*

Project No. 3230.94-05

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

3230L061.RWB:MPM 122994



Date boring drilled: November 18, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

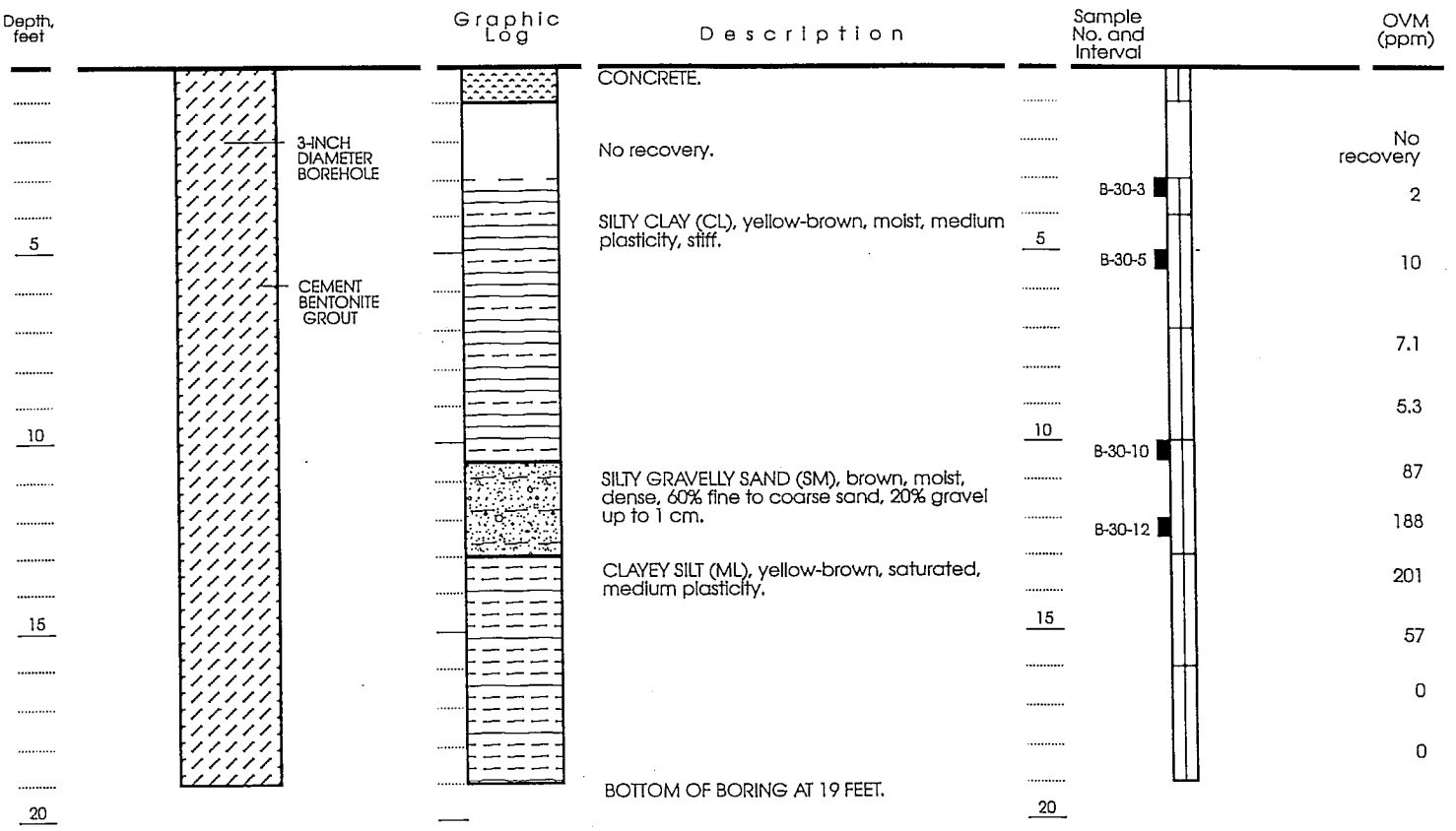
EXPLANATION

Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis
OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zak (EG 1562)

Figure B2: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-29 *(page 1 of 1)*



Date boring drilled: November 18, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

EXPLANATION

Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis
OVM (ppm) Organic Vapor Meter reading in parts per million

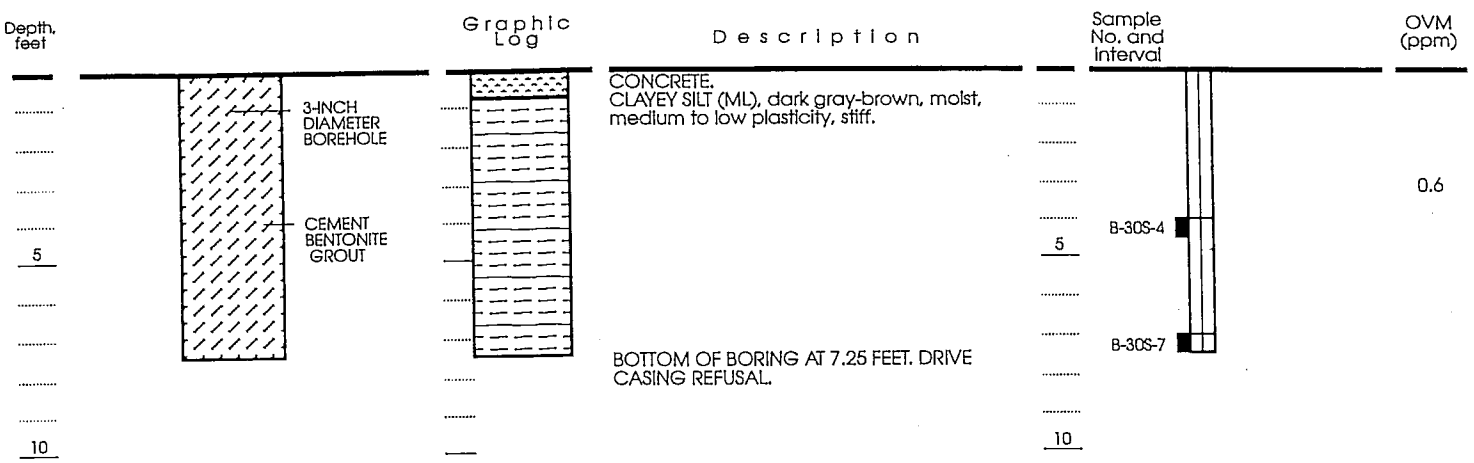
Approved by: Zak (EG 1562)

Figure B3: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-30 *(page 1 of 1)*

Project No. 3230.94-05

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

3230L063.RWB:MPM 122994



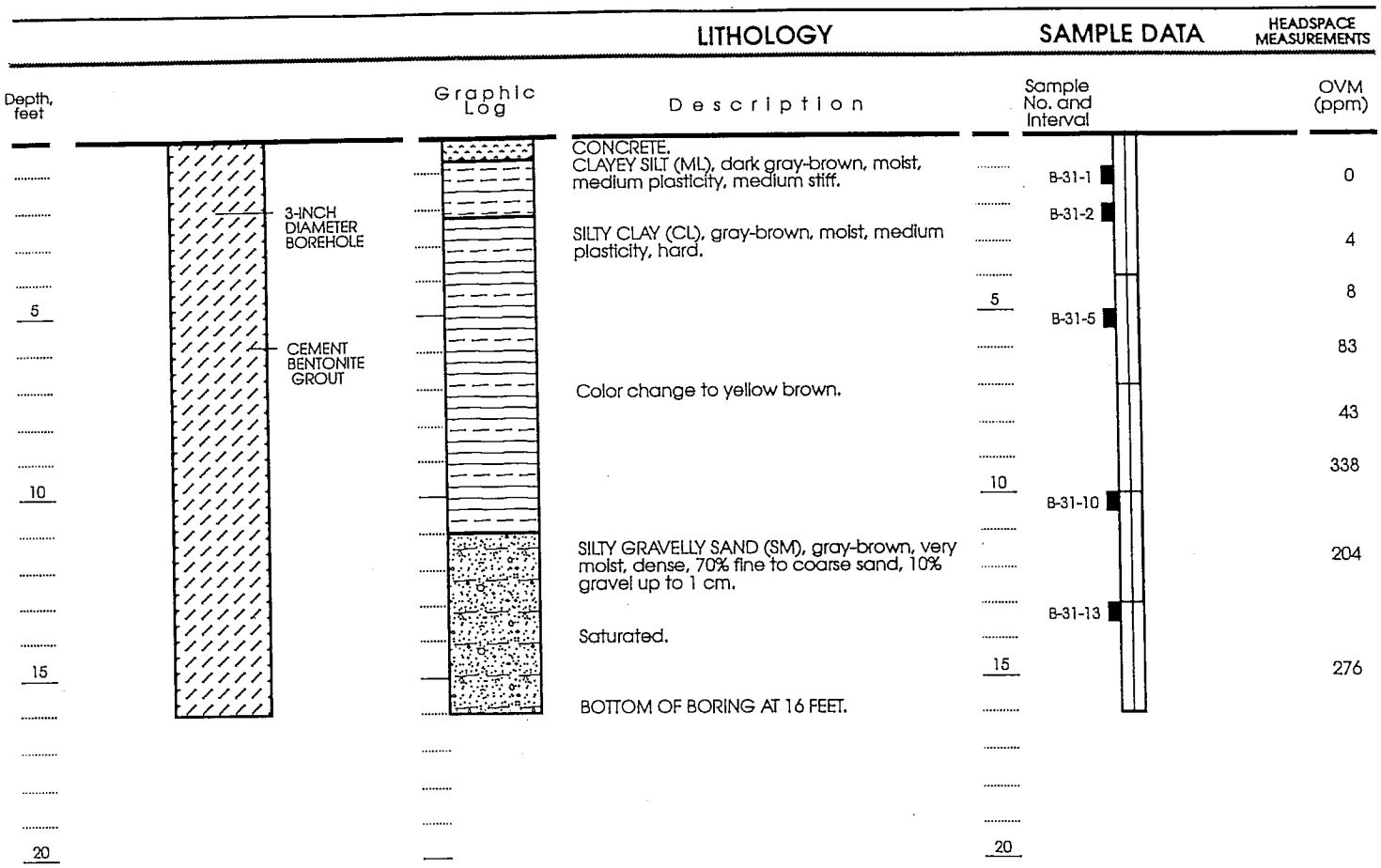
Date boring drilled: November 15, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval sampled using Continuous Core
- Sample retained for analysis
- OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zak (EG1562)

Figure B4: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-30S *(page 1 of 1)*



Date boring drilled: November 11, 1994
Drilling Company: Precision Sampling
Driller: Francisco
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

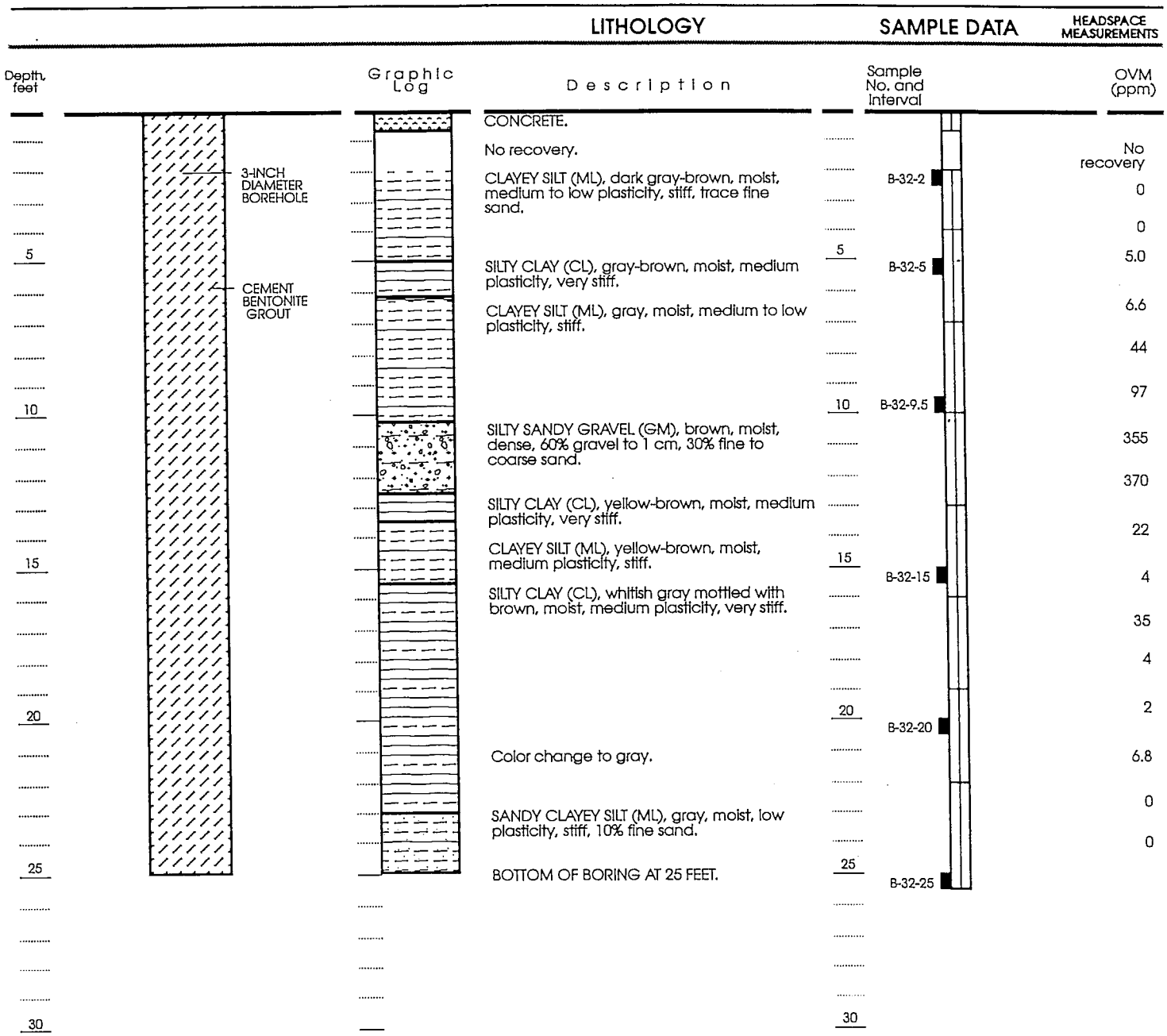
EXPLANATION

Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis
OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zak (EG 1562)

Figure B5: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-31 *(page 1 of 1)*



Date boring drilled: November 10, 1994
Drilling Company: Precision Sampling
Driller: Francisco
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

EXPLANATION

Clay

Silt

Sand

Gravel

Interval sampled using Continuous Core

Sample retained for analysis

OVM (ppm) Organic Vapor Meter reading in parts per million

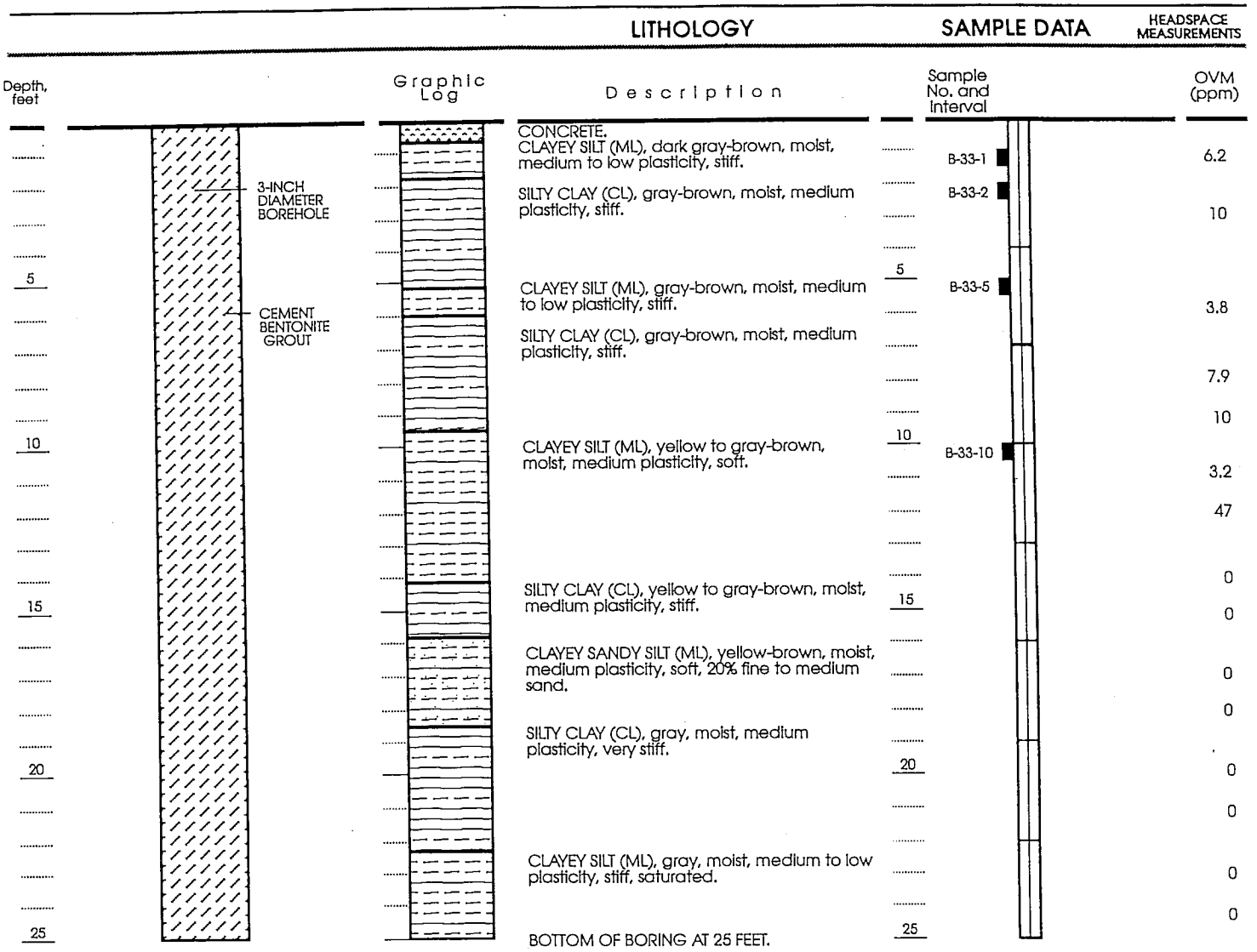
Approved by: Zak (EG 1562)

Figure B6: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-32 *(page 1 of 1)*

Project No. 3230.94-05

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

3230L030.RWB:MPM 122994



Date boring drilled: November 11, 1994
Drilling Company: Precision Sampling
Driller: Francisco
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

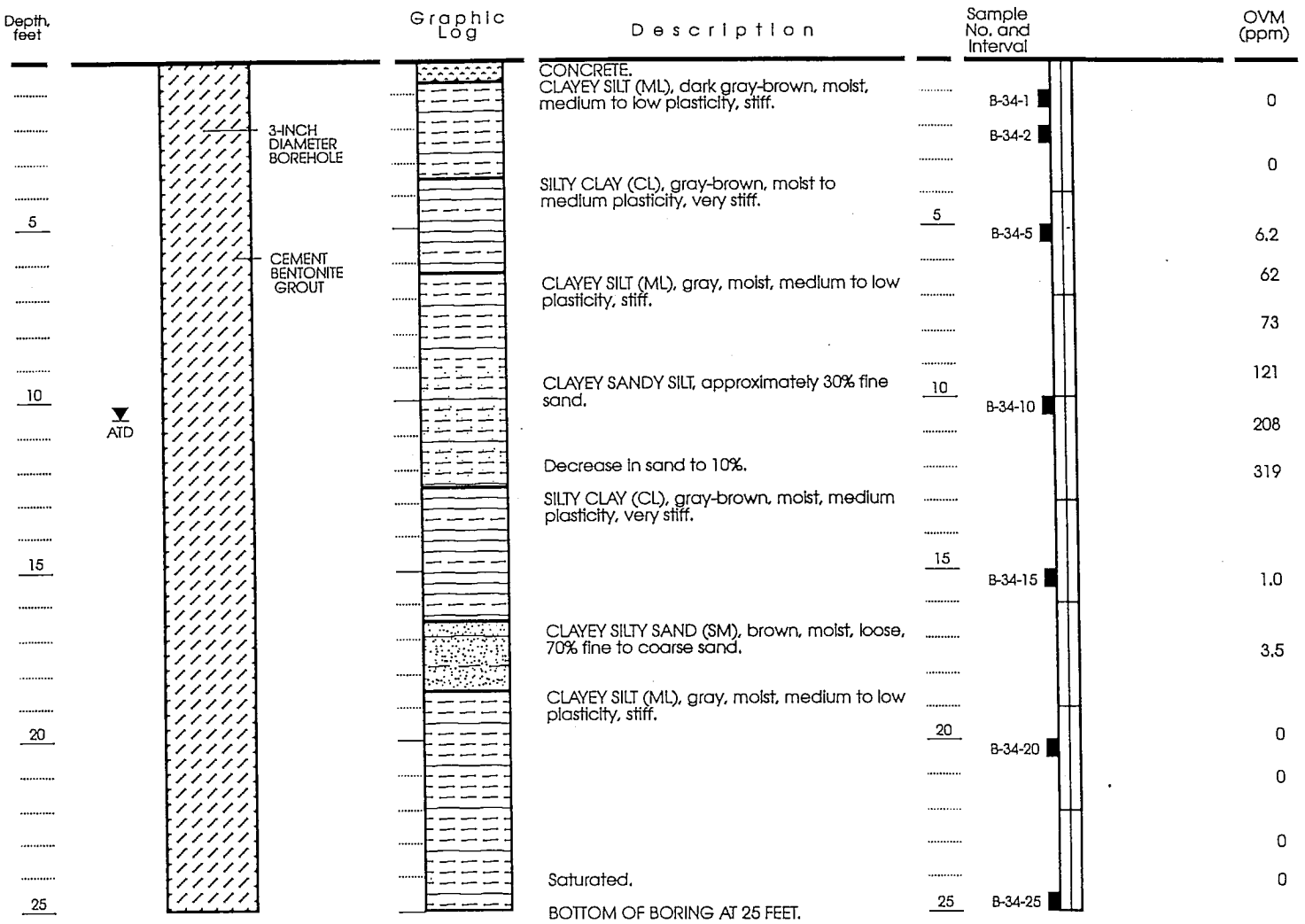
EXPLANATION

Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis
OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zal (EG1562)

Figure B7: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-33 *(page 1 of 1)*



Date boring drilled: November 10, 1994
Drilling Company: Precision Sampling
Driller: Francisco
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

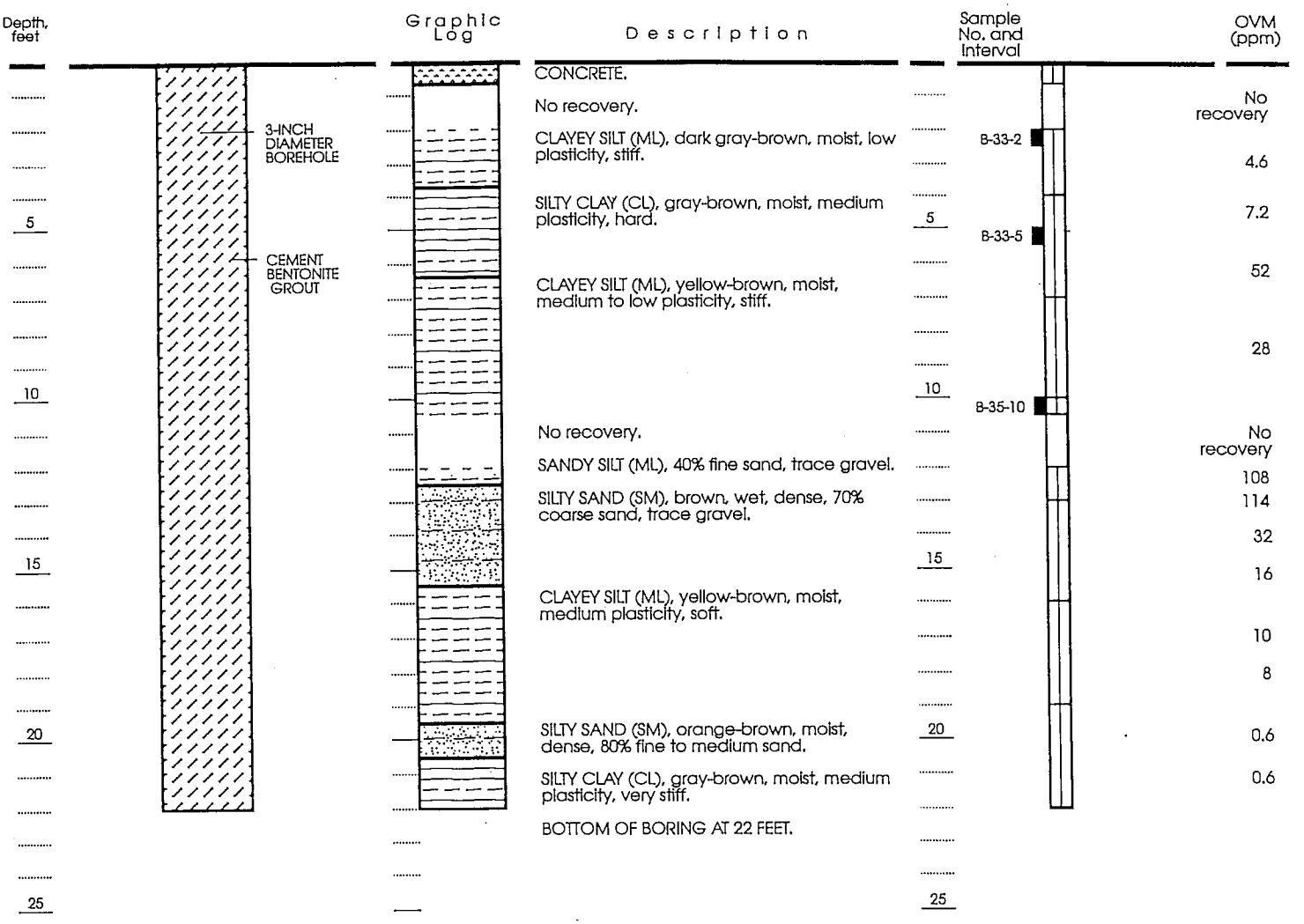
EXPLANATION

Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis
ATD Water level measured at time of drilling
OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zeh (EG 1562)

Figure B8: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-34 *(page 1 of 1)*



Date boring drilled: November 14, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

EXPLANATION

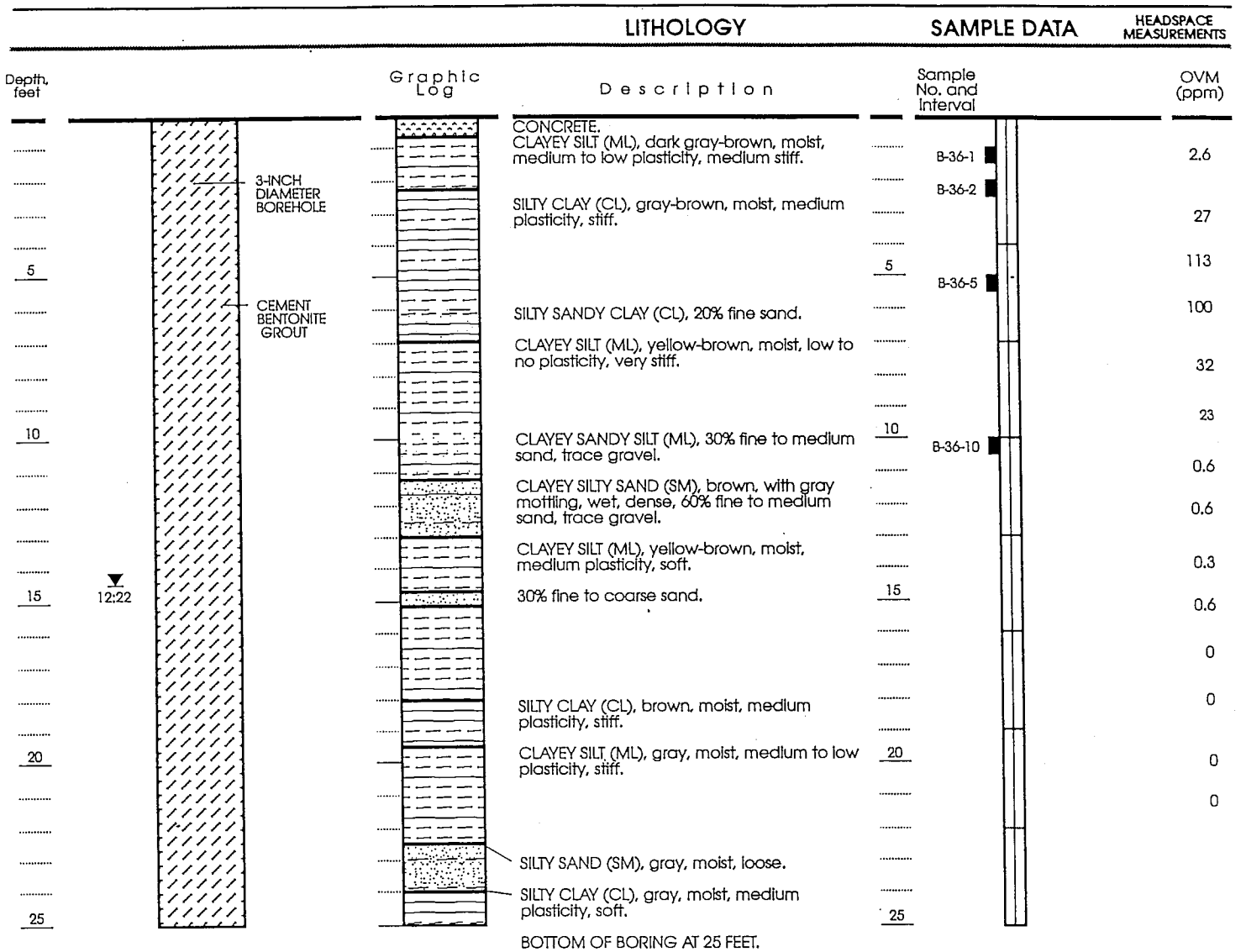
Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis

OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zak (EG 1562)

Figure B9: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-35 *(page 1 of 1)*



Date boring drilled: November 14, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

EXPLANATION

Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis
Water level in well measured on November 14, 1994
OVM (ppm) Organic Vapor Meter reading in parts per million

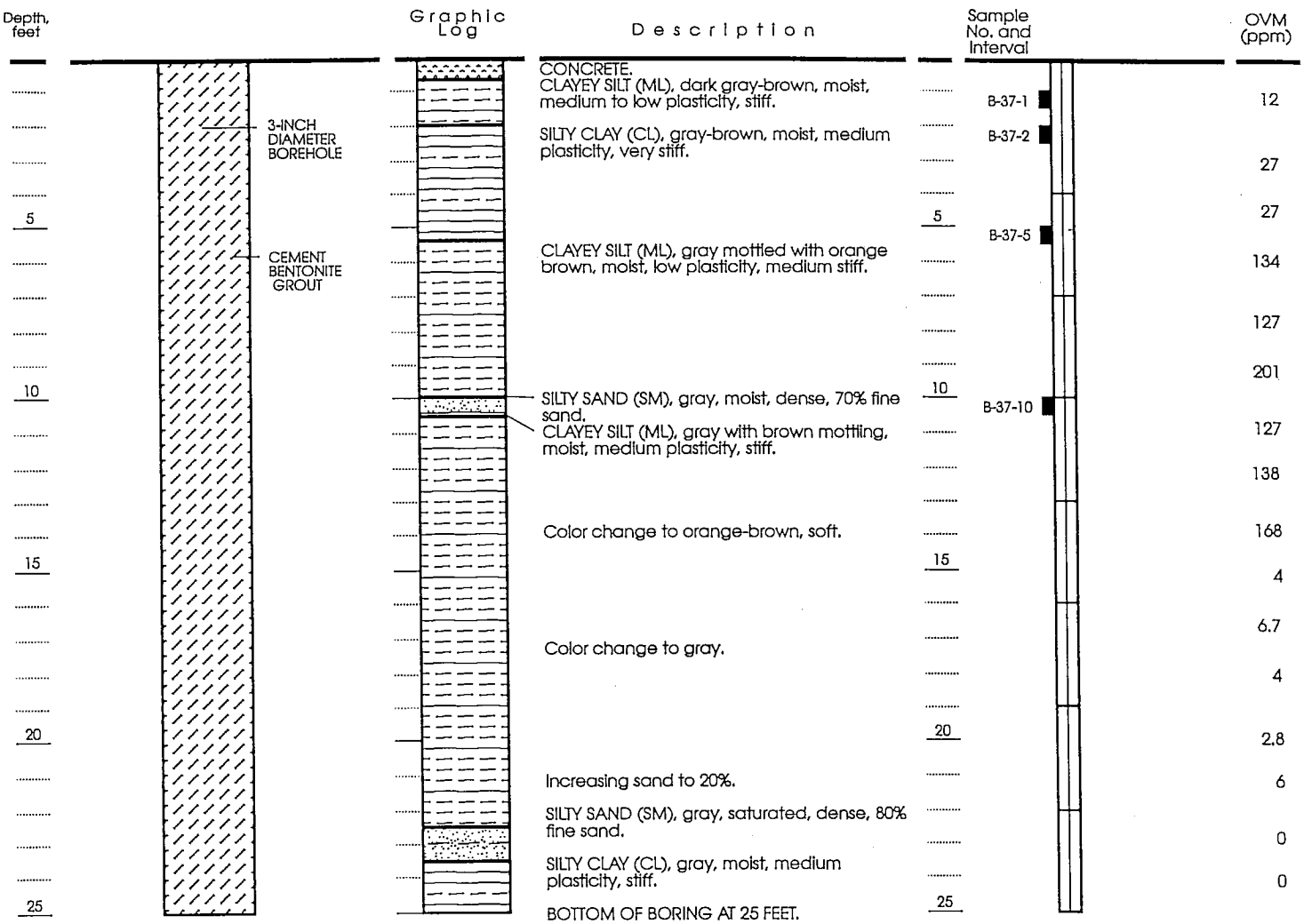
Approved by: Zal (EG1562)

Figure B10: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-36 *(page 1 of 1)*

Project No. 3230.94-05

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

3230L034.RWB:MPM 122994



Date boring drilled: November 14, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

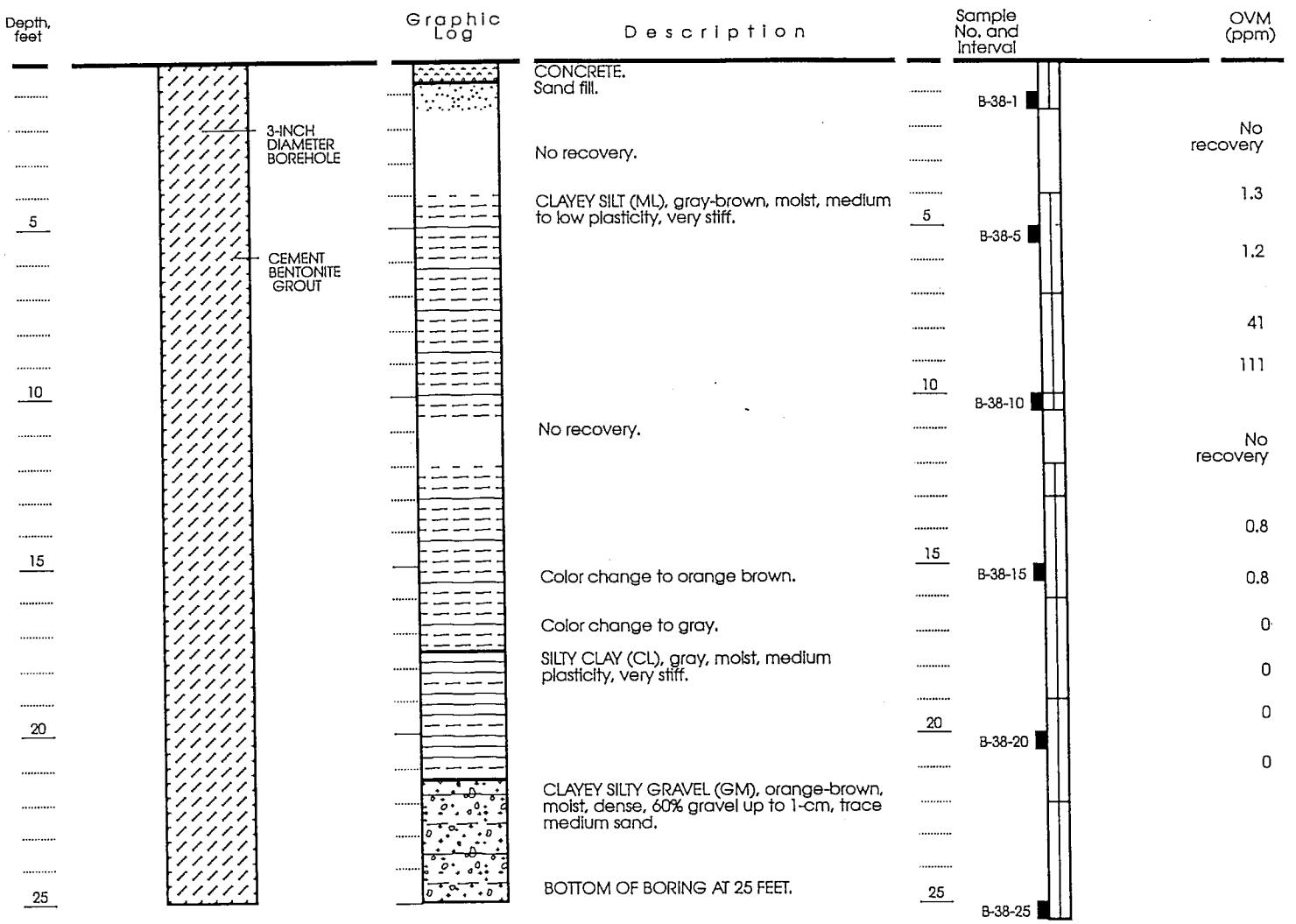
EXPLANATION

Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis
OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zal (EG 1562)

Figure B11: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-37 *(page 1 of 1)*



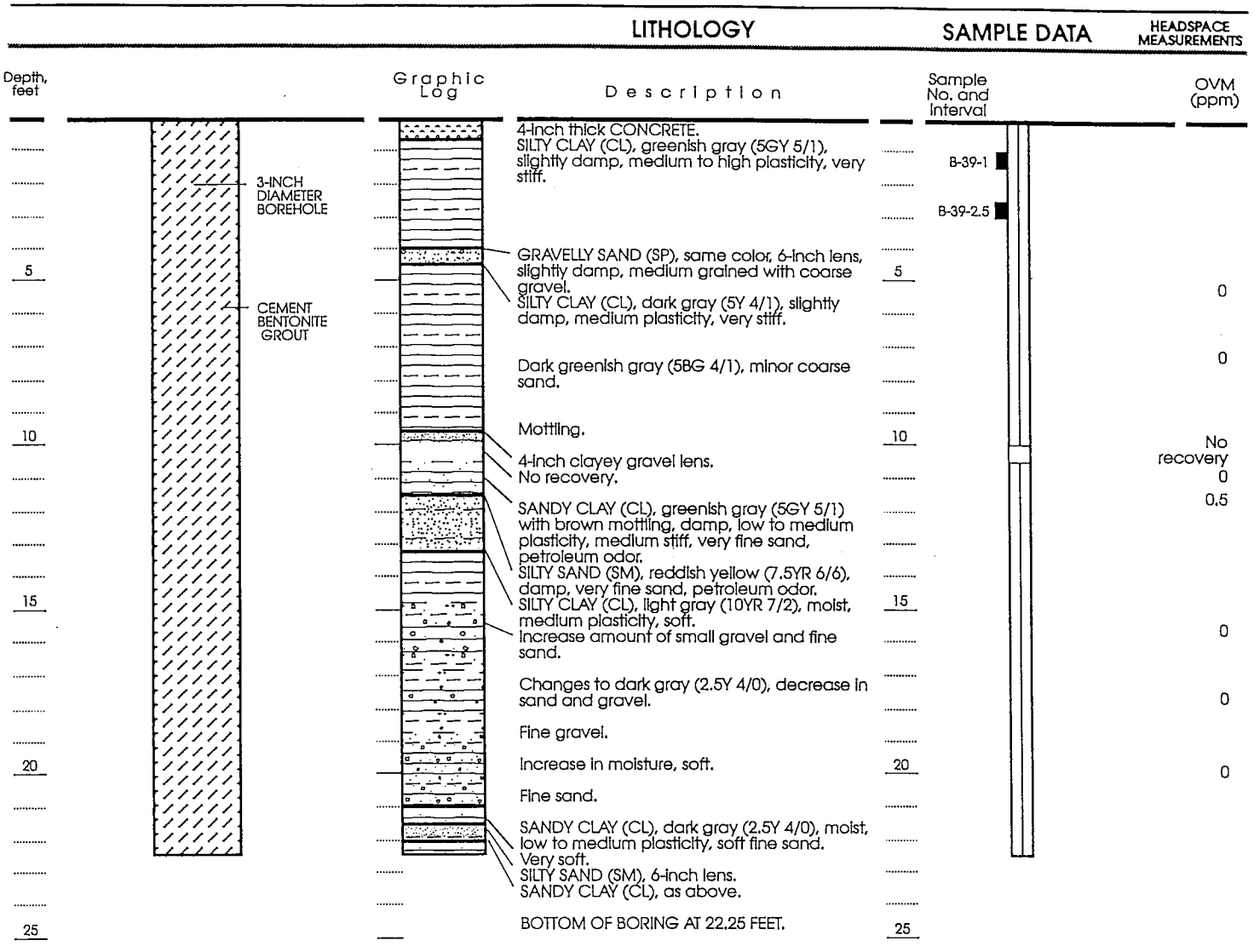
Date boring drilled: November 9, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval sampled using Continuous Core
- Sample retained for analysis
- OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: (EG1562)

Figure B12: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-38 *(page 1 of 1)*



Date boring drilled: November 10, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Rick Hirsch

EXPLANATION

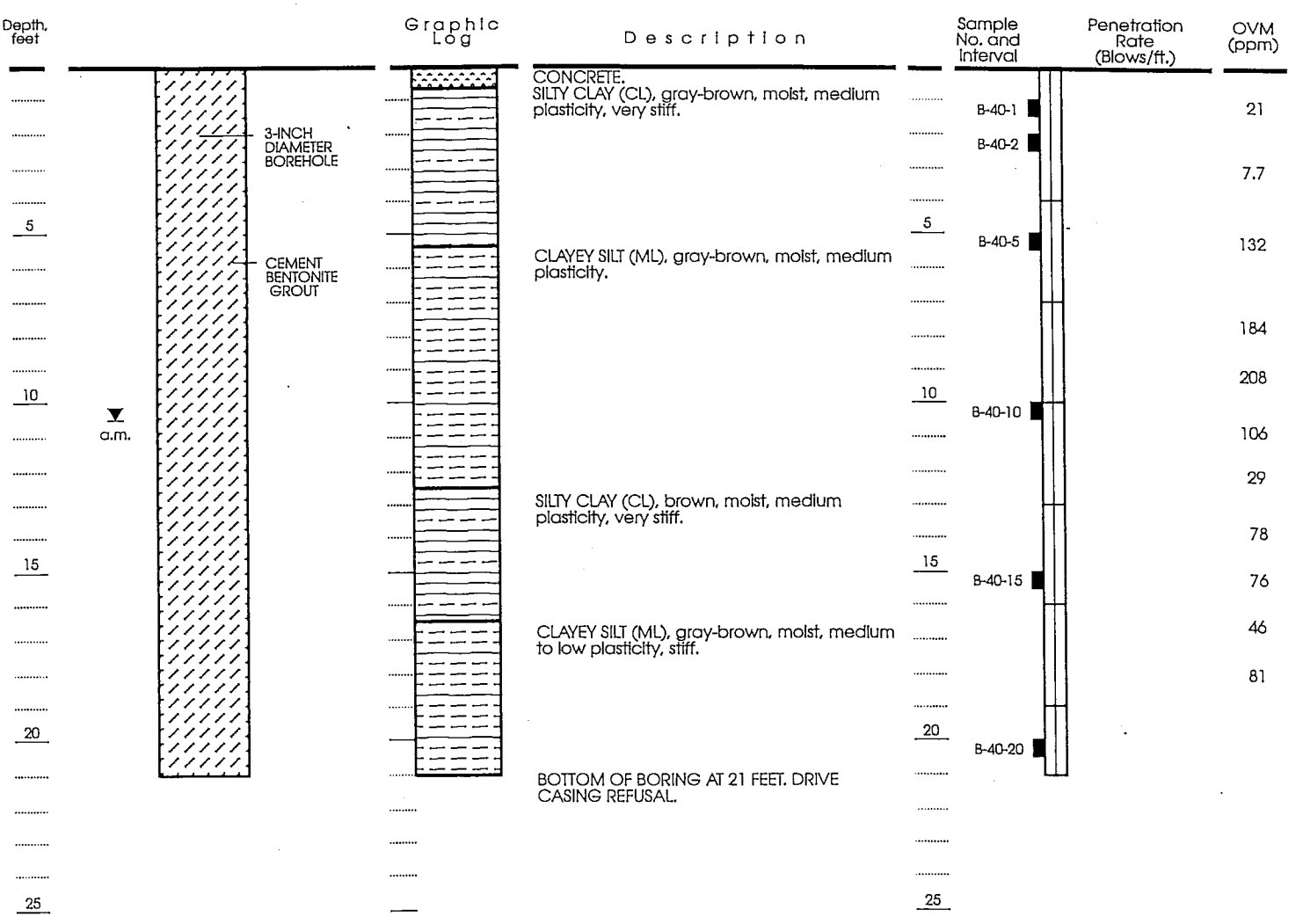
Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis

OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zak (EG 1562)

Figure B13: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-39 *(page 1 of 1)*



Date boring drilled: November 9, 1994
Drilling Company: Precision Sampling
Driller: Francisco
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

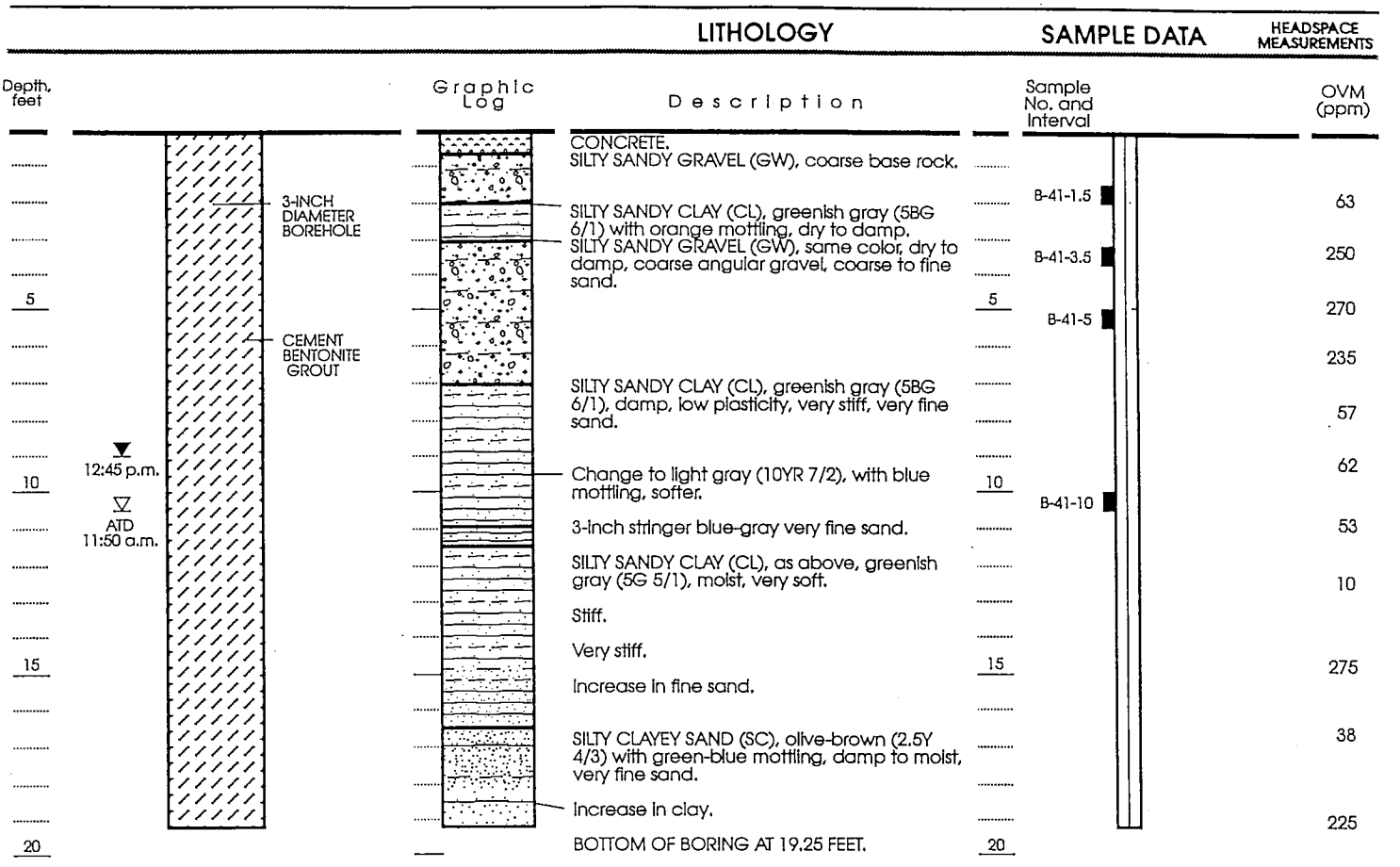
EXPLANATION

Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis
Water in well measured on November 10, 1994
OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: zak (E41562)

Figure B14: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-40 *(page 1 of 1)*



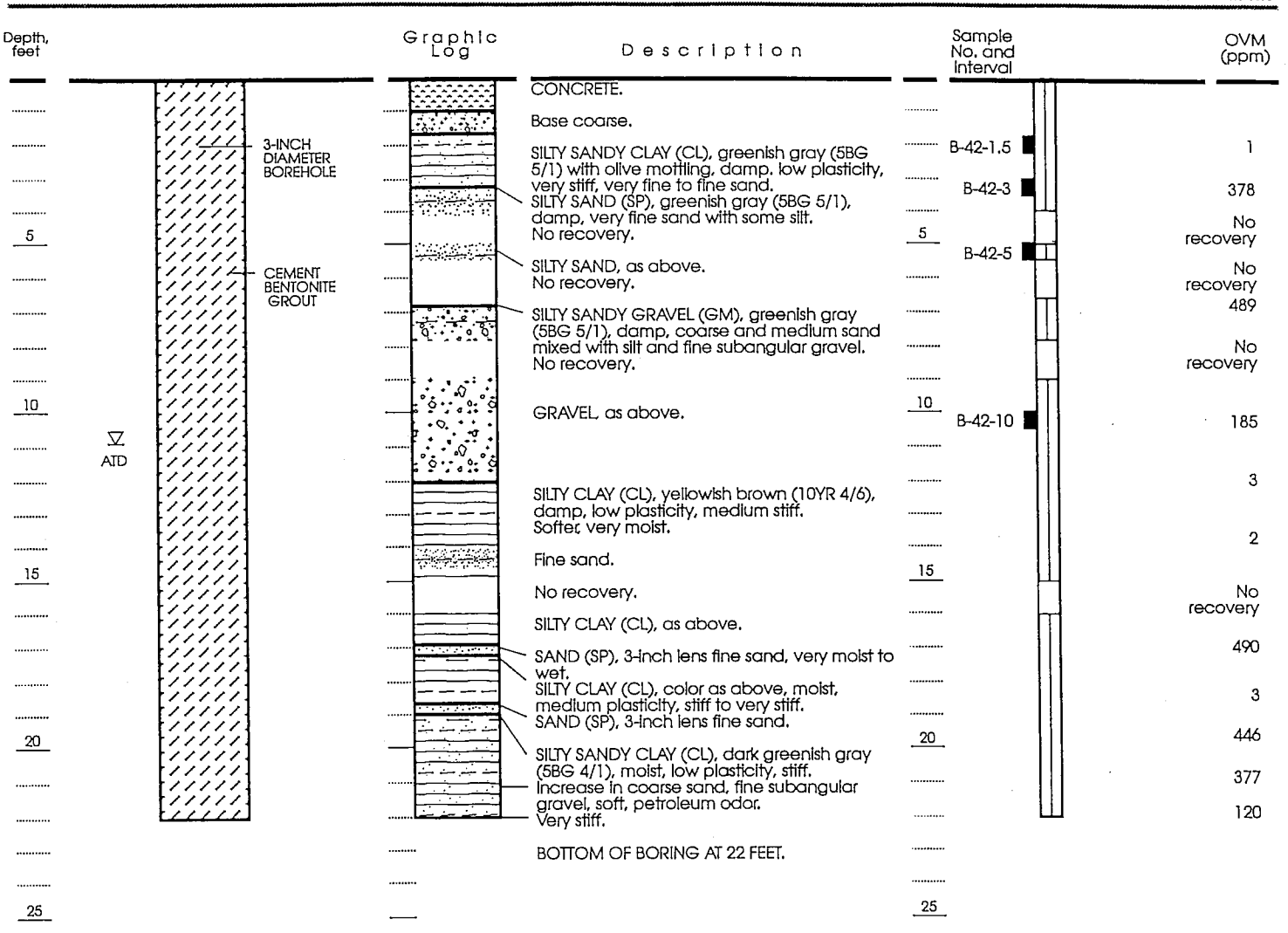
Date boring drilled: November 11, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Rick Hirsch

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval sampled using Continuous Core
- Sample retained for analysis
- ▼ Water in well measured on November 10, 1994
- OVM (ppm) Organic Vapor Meter reading in parts per million
- ▽ ATD Water level measured at time of drilling

Approved by: Zal (EG 1562)

Figure B15: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-41 *(page 1 of 1)*



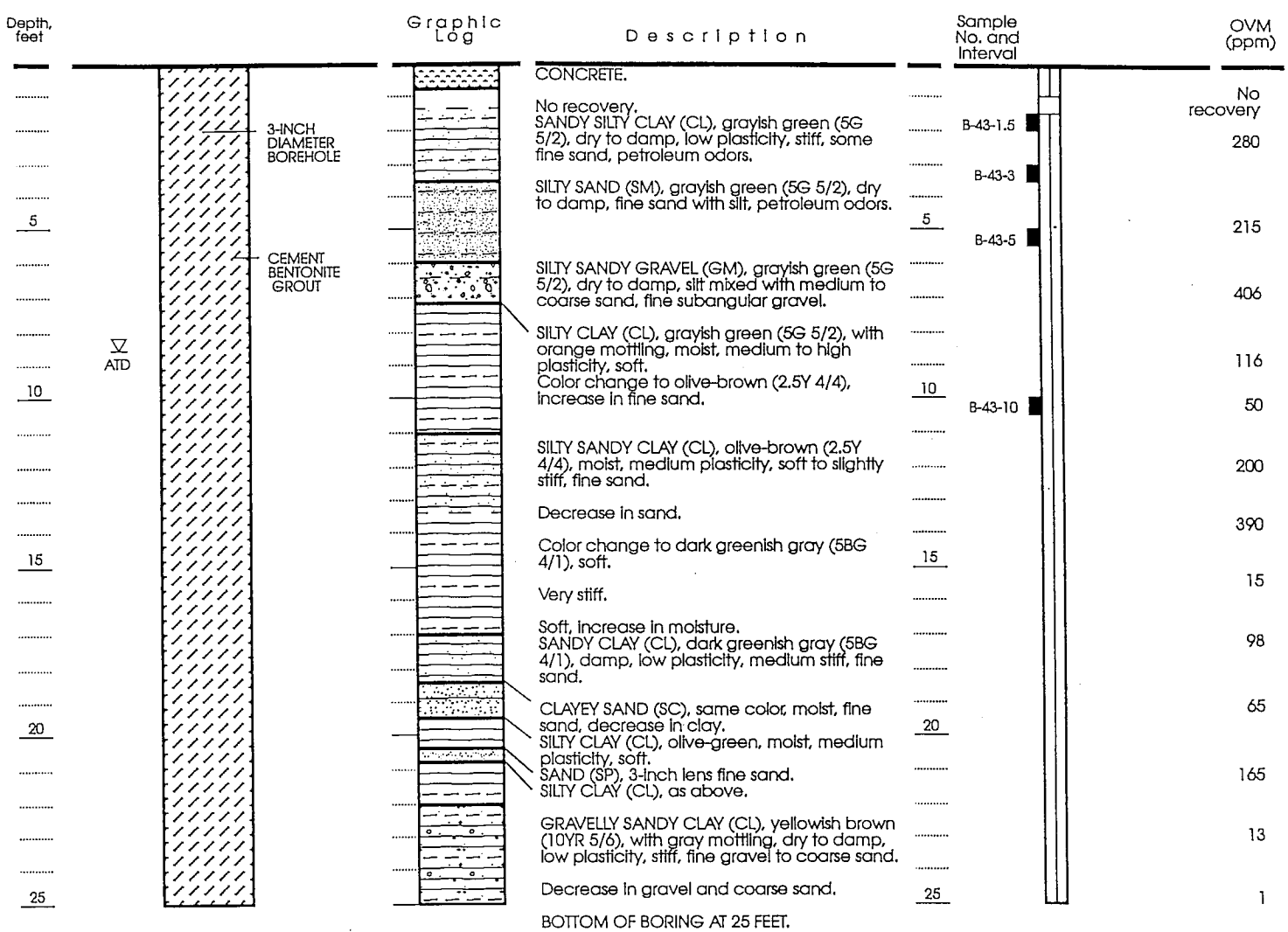
Date boring drilled: November 11, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Rick Hirsch

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval sampled using Continuous Core
- Sample retained for analysis
- ATD: Water level measured at time of drilling
- OVM (ppm): Organic Vapor Meter reading in parts per million

Approved by: Zoe (EG 1562)

Figure B-16: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-42 *(page 1 of 1)*



Date boring drilled: November 11, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Rick Hirsch

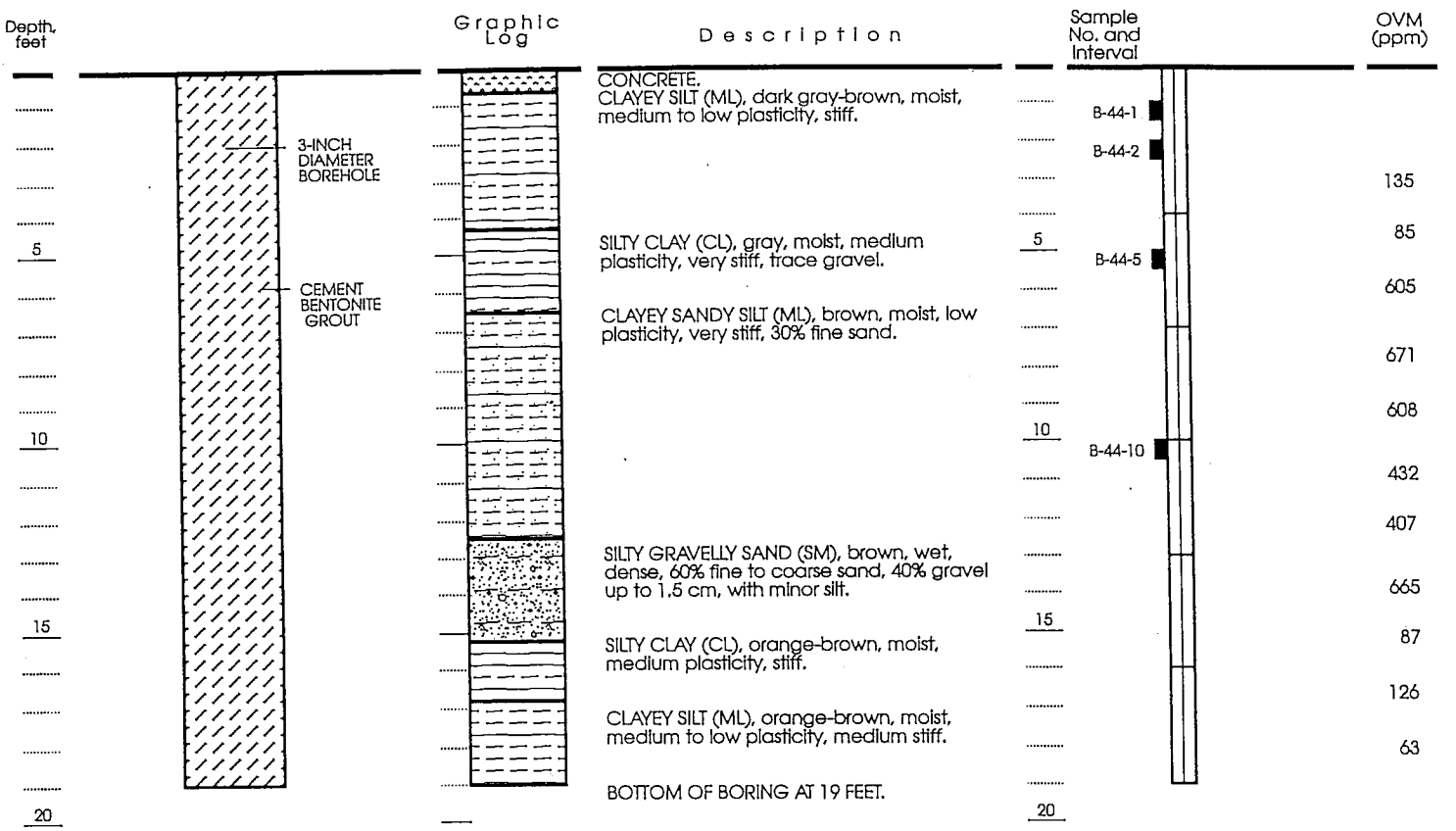
EXPLANATION

Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis
ATD Water level measured at time of drilling
OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zoll (EG 1562)

Figure B17: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-43 *(page 1 of 1)*



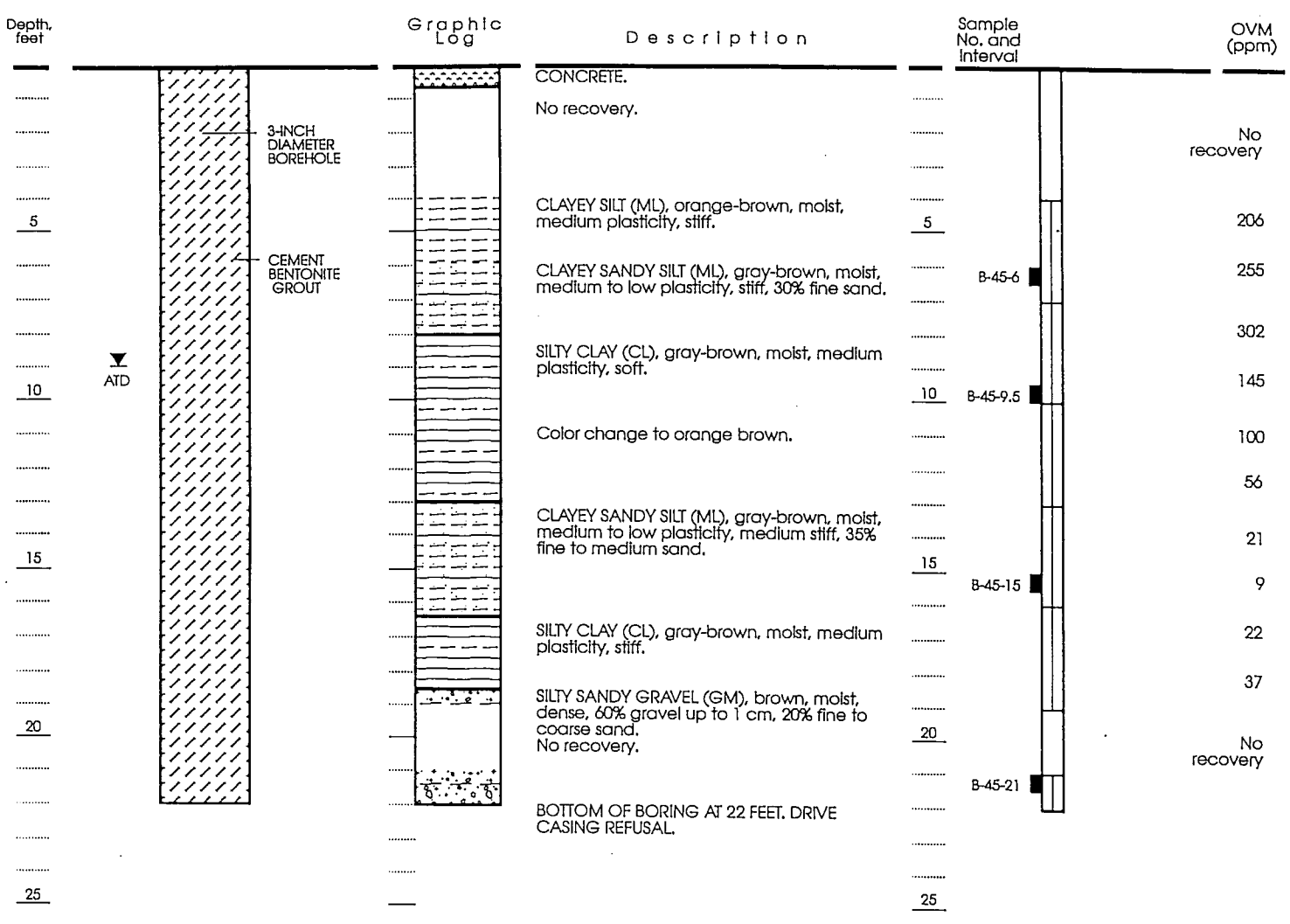
Date boring drilled: November 14, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval sampled using Continuous Core
- Sample retained for analysis
- OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Eqle (EG1562)

Figure B18: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-44 *(page 1 of 1)*



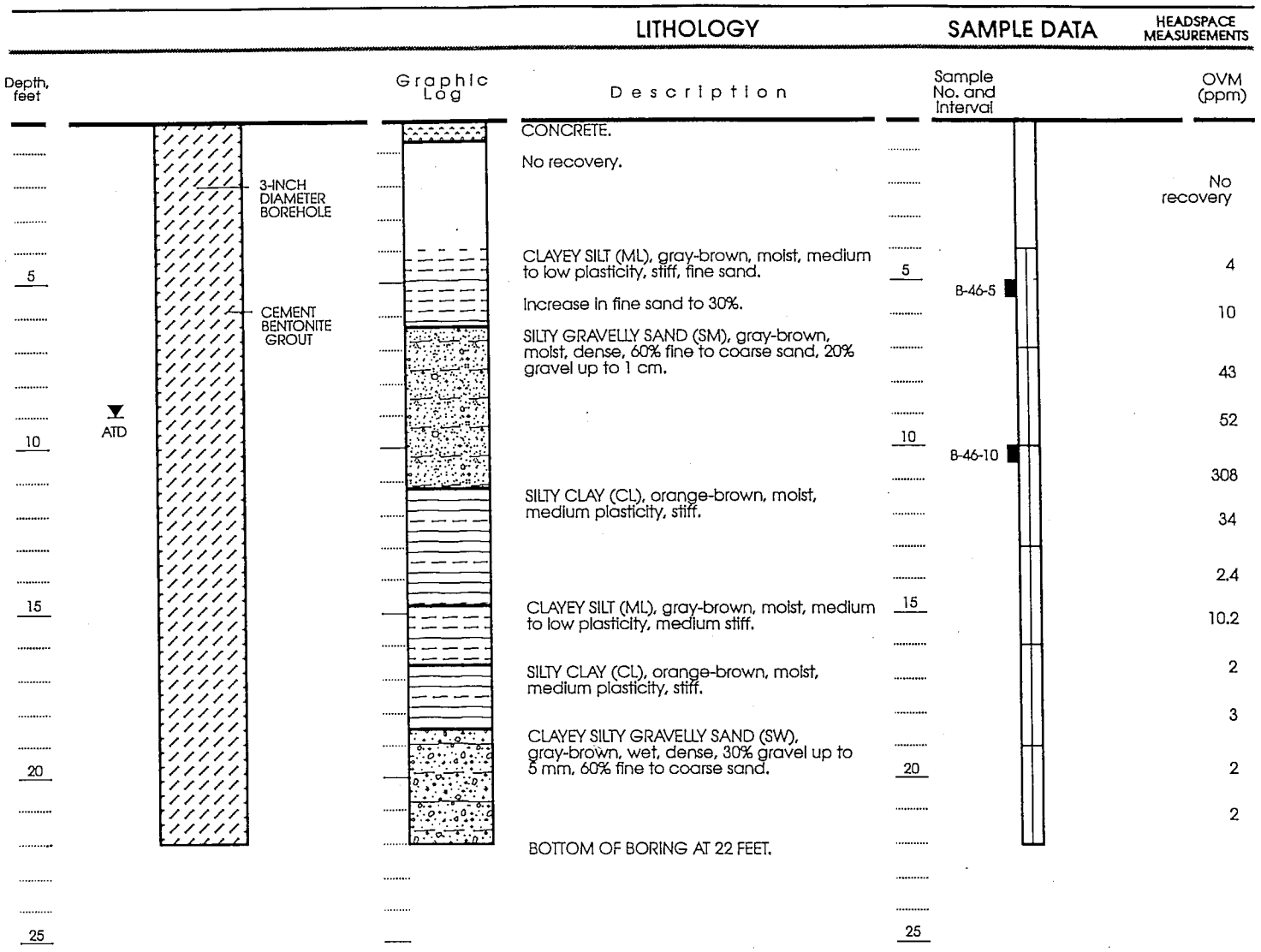
Date boring drilled: November 10, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval sampled using Continuous Core
- Sample retained for analysis
- Water in well measured on November 11, 1994
- OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zale (EA156z)

Figure B19: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-45 *(page 1 of 1)*



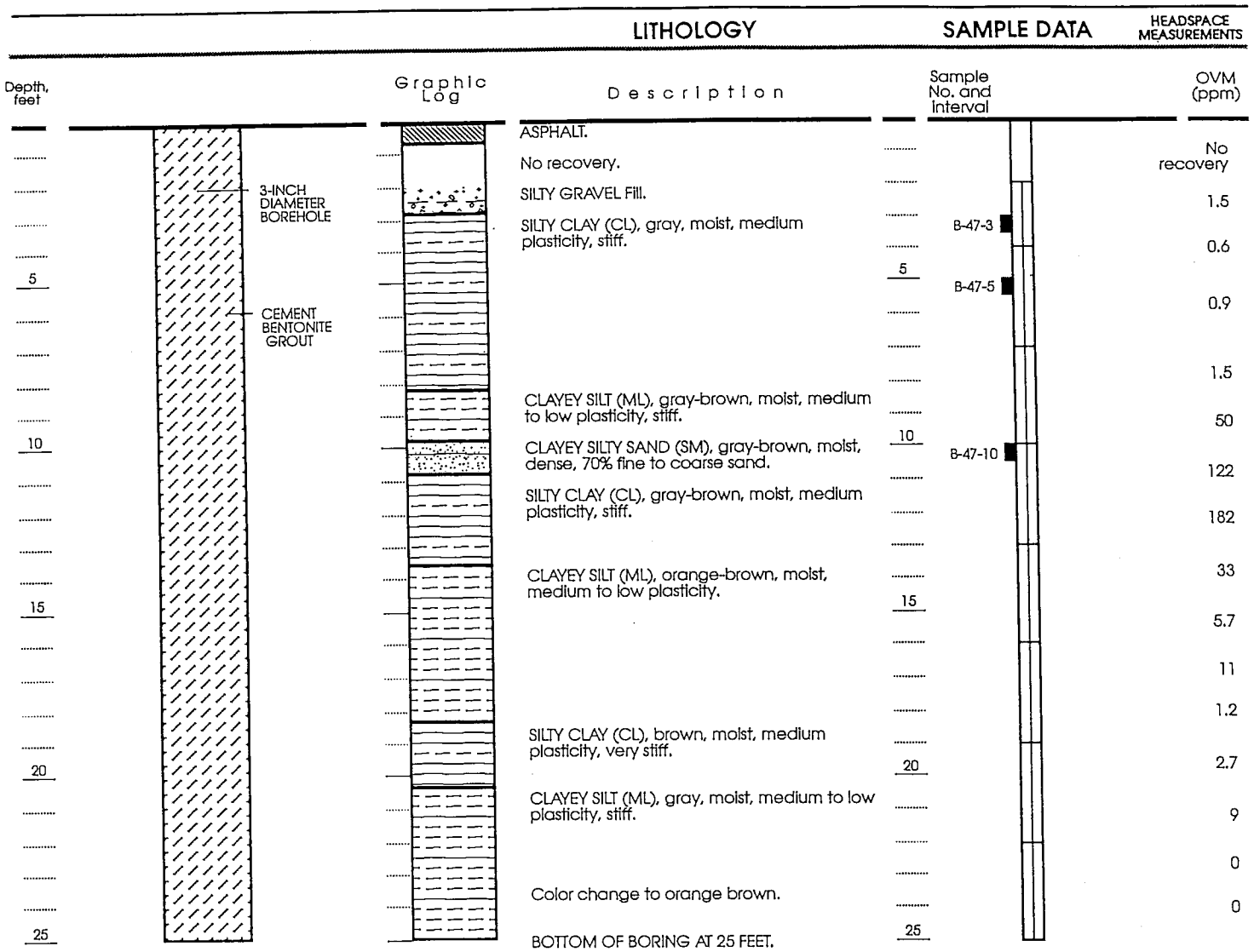
Date boring drilled: November 11, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval sampled using Continuous Core
- Sample retained for analysis
- ATD — Water level measured at time of drilling
- OVM (ppm) — Organic Vapor Meter reading in parts per million

Approved by: Zak (EG1562)

Figure B20: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-46 *(page 1 of 1)*



Date boring drilled: November 15, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

EXPLANATION

Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis
OVM (ppm) Organic Vapor Meter reading in parts per million

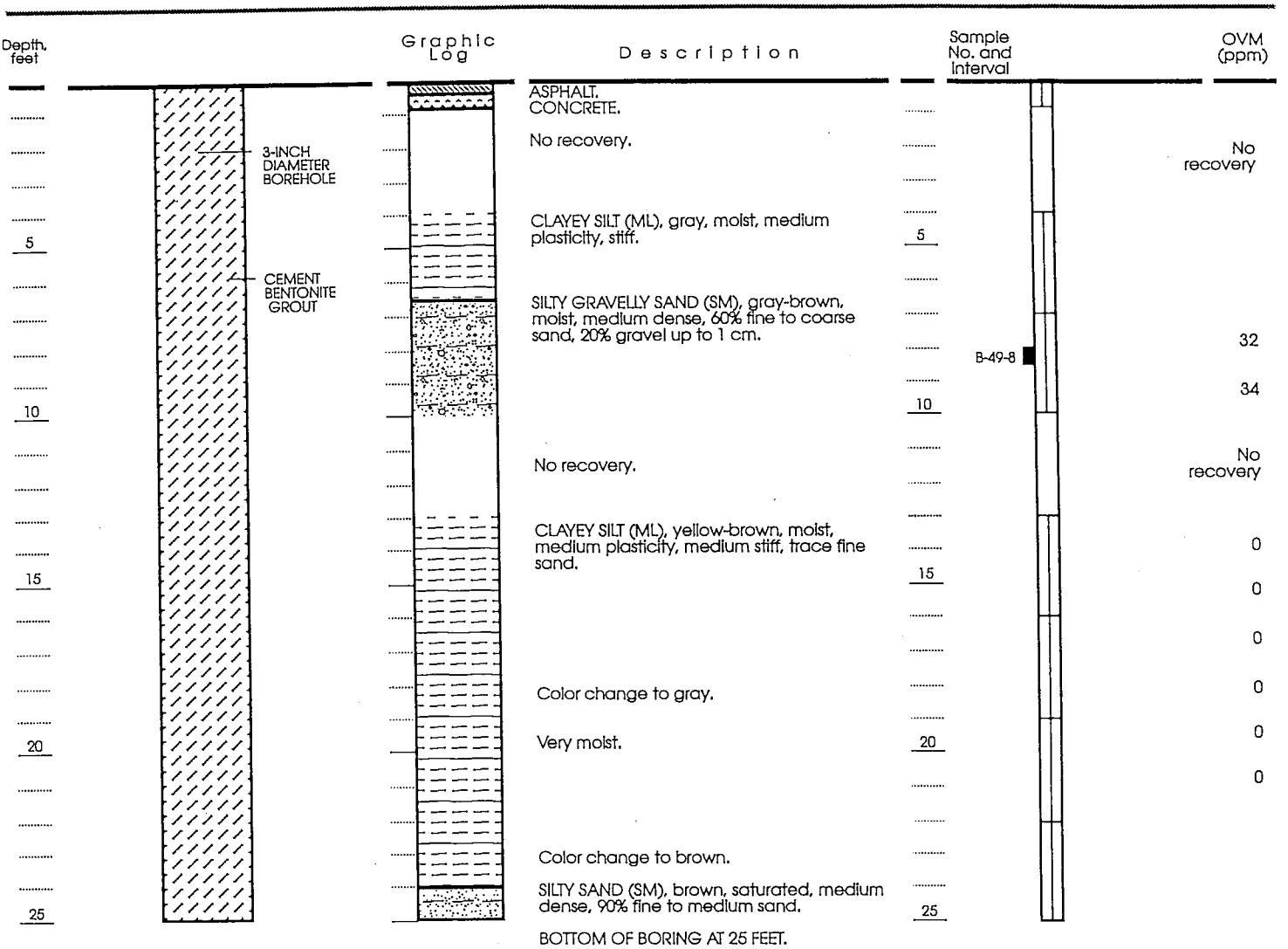
Approved by: Zak (EG 1562)

Figure B21: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-47 *(page 1 of 1)*

Project No. 3230.94-05

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

3230L045.RWB:MPM 122994



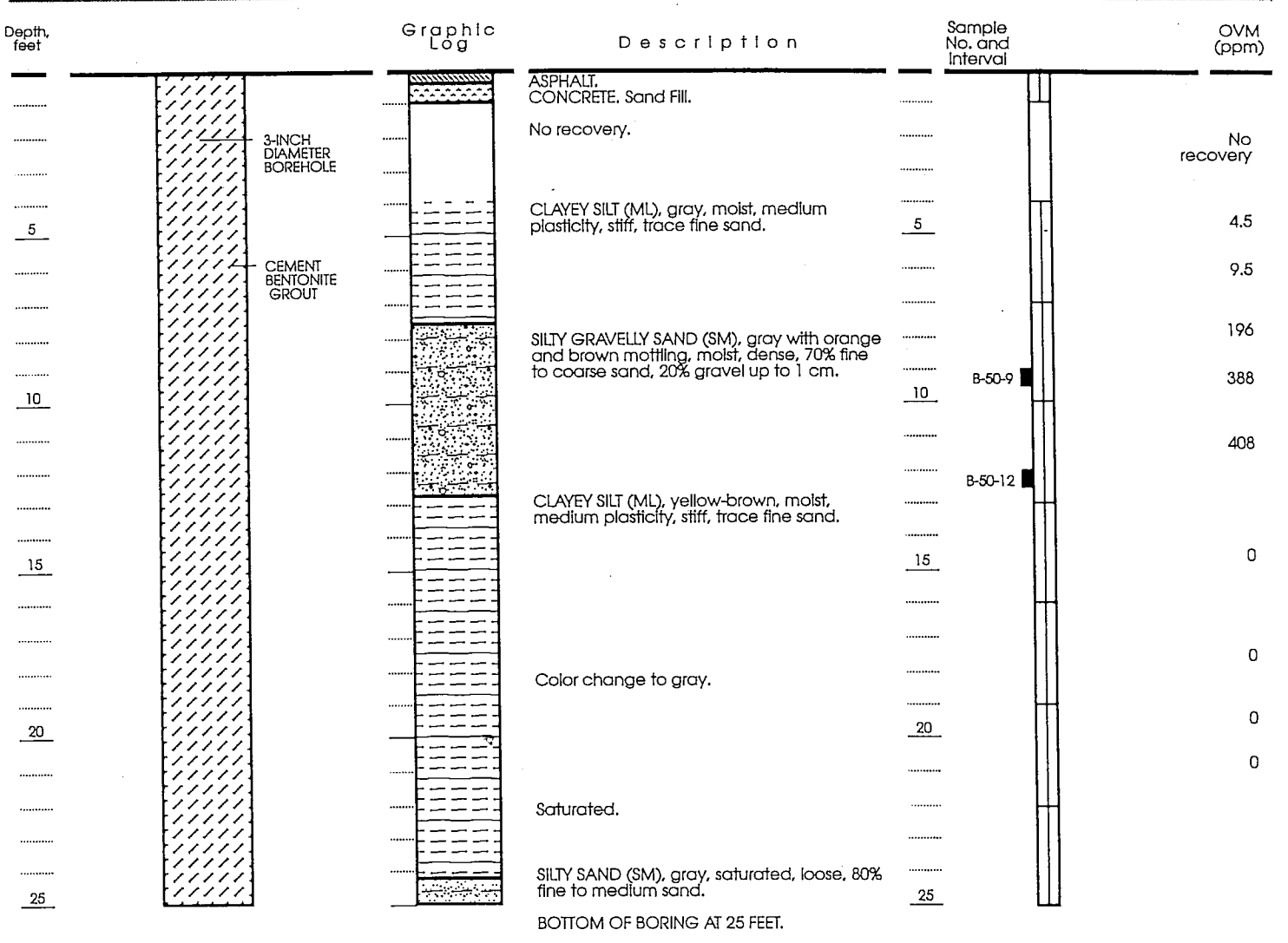
Date boring drilled: November 7, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval sampled using Continuous Core
- Sample retained for analysis
- OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zal (EG1562)

Figure B22: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-49 *(page 1 of 1)*



Date boring drilled: November 7, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

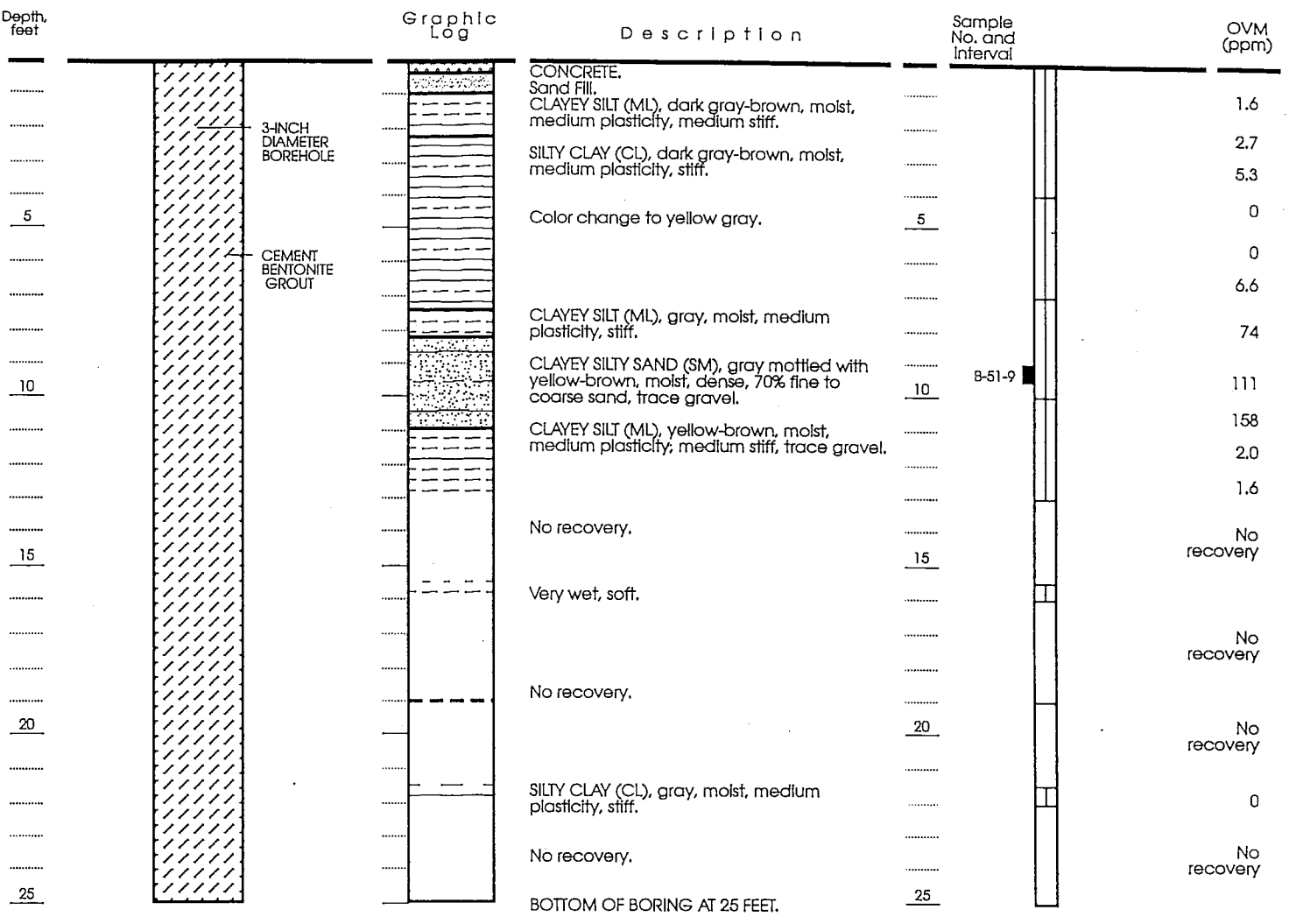
EXPLANATION

Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis
OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zak (EG 1562)

Figure B23: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-50 *(page 1 of 1)*



Date boring drilled: November 7, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

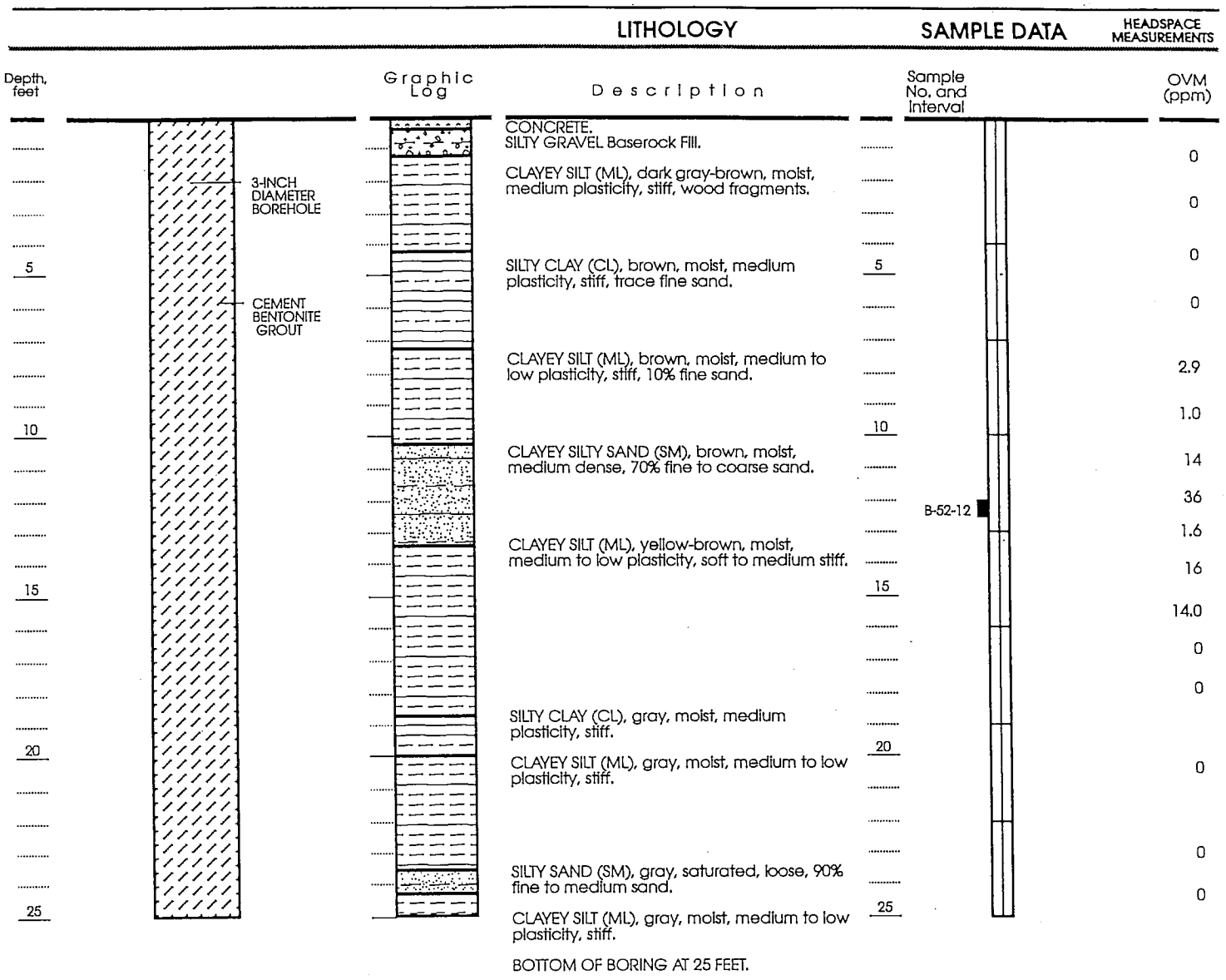
EXPLANATION

Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis
OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zol (EG 1562)

Figure B24: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-51 *(page 1 of 1)*



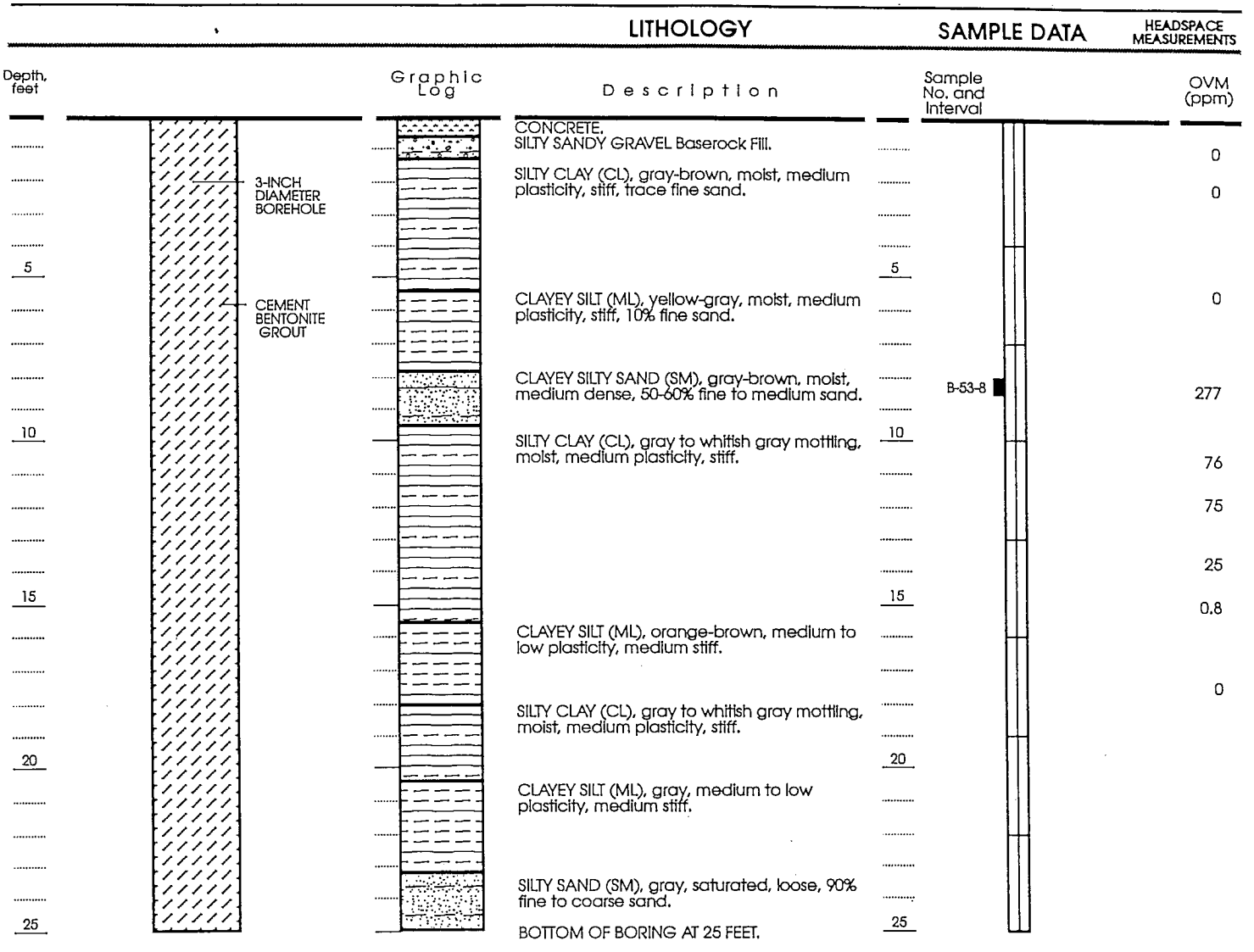
Date boring drilled: November 7, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval sampled using Continuous Core
- Sample retained for analysis
- OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zal (EG 1562)

Figure B25: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-52 *(page 1 of 1)*



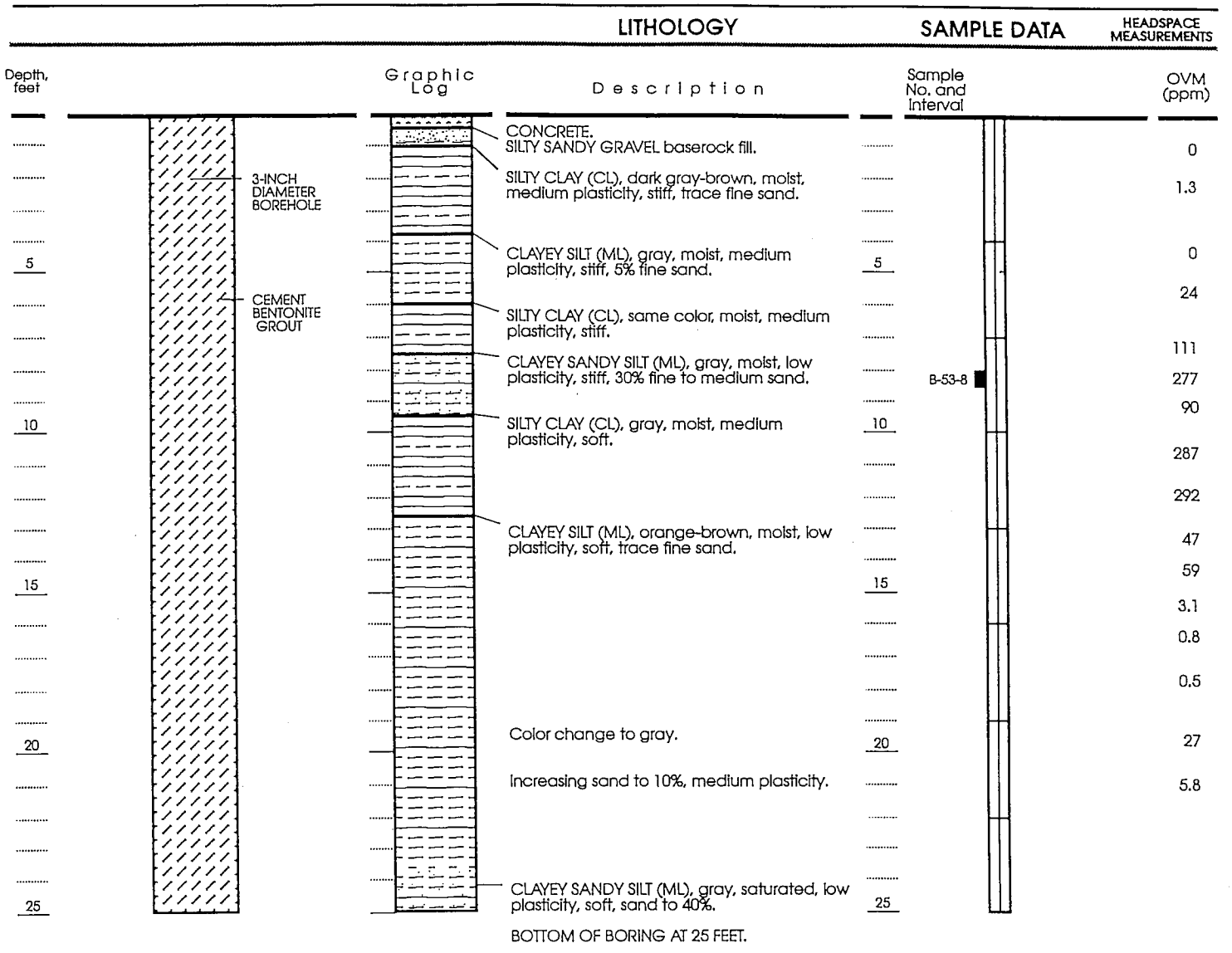
Date boring drilled: November 7, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval sampled using Continuous Core
- Sample retained for analysis
- OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zoli (EG1562)

Figure B26: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-53 *(page 1 of 1)*



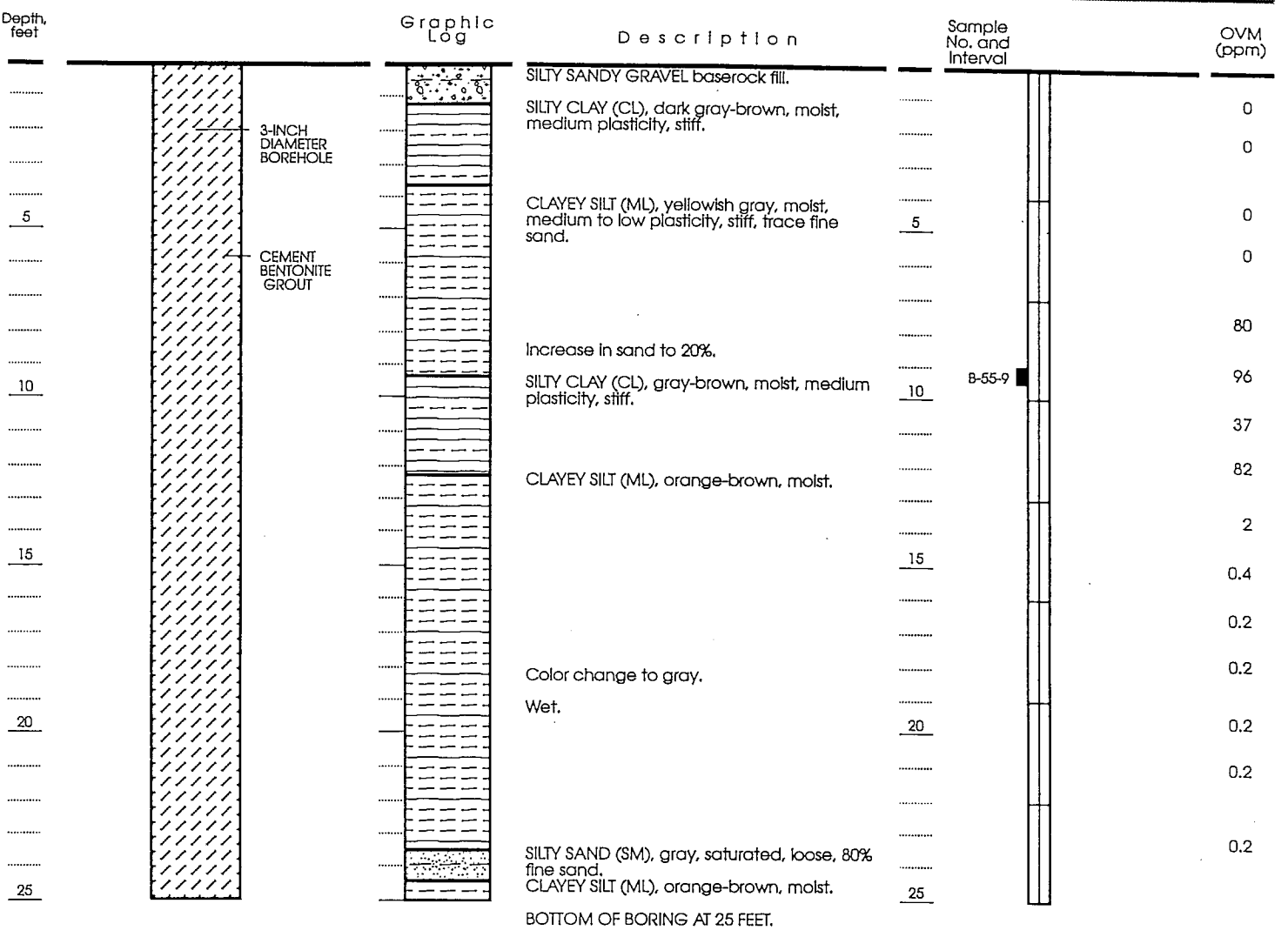
Date boring drilled: November 8, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval sampled using Continuous Core
- Sample retained for analysis
- OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zak (EC 1562)

Figure B27: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-54 *(page 1 of 1)*



Date boring drilled: November 8, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

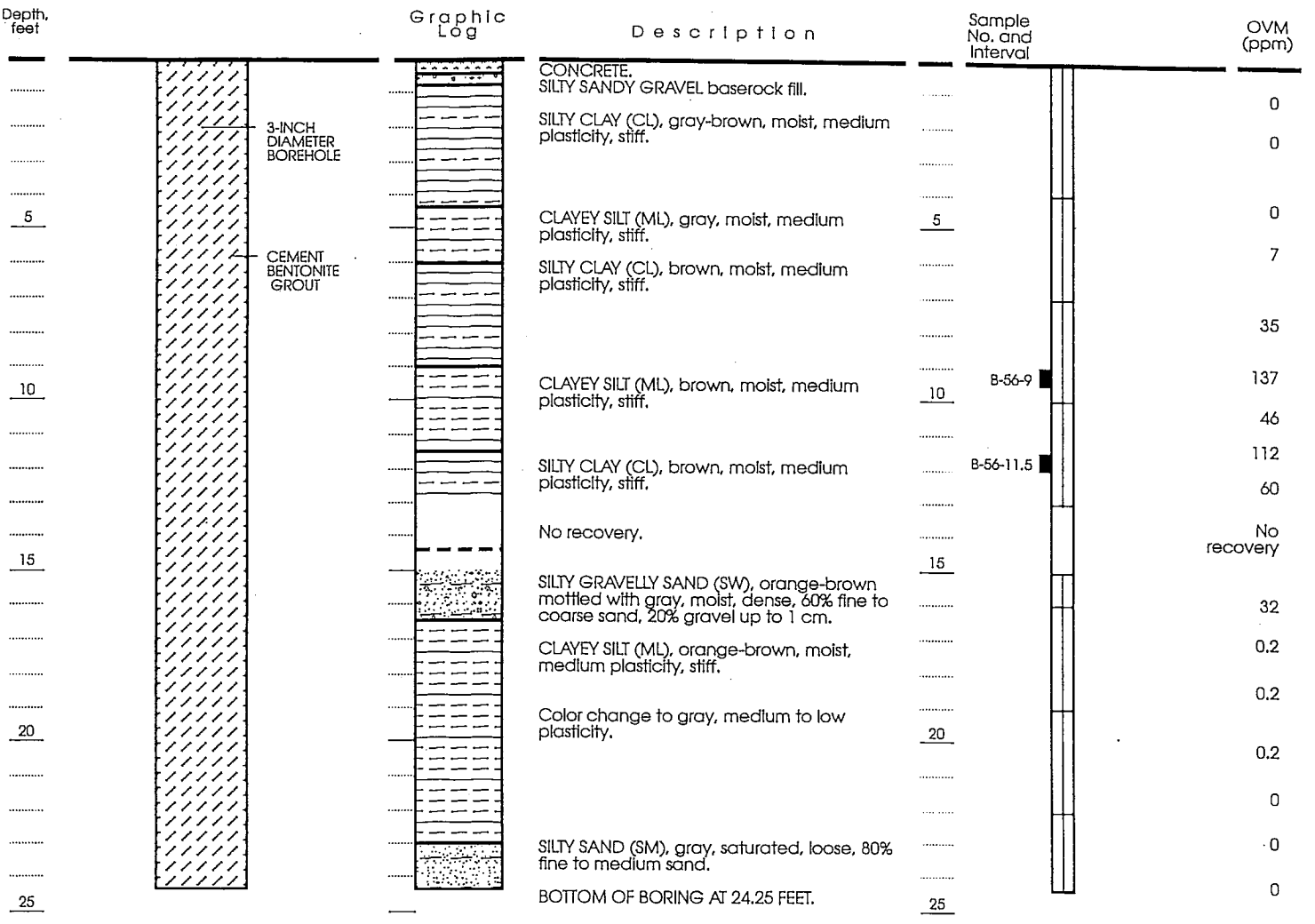
EXPLANATION

Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis
OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zak (EG 1562)

Figure B28: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-55 *(page 1 of 1)*



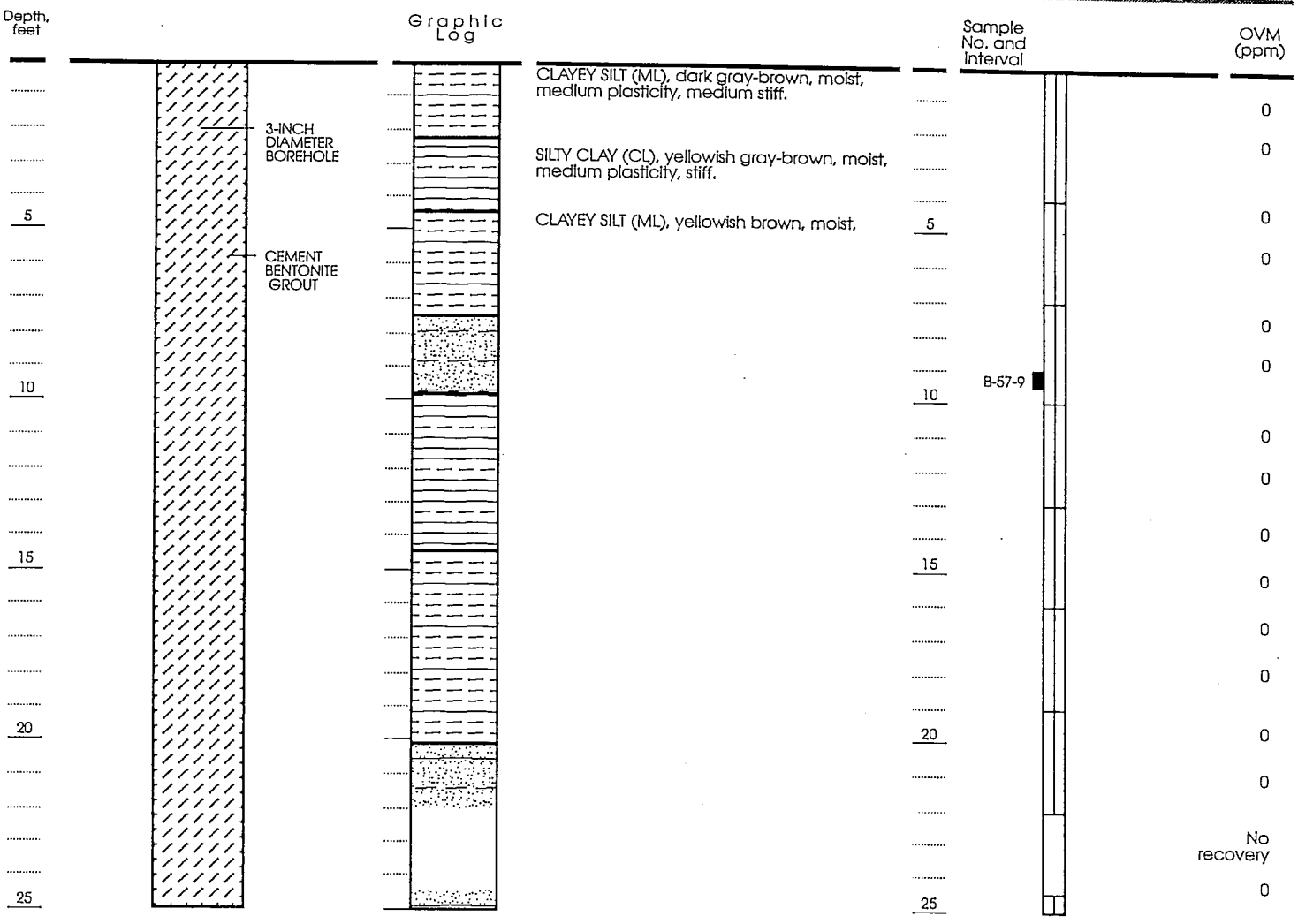
Date boring drilled: November 8, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval sampled using Continuous Core
- Sample retained for analysis
- OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zak (EE 1562)

Figure B29: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-56 *(page 1 of 1)*



Date boring drilled: November 8, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

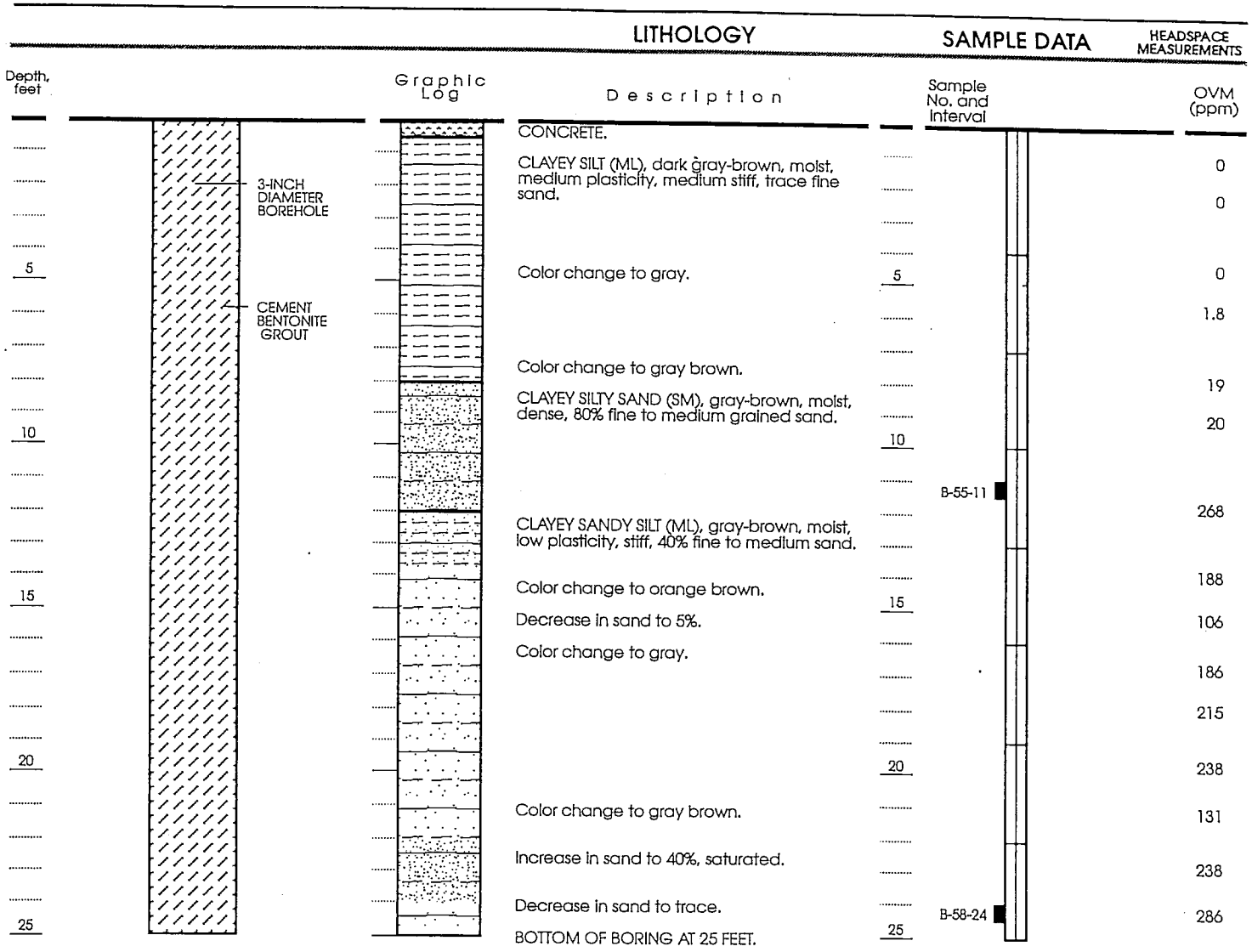
EXPLANATION

Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis
OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zak (EG 1562)

Figure B30: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-57 *(page 1 of 1)*



Date boring drilled: November 8, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

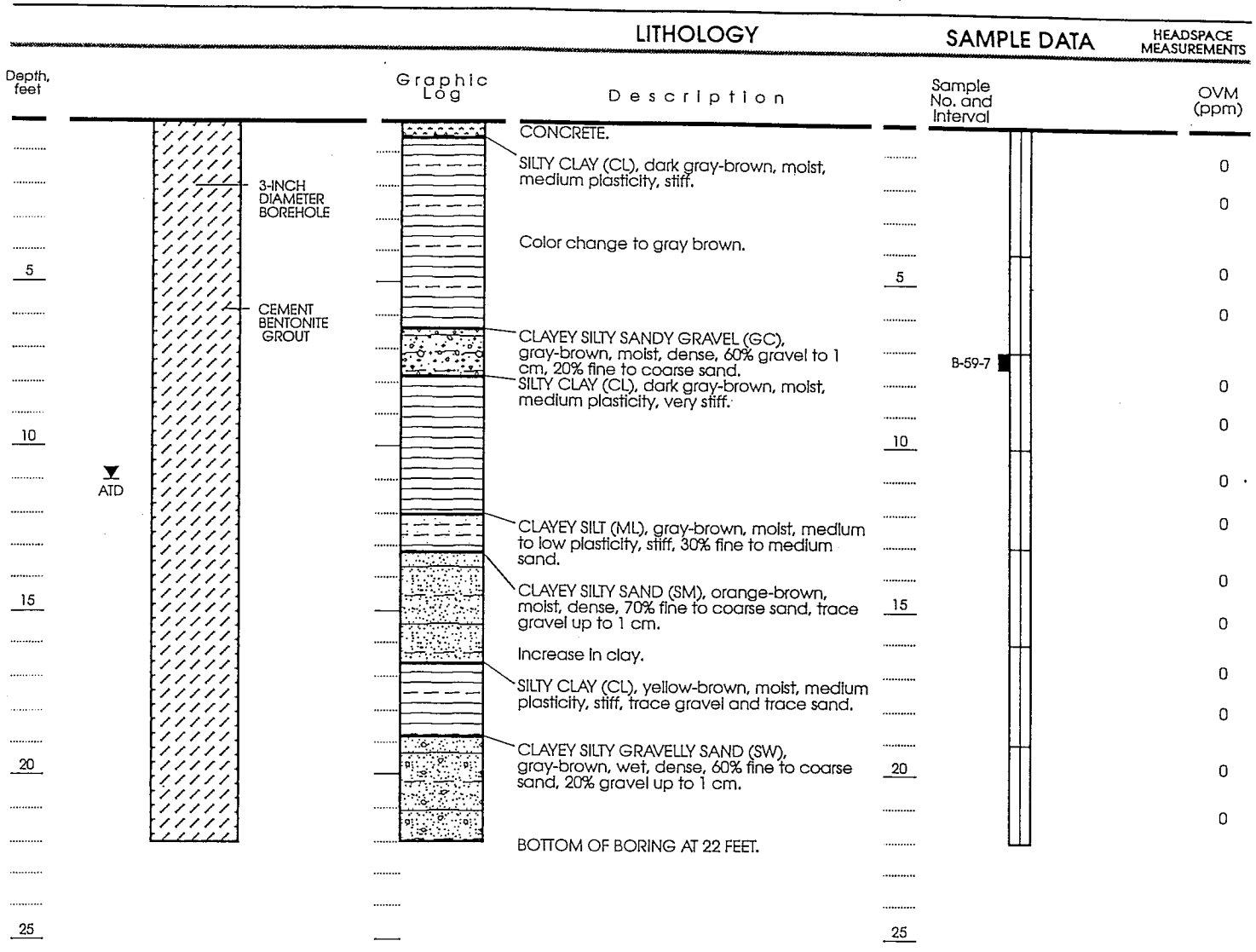
EXPLANATION

Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis
OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zak (EG 1562)

Figure B31: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-58 *(page 1 of 1)*



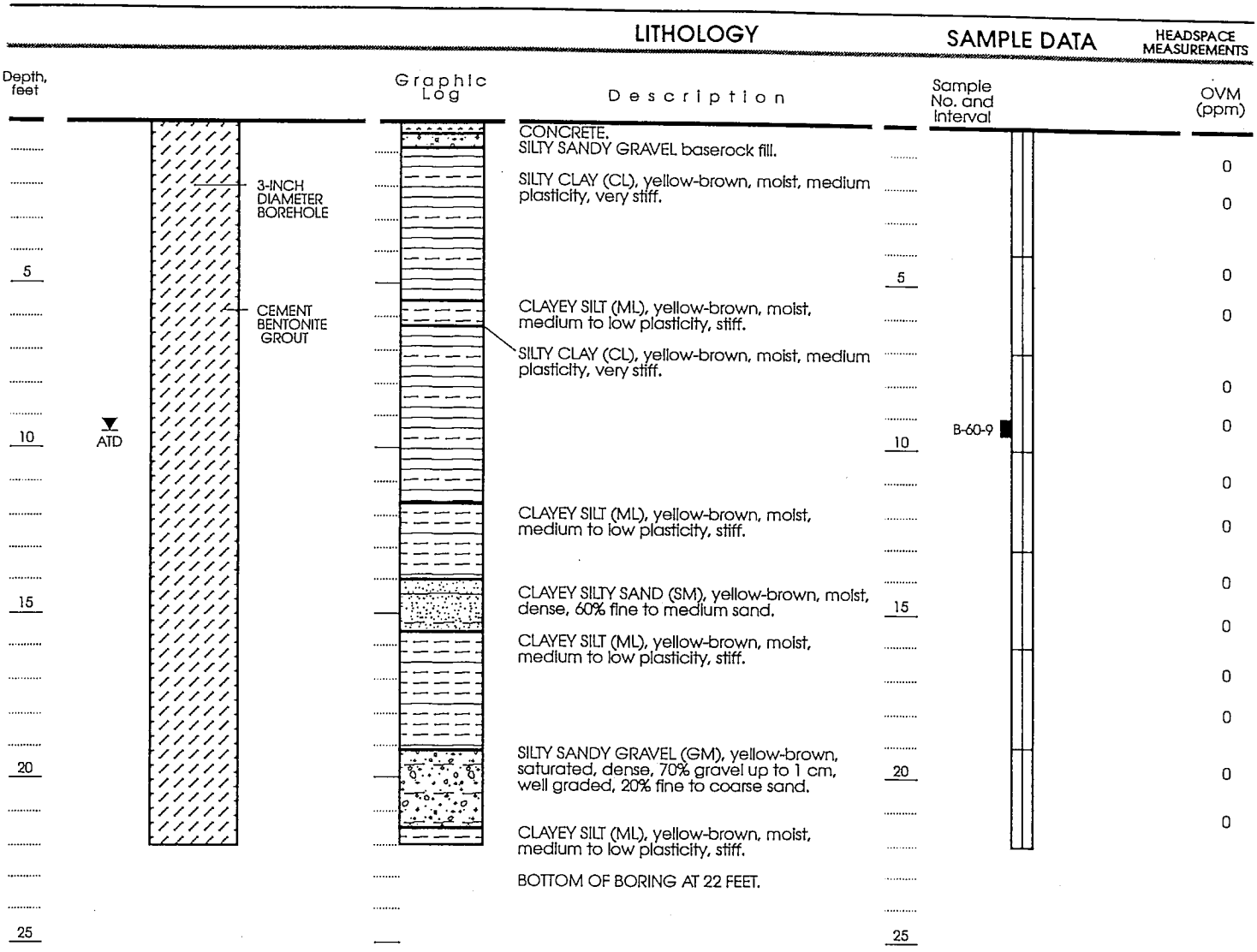
Date boring drilled: November 9, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval sampled using Continuous Core
- Sample retained for analysis
- ATD — Water level measured at time of drilling
- OVM (ppm) — Organic Vapor Meter reading in parts per million

Approved by: Zale (EG 1562)

Figure B32: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-59 *(page 1 of 1)*



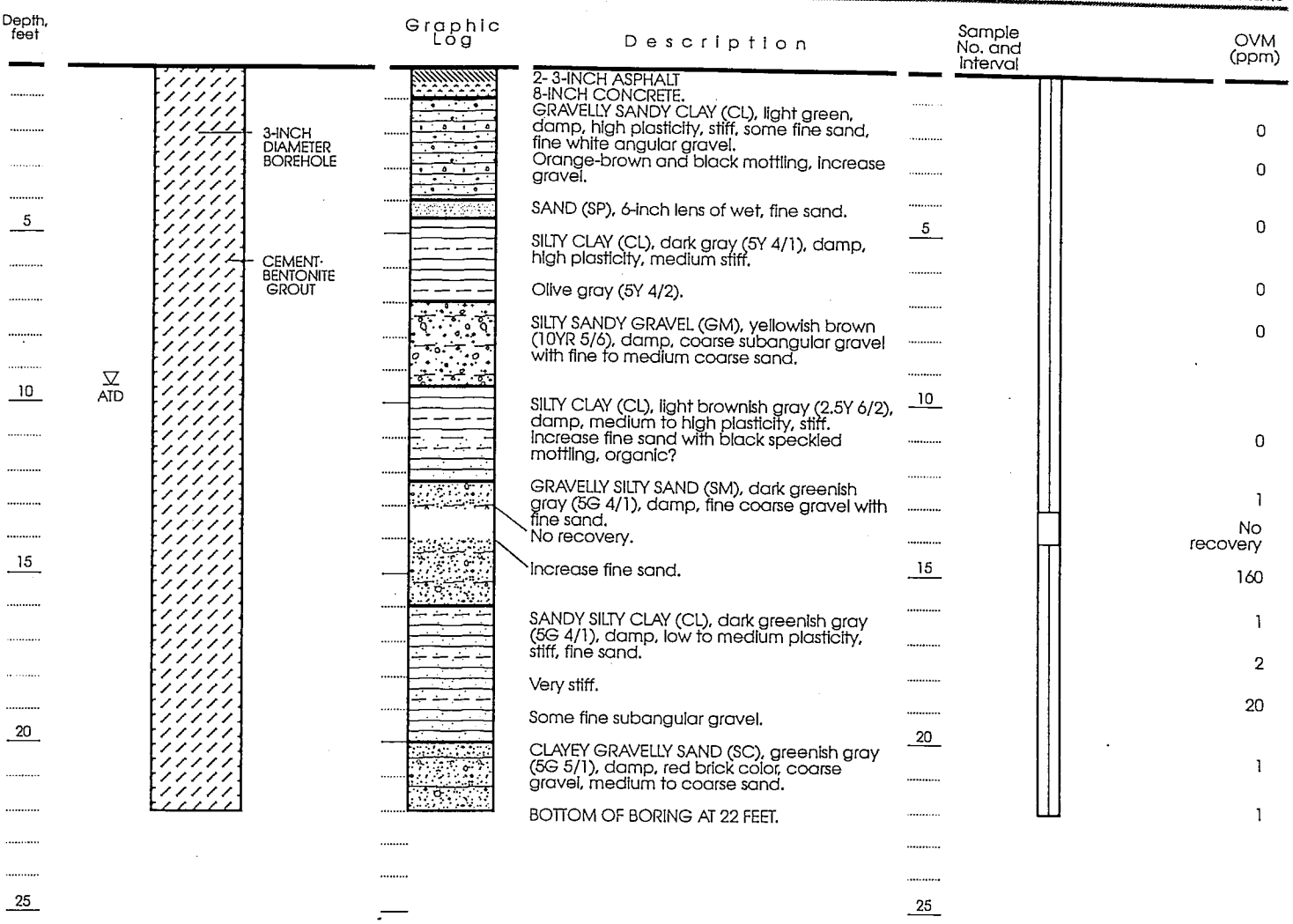
Date boring drilled: November 9, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval sampled using Continuous Core
- Sample retained for analysis
- ATD Water level measured at time of drilling
- OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: ZGL (EC 1562)

Figure B33: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-60 *(page 1 of 1)*



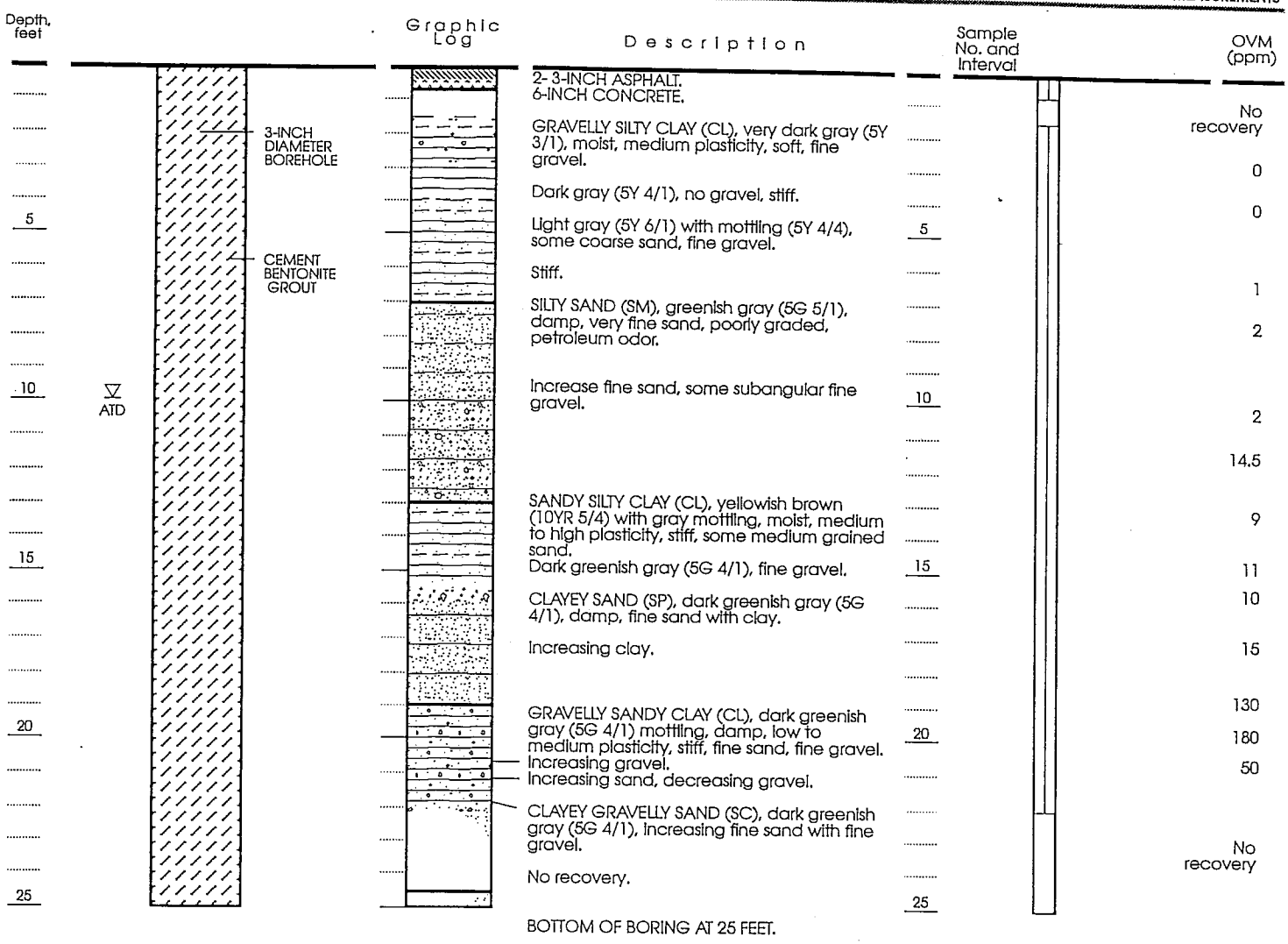
Date boring drilled: November 10, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Rick Hirsch

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval sampled using Continuous Core
- Sample retained for analysis
- ATD — Water level measured at time of drilling
- OVM (ppm) — Organic Vapor Meter reading in parts per million

Approved by: Zak (EG 1562)

Figure B34: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-61 *(page 1 of 1)*



Date boring drilled: November 10, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Rick Hirsch

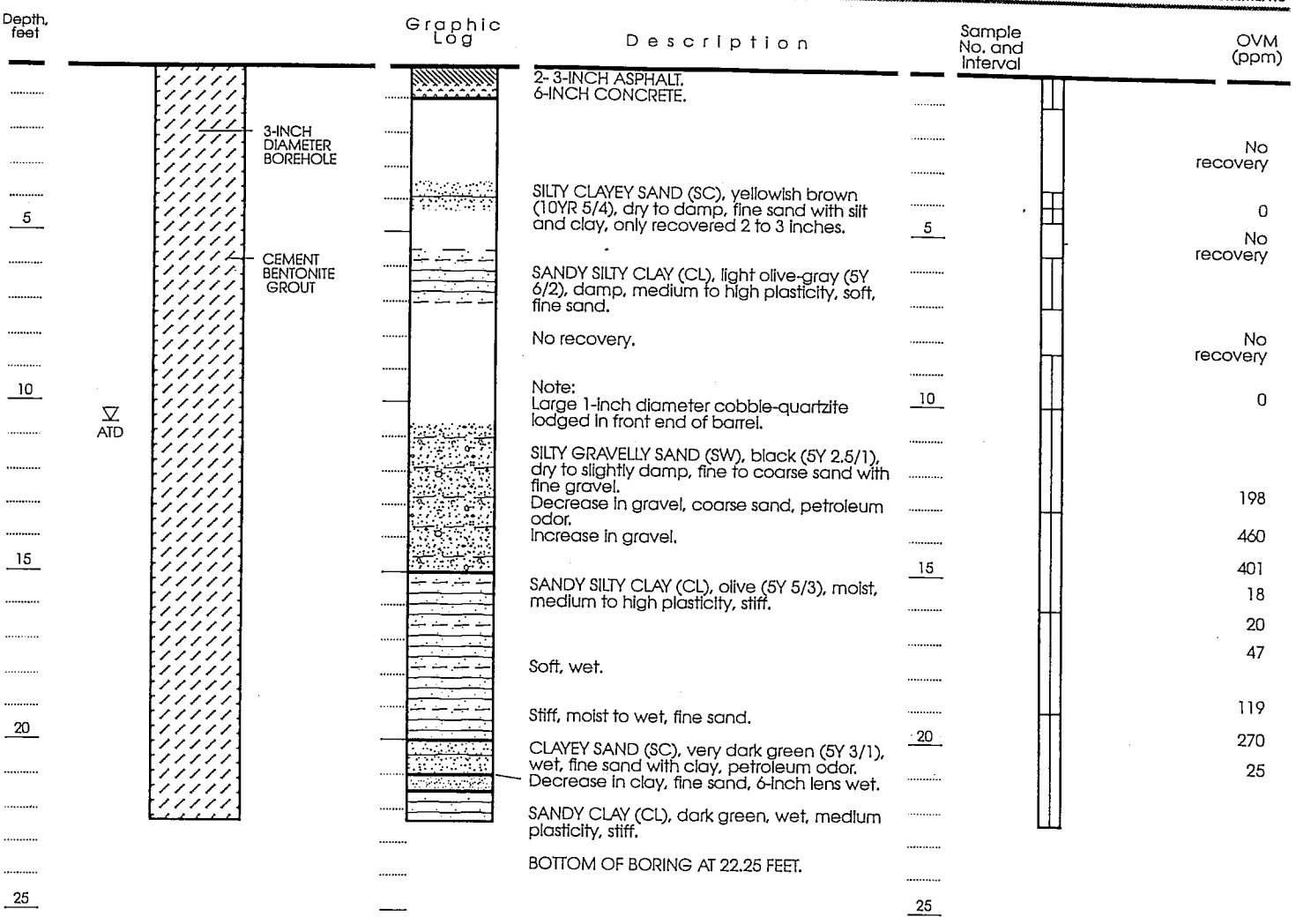
EXPLANATION

Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis
ATD Water level measured at time of drilling
OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zak (EG 1562)

Figure B35: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-62 *(page 1 of 1)*



Date boring drilled: November 10, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Rick Hirsch

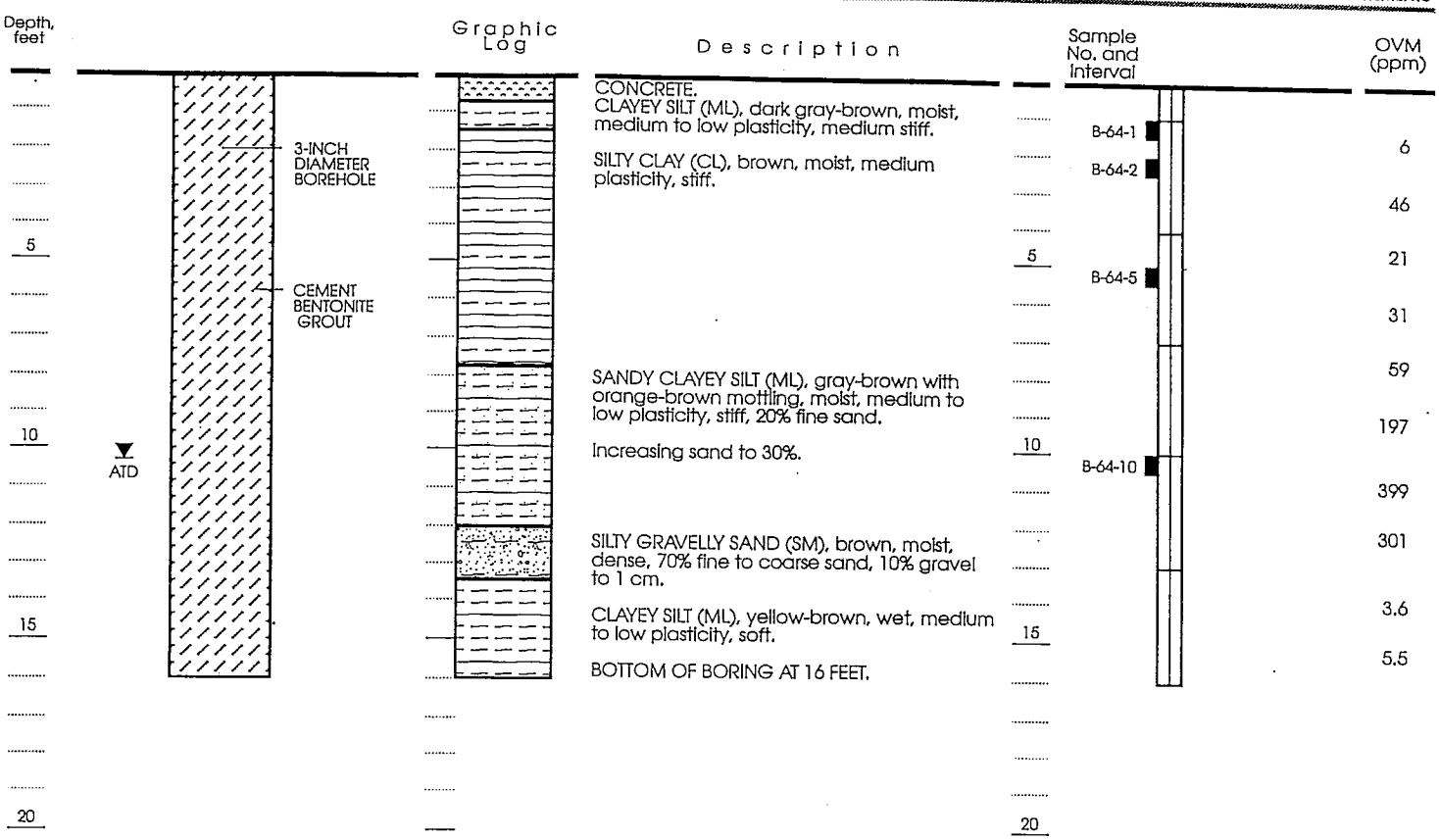
EXPLANATION

Clay
Silt
Sand
Gravel

Interval sampled using Continuous Core
Sample retained for analysis
ATD Water level measured at time of drilling
OVM (ppm) Organic Vapor Meter reading in parts per million

Approved by: Zak (EG 1562)

Figure B36: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-63 *(page 1 of 1)*



Date boring drilled: November 14, 1994
Drilling Company: Precision Sampling
Driller: Sean
Drilling method: Hydraulic Hammer
Sampling method: Continuous Core
LF Geologist: Robin Barber

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Interval sampled using Continuous Core
- Sample retained for analysis
- ATD — Water level measured at time of drilling
- OVM (ppm) — Organic Vapor Meter reading in parts per million

Approved by: Cole (EH156-2)

Figure B37: LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-64 *(page 1 of 1)*

APPENDIX C

DRILLING AND SAMPLING METHODS

APPENDIX C

DRILLING AND SAMPLING METHODS

Soil Sampling

Soil samples were collected using a subcontracted drill rig and a subcontracted operator, Precision Sampling, Inc., of San Rafael, California ("Precision"). The Precision rig used to collect the samples was an XD-1 sampling rig consisting of a hydraulic hammer mounted on a small tractor. The hydraulic hammer advanced a steel casing with an outside diameter of 2.5 inches. Advanced inside the casing was a steel sampler with an outside diameter of 2 inches.

Soil samples were collected nearly continuously in the interval from approximately 0 feet to 25 feet bgs using a 3-foot-long cylindrical sampler lined with stainless steel sleeves. The sampler was driven into the soil using the hydraulic hammer. After the sampler had been removed from the borehole, the samples were inspected by a Levine·Fricke geologist for lithologic description, and described in accordance with the Unified Soil Classification System. The lithologic logs (Appendix C) were prepared under the direct supervision of, and signed by, a California Registered Geologist. The soil samples were screened in the field using a portable photoionization detector (PID) to assess which samples to retain for possible chemical analysis. Soil samples collected just above the water table (about 9 to 12 feet bgs) were retained and submitted to American Environmental Network for possible chemical analysis. The ends of the tubes were covered with Teflon tape, capped with plastic caps, and sealed with duct tape. The tubes were labeled and placed in a chilled ice chest and transported to the laboratory under strict chain-of-custody protocol.

Ground-Water Grab Sampling

After the soil samples had been collected, the steel casing used in boring the hole was removed and a temporary, 1-inch-diameter PVC casing (with a 5-to-10-foot screened interval at the bottom) was placed in the borehole. Ground-water grab samples were collected using a 3/4-inch-diameter stainless steel bailer supplied by Precision. The bailer was steam cleaned before use at each sampling location. For locations where a relatively large volume of water was needed for the samples, the water was

retrieved using a peristaltic pump and clean piece of Tygon tubing for each location. (The types of analyses and types of sample containers used at each location varied and are described in detail in the text.) The samples were labeled and placed in a chilled cooler and were transported to the laboratory under standard chain-of-custody protocol. After the samples had been collected, the boreholes were grouted from the bottom to ground surface with a cement-bentonite grout using a tremie pipe.

Soil cuttings generated during drilling were stored on site in a sealed 55-gallon drum. A sticker was affixed to the drum with the warning "Caution, Waste Soils, Do Not Handle," and the generator's name, site location, and date, pending receipt of analytical results. Soil sampling equipment was steam cleaned before use at each location.

Steam cleaning rinsate was collected in a DOT-approved 55-gallon drum, which was labeled "Caution, Non-Potable Wastewater, Do Not Handle or Drink," and temporarily stored on site pending disposal.

APPENDIX D

LABORATORY REPORTS AND CHAIN-OF-CUSTODY FORMS FOR SOIL AND GROUND-WATER SAMPLES

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

LEVINE-FRICKE
1900 POWELL ST. 12TH FL.
EMERYVILLE, CA 94608

ATTN: RICK HIRSCH
CLIENT PROJ. ID: 3230.94
CLIENT PROJ. NAME: WIRET
C.O.C. NUMBER: 013176

REPORT DATE: 12/08/94
DATE(S) SAMPLED: 11/07/94
DATE RECEIVED: 11/08/94
AEN WORK ORDER: 9411095

PROJECT SUMMARY:

On November 8, 1994, this laboratory received 11 (5 water & 6 soil) sample(s).

Client requested seven sample(s) be analyzed for organic parameters; four samples were placed on hold. Results of analysis are summarized on the following pages. Chromatograms were included with previous report.

Please see quality control report for a summary of QC data pertaining to this project.

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

Larry Klein
Laboratory Director

Revision of report dated 11/27/94.

LEVINE-FRICKE

SAMPLE ID: B-49
AEN LAB NO: 9411095-01
AEN WORK ORDER: 9411095
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/07/94
DATE RECEIVED: 11/08/94
REPORT DATE: 12/08/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	11/11/94
Toluene	108-88-3	ND	0.5	ug/L	11/11/94
Ethylbenzene	100-41-4	ND	0.5	ug/L	11/11/94
Xylenes, Total	1330-20-7	ND	2	ug/L	11/11/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	11/11/94
#Extraction for TPH	EPA 3510	-		Extrn Date	11/09/94
TPH as Mineral Spirits	GC-FID	ND	0.05	mg/L	11/15/94
TPH as Stoddard Solvent	GC-FID	-	0.05	mg/L	11/15/94
#Water Extrn for HCs (GR)	SM 5520BF	-		Extrn Date	11/10/94
#Water Extrn for O&G (GR)	SM 5520B	-		Extrn Date	11/10/94
Hydrocarbons (Gravimetric)	SM 5520BF	ND	1	mg/L	11/10/94
Oil & Grease (Gravimetric)	SM 5520B	ND	1	mg/L	11/10/94

Please see page 11 for comments regarding this sample.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-50
AEN LAB NO: 9411095-02
AEN WORK ORDER: 9411095
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/07/94
DATE RECEIVED: 11/08/94
REPORT DATE: 12/08/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	23 *	0.5	ug/L	11/11/94
Toluene	108-88-3	12 *	0.5	ug/L	11/11/94
Ethylbenzene	100-41-4	48 *	0.5	ug/L	11/11/94
Xylenes, Total	1330-20-7	12 *	2	ug/L	11/11/94
Purgeable HCs as Gasoline	5030/GCFID	8.2 *	0.05	mg/L	11/14/94
#Extraction for TPH	EPA 3510	-		Extrn Date	11/09/94
TPH as Mineral Spirits	GC-FID	ND	3	mg/L	11/15/94
TPH as Stoddard Solvent	GC-FID	-	3	mg/L	11/15/94
#Water Extrn for HCs (GR)	SM 5520BF	-		Extrn Date	11/10/94
#Water Extrn for O&G (GR)	SM 5520B	-		Extrn Date	11/10/94
Hydrocarbons (Gravimetric)	SM 5520BF	ND	1	mg/L	11/10/94
Oil & Grease (Gravimetric)	SM 5520B	ND	1	mg/L	11/10/94
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	11/16/94
Bromoform	75-25-2	ND	0.5	ug/L	11/16/94
Bromomethane	74-83-9	ND	0.5	ug/L	11/16/94
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	11/16/94
Chlorobenzene	108-90-7	ND	0.5	ug/L	11/16/94
Chloroethane	75-00-3	ND	0.5	ug/L	11/16/94
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	11/16/94
Chloroform	67-66-3	ND	0.5	ug/L	11/16/94
Chloromethane	74-87-3	ND	0.5	ug/L	11/16/94
Dibromochloromethane	124-48-1	ND	0.5	ug/L	11/16/94
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	11/16/94
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	11/16/94
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	11/16/94
Dichlorodifluoromethane	75-71-8	ND	0.5	ug/L	11/16/94
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	11/16/94
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	11/16/94
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	11/16/94
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	11/16/94
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	11/16/94
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	11/16/94

LEVINE-FRICKE

SAMPLE ID: B-50
AEN LAB NO: 9411095-02
AEN WORK ORDER: 9411095
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/07/94
DATE RECEIVED: 11/08/94
REPORT DATE: 12/08/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	11/16/94
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	11/16/94
Methylene Chloride	75-09-2	ND	0.5	ug/L	11/16/94
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	11/16/94
Tetrachloroethene	127-18-4	ND	0.5	ug/L	11/16/94
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	11/16/94
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	11/16/94
Trichloroethene	79-01-6	ND	0.5	ug/L	11/16/94
Trichlorofluoromethane	75-69-4	ND	0.5	ug/L	11/16/94
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	11/16/94
Vinyl Chloride	75-01-4	ND	0.5	ug/L	11/16/94
EPA 8020 - Water matrix	EPA 8020				
Benzene	71-43-2	18 *	0.5	ug/L	11/16/94
Chlorobenzene	108-90-7	ND	0.5	ug/L	11/16/94
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	11/16/94
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	11/16/94
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	11/16/94
Ethylbenzene	100-41-4	51 *	0.5	ug/L	11/16/94
Toluene	108-88-3	3 *	0.5	ug/L	11/16/94
Xylenes, total	1330-20-7	5 *	2	ug/L	11/16/94

Reporting limits elevated for Mineral Spirits and Stoddard Solvent due to hydrocarbon interference in the gasoline range. See page 11 for add'l comments.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-51
AEN LAB NO: 9411095-03
AEN WORK ORDER: 9411095
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/07/94
DATE RECEIVED: 11/08/94
REPORT DATE: 12/08/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	11/11/94
Toluene	108-88-3	ND	0.5	ug/L	11/11/94
Ethylbenzene	100-41-4	ND	0.5	ug/L	11/11/94
Xylenes, Total	1330-20-7	ND	2	ug/L	11/11/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	11/11/94
#Extraction for TPH	EPA 3510	-		Extrn Date	11/09/94
TPH as Mineral Spirits	GC-FID	ND	0.05	mg/L	11/15/94
TPH as Stoddard Solvent	GC-FID	-	0.05	mg/L	11/15/94
#Water Extrn for HCs (GR)	SM 5520BF	-		Extrn Date	11/10/94
#Water Extrn for O&G (GR)	SM 5520B	-		Extrn Date	11/10/94
Hydrocarbons (Gravimetric)	SM 5520BF	ND	1	mg/L	11/10/94
Oil & Grease (Gravimetric)	SM 5520B	ND	1	mg/L	11/10/94

Please see page 11 for comments regarding this sample.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-52
AEN LAB NO: 9411095-04
AEN WORK ORDER: 9411095
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/07/94
DATE RECEIVED: 11/08/94
REPORT DATE: 12/08/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	11/11/94
Toluene	108-88-3	ND	0.5	ug/L	11/11/94
Ethylbenzene	100-41-4	ND	0.5	ug/L	11/11/94
Xylenes, Total	1330-20-7	ND	2	ug/L	11/11/94
Purgeable HCs as Gasoline	5030/GCFID	0.3 *	0.05	mg/L	11/11/94
#Extraction for TPH	EPA 3510	-		Extrn Date	11/09/94
TPH as Mineral Spirits	GC-FID	0.07 *	0.05	mg/L	11/15/94
TPH as Stoddard Solvent	GC-FID	-	0.05	mg/L	11/15/94
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	11/16/94
Bromoform	75-25-2	ND	0.5	ug/L	11/16/94
Bromomethane	74-83-9	ND	0.5	ug/L	11/16/94
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	11/16/94
Chlorobenzene	108-90-7	ND	0.5	ug/L	11/16/94
Chloroethane	75-00-3	ND	0.5	ug/L	11/16/94
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	11/16/94
Chloroform	67-66-3	ND	0.5	ug/L	11/16/94
Chloromethane	74-87-3	ND	0.5	ug/L	11/16/94
Dibromochloromethane	124-48-1	ND	0.5	ug/L	11/16/94
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	11/16/94
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	11/16/94
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	11/16/94
Dichlorodifluoromethane	75-71-8	ND	0.5	ug/L	11/16/94
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	11/16/94
1,2-Dichloroethane	107-06-2	0.8 *	0.5	ug/L	11/16/94
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	11/16/94
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	11/16/94
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	11/16/94
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	11/16/94
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	11/16/94
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	11/16/94
Methylene Chloride	75-09-2	ND	0.5	ug/L	11/16/94
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	11/16/94
Tetrachloroethene	127-18-4	ND	0.5	ug/L	11/16/94
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	11/16/94
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	11/16/94
Trichloroethene	79-01-6	ND	0.5	ug/L	11/16/94

LEVINE-FRICKE

SAMPLE ID: B-52
AEN LAB NO: 9411095-04
AEN WORK ORDER: 9411095
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/07/94
DATE RECEIVED: 11/08/94
REPORT DATE: 12/08/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Trichlorofluoromethane	75-69-4	ND	0.5	ug/L	11/16/94
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	11/16/94
Vinyl Chloride	75-01-4	ND	0.5	ug/L	11/16/94
EPA 8020 - Water matrix	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	11/16/94
Chlorobenzene	108-90-7	ND	0.5	ug/L	11/16/94
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	11/16/94
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	11/16/94
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	11/16/94
Ethylbenzene	100-41-4	ND	0.5	ug/L	11/16/94
Toluene	108-88-3	ND	0.5	ug/L	11/16/94
Xylenes, total	1330-20-7	ND	2	ug/L	11/16/94

1,2-dichloroethane is a suspected laboratory contaminant for results of up to 1 ppb (EPA 8010).
Please see page 11 for additional comments.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-53
AEN LAB NO: 9411095-05
AEN WORK ORDER: 9411095
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/07/94
DATE RECEIVED: 11/08/94
REPORT DATE: 12/08/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	11/11/94
Toluene	108-88-3	ND	0.5	ug/L	11/11/94
Ethylbenzene	100-41-4	ND	0.5	ug/L	11/11/94
Xylenes, Total	1330-20-7	ND	2	ug/L	11/11/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	11/11/94
#Extraction for TPH	EPA 3510	-		Extrn Date	11/09/94
TPH as Mineral Spirits	GC-FID	ND	0.05	mg/L	11/15/94
TPH as Stoddard Solvent	GC-FID	-	0.05	mg/L	11/15/94

Please see page 11 for comments regarding this sample.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-49-8
AEN LAB NO: 9411095-06
AEN WORK ORDER: 9411095
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/07/94
DATE RECEIVED: 11/08/94
REPORT DATE: 12/08/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	11/11/94
#Soil Extrn for O&G (GR)	SM 5520E	-		Extrn Date	11/11/94
Hydrocarbons (Gravimetric)	SM 5520EF	ND	30	mg/kg	11/11/94
Oil & Grease (Gravimetric)	SM 5520E	30 *	30	mg/kg	11/11/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-50-12
AEN LAB NO: 9411095-08
AEN WORK ORDER: 9411095
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/07/94
DATE RECEIVED: 11/08/94
REPORT DATE: 12/08/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	270 *	50	ug/kg	11/15/94
Toluene	108-88-3	1,700 *	50	ug/kg	11/15/94
Ethylbenzene	100-41-4	1,500 *	50	ug/kg	11/15/94
Xylenes, Total	1330-20-7	ND	50	ug/kg	11/15/94
Purgeable HCs as Gasoline	5030/GCFID	540 *	10	mg/kg	11/15/94
#Extraction for TPH	EPA 3550	-		Extrn Date	11/09/94
TPH as Mineral Spirits	GC-FID	ND	50	mg/kg	11/16/94
TPH as Stoddard Solvent	GC-FID	-	50	mg/kg	11/16/94

RLs elevated for EPA 3550 GCFID due to high levels of non-target compounds, and for gas/BTEX due to high target compounds. Sample run at dilution. See page 11.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9411095

CLIENT PROJECT ID: 3230.94

Quality Control Summary

Regarding samples 9411095-01 through -05, and -08: Stoddard Solvent elutes from the gas chromatic column within the retention time envelope of mineral spirits. Stoddard Solvent cannot be detected in the presence of mineral spirits.

Methylene chloride was found in the EPA 8010 11/16/94 blank at 0.7 ug/L.

All other laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9411095
DATE EXTRACTED: 11/09/94
INSTRUMENT: C
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
11/16/94	B-50-12	08	66
QC Limits:			45-120

D: Surrogate diluted out.

DATE EXTRACTED: 11/08/94
DATE ANALYZED: 11/12/94
SAMPLE SPIKED: 9411034-09
INSTRUMENT: C

Matrix Spike Recovery Summary

Analyte	Spike Added (mg/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Diesel	40	74	2	44-108	13

AEN LAB NO: 1109-BLANK
DATE EXTRACTED: 11/09/94
DATE ANALYZED: 11/12/94

Method Blank

	Result (mg/kg)	Reporting Limit (mg/kg)
Diesel	ND	1

QUALITY CONTROL DATA

AEN JOB NO: 9411095
DATE EXTRACTED: 11/03/94
DATE ANALYZED: 11/04/94
SAMPLE SPIKED: LCS
INSTRUMENT: GRAVIMETRIC
MATRIX: SOIL

Laboratory Control Sample
Method: SM 5520

Analyte	Spike Added (mg/kg)	Percent Recovery	QC Limits Percent Recovery
Oil	4,000	95	90-102

Method Blank Result

Lab Id.	Hydrocarbons (mg/kg)
111194-BLANK	ND
Reporting Limit	10

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9411095
AEN LAB NO: 1115-BLANK
DATE ANALYZED: 11/15/94

Method Blank

	CAS #	Result (ug/kg)	Reporting Limit (ug/kg)
Benzene	71-43-2	ND	5
Toluene	108-88-3	ND	5
Ethylbenzene	100-41-4	ND	5
Xylenes, Total	1330-20-7	ND	5
Purgeable Hydrocarbons as: Gasoline		ND mg/kg	0.2 mg/kg

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9411095
INSTRUMENT: E
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
11/15/94	B-50-12	08	104
QC Limits:			84-117

DATE ANALYZED: 11/15/94
SAMPLE SPIKED: 9411188-02
INSTRUMENT: E

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	35.5	104	4	80-130	26
Toluene	95.7	98	4	75-129	27
Hydrocarbons as Gasoline	1000	92	4	66-128	34

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9411095
DATE EXTRACTED: 11/09/94
INSTRUMENT: C
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
11/15/94	B-49	01	77
11/15/94	B-50	02	73
11/15/94	B-51	03	74
11/15/94	B-52	04	74
11/15/94	B-53	05	75
QC Limits:			30-120

DATE EXTRACTED: 11/08/94
DATE ANALYZED: 11/11/94
INSTRUMENT: C

Method Spike Recovery Summary

Analyte	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Diesel	1.72	95	1	65-103	12

AEN LAB NO: 1109-BLANK
DATE EXTRACTED: 11/09/94
DATE ANALYZED: 11/15/94

Method Blank

	Result (mg/L)	Reporting Limit (mg/L)
Diesel	ND	0.05

QUALITY CONTROL DATA

AEN JOB NO: 9411095
DATE EXTRACTED: 11/03/94
DATE ANALYZED: 11/03/94
SAMPLE SPIKED: DI WATER
INSTRUMENT: GRAVIMETRIC
MATRIX: WATER

Method Spike Recovery Summary
Method: SM 5520

Analyte	Spike Added (mg/L)	Duplicate Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Oil	78.2	87.4	92	<1	90-102	5

Method Blank Result

Lab Id.	Hydrocarbons (mg/L)
111094-BLANK	ND
Reporting Limit	1

QUALITY CONTROL DATA

AEN JOB NO: 9411095
AEN LAB NO: 1116-BLANK
DATE ANALYZED: 11/16/94
INSTRUMENT: G

EPA Method 8010
Halogenated Volatile Organics

Analyte	CAS #	Results (ug/L)	Reporting Limit (ug/L)
Bromodichloromethane	75-27-4	ND	0.5
Bromoform	75-25-2	ND	0.5
Bromomethane	74-83-9	ND	0.5
Carbon Tetrachloride	56-23-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
Chloroethane	75-00-3	ND	0.5
2-Chloroethyl Vinyl Ether	100-75-8	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.5
Dibromochloromethane	124-48-1	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Dichlorodifluoromethane	75-71-8	ND	0.5
1,1-Dichloroethane	75-34-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.5
1,1-Dichloroethene	75-35-4	ND	0.5
cis-1,2-Dichloroethene	156-59-2	ND	0.5
trans-1,2-Dichloroethene	156-60-5	ND	0.5
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.5
Methylene Chloride	75-09-2	0.7	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.5
Trichloroethene	79-01-6	ND	0.5
Trichlorofluoromethane	75-69-4	ND	0.5
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	0.5
Vinyl Chloride	75-01-4	ND	0.5

QUALITY CONTROL DATA

AEN JOB NO: 9411095
AEN LAB NO: 1116-BLANK
DATE ANALYZED: 11/16/94
INSTRUMENT: G

EPA Method 8020
Aromatic Volatile Organics

Analyte	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Benzene	71-43-2	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
Toluene	108-88-3	ND	0.5
Xylenes, total	1330-20-7	ND	2

QUALITY CONTROL DATA

METHOD: EPA 8010/8020

AEN JOB NO: 9411095
INSTRUMENT: G
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Bromochloro-methane	1-Bromo-3-chloro-propane	1-Chloro-2-fluoro-benzene
11/16/94	B-50	02	107	129	98
11/16/94	B-52	04	131	142	95
QC Limits			78-153	74-143	76-118

DATE ANALYZED: 11/15/94
SAMPLE SPIKED: 9411116-10
INSTRUMENT: G

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
1,1-Dichloroethene	50	89	<1	40-130	18
Trichloroethene	50	94	6	67-136	17
Benzene	50	87	6	69-137	13
Toluene	50	84	6	67-142	13
Chlorobenzene	50	75	13	59-123	15

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9411095
AEN LAB NO: 1111-BLANK
DATE ANALYZED: 11/11/94

Method Blank

	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Benzene	71-43-2	ND	0.5
Toluene	108-88-3	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
Xylenes, Total	1330-20-7	ND	2
Purgeable Hydrocarbons as:			
Gasoline		ND mg/L	0.05 mg/L

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9411095
INSTRUMENT: F
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
11/11/94	B-49	01	101
11/11/94	B-50	02	109
11/11/94	B-51	03	102
11/11/94	B-52	04	100
11/11/94	B-53	05	102
QC Limits:			86-110

DATE ANALYZED: 11/10/94
SAMPLE SPIKED: 9411045-01
INSTRUMENT: F

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	17.5	103	<1	82-125	15
Toluene	47.6	102	1	75-126	17
Hydrocarbons as Gasoline	500	103	2	75-132	16

*** END OF REPORT ***

LEVINE-FRICKE

SAMPLE ID: B-55
AEN LAB NO: 9411123-01
AEN WORK ORDER: 9411123
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/08/94
DATE RECEIVED: 11/09/94
REPORT DATE: 12/05/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	11/14/94
Toluene	108-88-3	ND	0.5	ug/L	11/14/94
Ethylbenzene	100-41-4	ND	0.5	ug/L	11/14/94
Xylenes, Total	1330-20-7	ND	2	ug/L	11/14/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	11/14/94
#Extraction for TPH	EPA 3510	-		Extrn Date	11/10/94
TPH as Mineral Spirits	GC-FID	ND	0.05	mg/L	11/15/94
TPH as Stoddard Solvent	GC-FID	-	0.05	mg/L	11/15/94

Please see page 10 for comments regarding this sample.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-54
AEN LAB NO: 9411123-02
AEN WORK ORDER: 9411123
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/08/94
DATE RECEIVED: 11/09/94
REPORT DATE: 12/05/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	11/14/94
Toluene	108-88-3	ND	0.5	ug/L	11/14/94
Ethylbenzene	100-41-4	ND	0.5	ug/L	11/14/94
Xylenes, Total	1330-20-7	ND	2	ug/L	11/14/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	11/14/94
#Extraction for TPH	EPA 3510	-		Extrn Date	11/10/94
TPH as Mineral Spirits	GC-FID	ND	0.05	mg/L	11/15/94
TPH as Stoddard Solvent	GC-FID	-	0.05	mg/L	11/15/94
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	11/16/94
Bromoform	75-25-2	ND	0.5	ug/L	11/16/94
Bromomethane	74-83-9	ND	0.5	ug/L	11/16/94
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	11/16/94
Chlorobenzene	108-90-7	ND	0.5	ug/L	11/16/94
Chloroethane	75-00-3	ND	0.5	ug/L	11/16/94
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	11/16/94
Chloroform	67-66-3	ND	0.5	ug/L	11/16/94
Chloromethane	74-87-3	ND	0.5	ug/L	11/16/94
Dibromochloromethane	124-48-1	ND	0.5	ug/L	11/16/94
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	11/16/94
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	11/16/94
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	11/16/94
Dichlorodifluoromethane	75-71-8	ND	0.5	ug/L	11/16/94
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	11/16/94
1,2-Dichloroethane	107-06-2	0.6 *	0.5	ug/L	11/16/94
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	11/16/94
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	11/16/94
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	11/16/94
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	11/16/94
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	11/16/94
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	11/16/94
Methylene Chloride	75-09-2	ND	0.5	ug/L	11/16/94
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	11/16/94
Tetrachloroethene	127-18-4	ND	0.5	ug/L	11/16/94
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	11/16/94
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	11/16/94
Trichloroethene	79-01-6	ND	0.5	ug/L	11/16/94

[redacted]

R-3, S-2.

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

941895

Project No.: 3230.94	Field Logbook No.:	Date: 11/7/94	Serial No.: № 013176
Project Name: WIRET	Project Location: Filbert Street, Oakland		
Sampler (Signature):			Samplers: RWB

SAMPLES

SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CON-TAINERS	SAMPLE TYPE	EPA 601	EPA 602	TPH as MS/SS*	TPH as g/BTEX	5520 B/E+F		HOLD	RUSH	REMARKS
B-49	11/7/94	3:30pm	2l/6VOAs	# 8	water		X	X	X	X				01A-H
B-50		2:00pm	3l/10VOAs	# 13		X	X	X	X	X				Results to 02A-M
B-51		11:30am	4l/5VOAs	# 9			X	X	X	X				Rick Hirsch 03A-J
B-52		10:30am	2l/9VOAs	# 11		X	X	X	X					04A-K
B-53		9:30am	2l/6VOAs	# 8	↓		X	X	X					05A-I
B-49-8		3:30pm	06A	1						X				Note: COC rewritten by
B-50-9		2:00pm	07A	1								X		RJH to update requests for
B-50-12		2:00pm	08A	1				X	X					analyses 11/8/94
B-51-9		11:30am	09A	1								X		* Changes in analyses per
B-52-12		10:30am	10A	1								X		Rick Hirsch 11/10/94. D.H
B-53-B	↓	9:30am	11A	1								X		* TPH as MS/SS =
														TPH as Mineral Spirits/Stoddard
														Solvent
														5520 all [illegible]
														[illegible]. RB

RELINQUISHED BY: (Signature) [signature]	DATE 11/8/94	TIME 10:00am	RECEIVED BY: (Signature) [signature]	DATE 11/8/94	TIME 11:05
RELINQUISHED BY: (Signature) [signature]	DATE 11/8/94	TIME 13:40	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature) Denise Harrington	DATE 11/8/94	TIME 1340
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

Sample Collector: LEVINE-FRICKE 1900 Powell Street, 12th Floor Emeryville, California 94608 (510) 652-4500	Analytical Laboratory: 11/11/94 Per Rick [illegible] 602 analysis – samples w/ gas/BTEX only – not [illegible] [illegible] – DSH 11/17/94

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

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

LEVINE-FRICKE
1900 POWELL ST. 12TH FL.
EMERYVILLE, CA 94608

ATTN: RICK HIRSCH
CLIENT PROJ. ID: 3230.94
CLIENT PROJ. NAME: SAFEWAY WIRET
C.O.C. NUMBER: 013250

REPORT DATE: 12/05/94
DATE(S) SAMPLED: 11/08/94
DATE RECEIVED: 11/09/94
AEN WORK ORDER: 9411123

PROJECT SUMMARY:

On November 9, 1994, this laboratory received 12 (5 water and 7 soil) sample(s).

Client requested five samples be analyzed for organic parameters; seven samples were placed on hold. On November 16, 1994, client requested additional analysis, and that one sample be taken off hold for analysis. Results of analysis are summarized on the following pages. Chromatograms are included.

Please see quality control report for a summary of QC data pertaining to this project.

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

Larry Klein
Laboratory Director

RECEIVED
DEC - 7 1994
LEVINE-FRICKE

LEVINE-FRICKE

SAMPLE ID: B-54
AEN LAB NO: 9411123-02
AEN WORK ORDER: 9411123
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/08/94
DATE RECEIVED: 11/09/94
REPORT DATE: 12/05/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Trichlorofluoromethane	75-69-4	ND	0.5	ug/L	11/16/94
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	11/16/94
Vinyl Chloride	75-01-4	ND	0.5	ug/L	11/16/94
EPA 8020 - Water matrix	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	11/16/94
Chlorobenzene	108-90-7	ND	0.5	ug/L	11/16/94
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	11/16/94
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	11/16/94
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	11/16/94
Ethylbenzene	100-41-4	ND	0.5	ug/L	11/16/94
Toluene	108-88-3	ND	0.5	ug/L	11/16/94
Xylenes, total	1330-20-7	ND	2	ug/L	11/16/94

Please see page 10 for comments regarding this sample.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-56
AEN LAB NO: 9411123-03
AEN WORK ORDER: 9411123
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/08/94
DATE RECEIVED: 11/09/94
REPORT DATE: 12/05/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	16 *	0.5	ug/L	11/14/94
Toluene	108-88-3	ND	0.5	ug/L	11/14/94
Ethylbenzene	100-41-4	ND	0.5	ug/L	11/14/94
Xylenes, Total	1330-20-7	ND	2	ug/L	11/14/94
Purgeable HCs as Gasoline	5030/GCFID	0.3 *	0.05	mg/L	11/14/94
#Extraction for TPH	EPA 3510	-		Extrn Date	11/10/94
TPH as Mineral Spirits	GC-FID	0.1 *	0.05	mg/L	11/15/94
TPH as Stoddard Solvent	GC-FID	-	0.05	mg/L	11/15/94
#Water Extrn for HCs (GR)	SM 5520BF	-		Extrn Date	11/10/94
#Water Extrn for O&G (GR)	SM 5520B	-		Extrn Date	11/10/94
Hydrocarbons (Gravimetric)	SM 5520BF	ND	1	mg/L	11/10/94
Oil & Grease (Gravimetric)	SM 5520B	ND	1	mg/L	11/10/94
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	11/16/94
Bromoform	75-25-2	ND	0.5	ug/L	11/16/94
Bromomethane	74-83-9	ND	0.5	ug/L	11/16/94
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	11/16/94
Chlorobenzene	108-90-7	ND	0.5	ug/L	11/16/94
Chloroethane	75-00-3	ND	0.5	ug/L	11/16/94
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	11/16/94
Chloroform	67-66-3	ND	0.5	ug/L	11/16/94
Chloromethane	74-87-3	ND	0.5	ug/L	11/16/94
Dibromochloromethane	124-48-1	ND	0.5	ug/L	11/16/94
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	11/16/94
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	11/16/94
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	11/16/94
Dichlorodifluoromethane	75-71-8	ND	0.5	ug/L	11/16/94
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	11/16/94
1,2-Dichloroethane	107-06-2	3 *	0.5	ug/L	11/16/94
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	11/16/94
cis-1,2-Dichloroethene	156-59-2	130 *	0.5	ug/L	11/16/94
trans-1,2-Dichloroethene	156-60-5	0.5 *	0.5	ug/L	11/16/94
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	11/16/94

LEVINE-FRICKE

SAMPLE ID: B-56
AEN LAB NO: 9411123-03
AEN WORK ORDER: 9411123
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/08/94
DATE RECEIVED: 11/09/94
REPORT DATE: 12/05/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	11/16/94
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	11/16/94
Methylene Chloride	75-09-2	ND	0.5	ug/L	11/16/94
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	11/16/94
Tetrachloroethene	127-18-4	ND	0.5	ug/L	11/16/94
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	11/16/94
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	11/16/94
Trichloroethene	79-01-6	ND	0.5	ug/L	11/16/94
Trichlorofluoromethane	75-69-4	ND	0.5	ug/L	11/16/94
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	11/16/94
Vinyl Chloride	75-01-4	34 *	0.5	ug/L	11/16/94
EPA 8020 - Water matrix	EPA 8020				
Benzene	71-43-2	10 *	0.5	ug/L	11/16/94
Chlorobenzene	108-90-7	ND	0.5	ug/L	11/16/94
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	11/16/94
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	11/16/94
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	11/16/94
Ethylbenzene	100-41-4	ND	0.5	ug/L	11/16/94
Toluene	108-88-3	0.5 *	0.5	ug/L	11/16/94
Xylenes, total	1330-20-7	ND	2	ug/L	11/16/94

Please see page 10 for comments regarding this sample.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-57
AEN LAB NO: 9411123-04
AEN WORK ORDER: 9411123
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/08/94
DATE RECEIVED: 11/09/94
REPORT DATE: 12/05/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	11/15/94
Toluene	108-88-3	ND	0.5	ug/L	11/15/94
Ethylbenzene	100-41-4	ND	0.5	ug/L	11/15/94
Xylenes, Total	1330-20-7	ND	2	ug/L	11/15/94
Purgeable HCs as Gasoline	5030/GCFID	0.5 *	0.05	mg/L	11/15/94
#Extraction for TPH	EPA 3510	-		Extrn Date	11/10/94
TPH as Mineral Spirits	GC-FID	1.6 *	0.05	mg/L	11/15/94
TPH as Stoddard Solvent	GC-FID	-	0.05	mg/L	11/15/94

Please see page 10 for comments regarding this sample.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-58
AEN LAB NO: 9411123-05
AEN WORK ORDER: 9411123
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/08/94
DATE RECEIVED: 11/09/94
REPORT DATE: 12/05/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	41 *	10	ug/L	11/15/94
Toluene	108-88-3	ND	10	ug/L	11/15/94
Ethylbenzene	100-41-4	13 *	10	ug/L	11/15/94
Xylenes, Total	1330-20-7	ND	40	ug/L	11/15/94
Purgeable HCs as Gasoline	5030/GCFID	17 *	1	mg/L	11/15/94
#Extraction for TPH	EPA 3510	-		Extrn Date	11/10/94
TPH as Mineral Spirits	GC-FID	6.3 *	0.05	mg/L	11/15/94
TPH as Stoddard Solvent	GC-FID	-	0.05	mg/L	11/15/94

Please see page 10 for comments regarding this sample.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-56-11.5
AEN LAB NO: 9411123-09
AEN WORK ORDER: 9411123
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/08/94
DATE RECEIVED: 11/09/94
REPORT DATE: 12/05/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	30	ug/kg	11/22/94
Toluene	108-88-3	ND	30	ug/kg	11/22/94
Ethylbenzene	100-41-4	61 *	30	ug/kg	11/22/94
Xylenes, Total	1330-20-7	ND	30	ug/kg	11/22/94
Purgeable HCs as Gasoline	5030/GCFID	20 *	1	mg/kg	11/22/94
#Extraction for TPH	EPA 3550	-		Extrn Date	11/18/94
TPH as Mineral Spirits	GC-FID	3 *	1	mg/kg	11/24/94
TPH as Stoddard Solvent	GC-FID	-		mg/kg	11/24/94

Reporting limits elevated for gasoline/BTEX due to high levels of target compounds; sample run at dilution. See page 10 for additional comments.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9411123

CLIENT PROJECT ID: 3230.94

Quality Control Summary

Regarding samples 9411123-01,-02, -03, -04, -05, -09: Stoddard Solvent elutes from the gas chromatic column within the retention time envelope of mineral spirits. Stoddard Solvent cannot be detected in the presence of mineral spirits.

EPA 8010 method blank for November 16, 1994, showed methylene chloride at 0.7 ug/L.

All other laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9411123
AEN LAB NO: 1116-BLANK
DATE EXTRACTED: 11/16/94
DATE ANALYZED: 11/19/94

Method Blank

	Result (mg/L)	Reporting Limit (mg/L)
Diesel	ND	0.05

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9411123
DATE EXTRACTED: 11/10/94
INSTRUMENT: C
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
11/15/94	B-55	01	77
11/15/94	B-54	02	80
11/15/94	B-56	03	80
11/15/94	B-57	04	80
11/15/94	B-58	05	81
QC Limits:			30-120

DATE EXTRACTED: 11/08/94
DATE ANALYZED: 11/11/94
SAMPLE SPIKED: DI WATER
INSTRUMENT: C

Method Spike Recovery Summary

Analyte	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Diesel	1.72	95	1	65-103	12

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9411123
AEN LAB NO: 1118-BLANK
DATE EXTRACTED: 11/18/94
DATE ANALYZED: 11/24/94

Method Blank

	Result (mg/kg)	Reporting Limit (mg/kg)
Diesel	ND	1

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9411123
DATE EXTRACTED: 11/18/94
INSTRUMENT: C
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
11/24/94	B-56-11.5	09	98
QC Limits:			45-120

DATE EXTRACTED: 11/17/94
DATE ANALYZED: 11/20/94
SAMPLE SPIKED: LCS
INSTRUMENT: C

Laboratory Control Sample

Analyte	Spike Added (mg/kg)	Average Percent Recovery	QC Limits Percent Recovery
Diesel	40.0	90	53-103

QUALITY CONTROL DATA

AEN JOB NO: 9411123
DATE EXTRACTED: 11/03/94
DATE ANALYZED: 11/03/94
SAMPLE SPIKED: DI WATER
INSTRUMENT: GRAVIMETRIC
MATRIX: WATER

Method Spike Recovery Summary
Method: SM 5520

Analyte	Spike Added (mg/L)	Duplicate Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Oil	78.2	87.4	92	<1	90-102	5

Method Blank Result

Lab Id.	Hydrocarbons (mg/L)
111094-BLANK	ND
Reporting Limit	1

QUALITY CONTROL DATA

AEN JOB NO: 9411123
AEN LAB NO: 1116-BLANK
DATE ANALYZED: 11/16/94
INSTRUMENT: G

EPA Method 8010
Halogenated Volatile Organics

Analyte	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Bromodichloromethane	75-27-4	ND	0.5
Bromoform	75-25-2	ND	0.5
Bromomethane	74-83-9	ND	0.5
Carbon Tetrachloride	56-23-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
Chloroethane	75-00-3	ND	0.5
2-Chloroethyl Vinyl Ether	100-75-8	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.5
Dibromochloromethane	124-48-1	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Dichlorodifluoromethane	75-71-8	ND	0.5
1,1-Dichloroethane	75-34-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.5
1,1-Dichloroethene	75-35-4	ND	0.5
cis-1,2-Dichloroethene	156-59-2	ND	0.5
trans-1,2-Dichloroethene	156-60-5	ND	0.5
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.5
Methylene Chloride	75-09-2	0.7	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.5
Trichloroethene	79-01-6	ND	0.5
Trichlorofluoromethane	75-69-4	ND	0.5
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	0.5
Vinyl Chloride	75-01-4	ND	0.5

QUALITY CONTROL DATA

AEN JOB NO: 9411123
AEN LAB NO: 1116-BLANK
DATE ANALYZED: 11/16/94
INSTRUMENT: G

EPA Method 8020
Aromatic Volatile Organics

Analyte	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Benzene	71-43-2	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
Toluene	108-88-3	ND	0.5
Xylenes, total	1330-20-7	ND	2

QUALITY CONTROL DATA

METHOD: EPA 8010/8020

AEN JOB NO: 9411123
INSTRUMENT: G
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Bromochloro-methane	1-Bromo-3-chloro-propane	1-Chloro-2-fluoro-benzene
11/16/94	B-54	02	125	141	96
11/16/94	B-56	03	128	119	97
QC Limits			78-153	74-143	76-118

DATE ANALYZED: 11/15/94
SAMPLE SPIKED: LCS
INSTRUMENT: G

Laboratory Control Sample

Analyte	Spike Added (ug/L)	Percent Recovery	QC Limits Percent Recovery
1,1-Dichloroethene	50	98	60-115
Trichloroethene	50	104	64-137
Benzene	50	102	88-125
Toluene	50	100	87-125
Chlorobenzene	50	85	54-122

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9411123
AEN LAB NO: 1114-BLANK
DATE ANALYZED: 11/14/94
MATRIX: WATER

Method Blank

	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Benzene	71-43-2	ND	0.5
Toluene	108-88-3	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
Xylenes, Total	1330-20-7	ND	2
HCs as Gasoline		ND mg/L	0.05 mg/L

AEN LAB NO: 1115-BLANK
DATE ANALYZED: 11/15/94

Method Blank

	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Benzene	71-43-2	ND	0.5
Toluene	108-88-3	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
Xylenes, Total	1330-20-7	ND	2
HCs as Gasoline		ND mg/L	0.05 mg/L

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9411123
INSTRUMENT: F
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
11/14/94	B-55	01	101
11/14/94	B-54	02	103
11/14/94	B-56	03	95
11/15/94	B-57	04	103
11/15/94	B-58	05	103
QC Limits:			86-110

DATE ANALYZED: 11/14/94
SAMPLE SPIKED: LCS
INSTRUMENT: F

Laboratory Control Sample

Analyte	Spike Added (ug/L)	Average Percent Recovery	QC Limits Percent Recovery
Benzene	17.5	102	69-108
Toluene	47.6	103	70-106
Hydrocarbons as Gasoline	500	102	69-110

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9411123
AEN LAB NO: 1122-BLANK
DATE ANALYZED: 11/22/94
MATRIX: SOIL

Method Blank

	CAS #	Result (ug/kg)	Reporting Limit (ug/kg)
Benzene	71-43-2	ND	5
Toluene	108-88-3	ND	5
Ethylbenzene	100-41-4	ND	5
Xylenes, Total	1330-20-7	ND	5
HCs as Gasoline		ND mg/kg	0.2 mg/kg

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9411123
INSTRUMENT: E
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
11/22/94	B-56-11.5	09	96
QC Limits:			92-110

DATE ANALYZED: 11/22/94
SAMPLE SPIKED: LCS
INSTRUMENT: E

Laboratory Control Sample

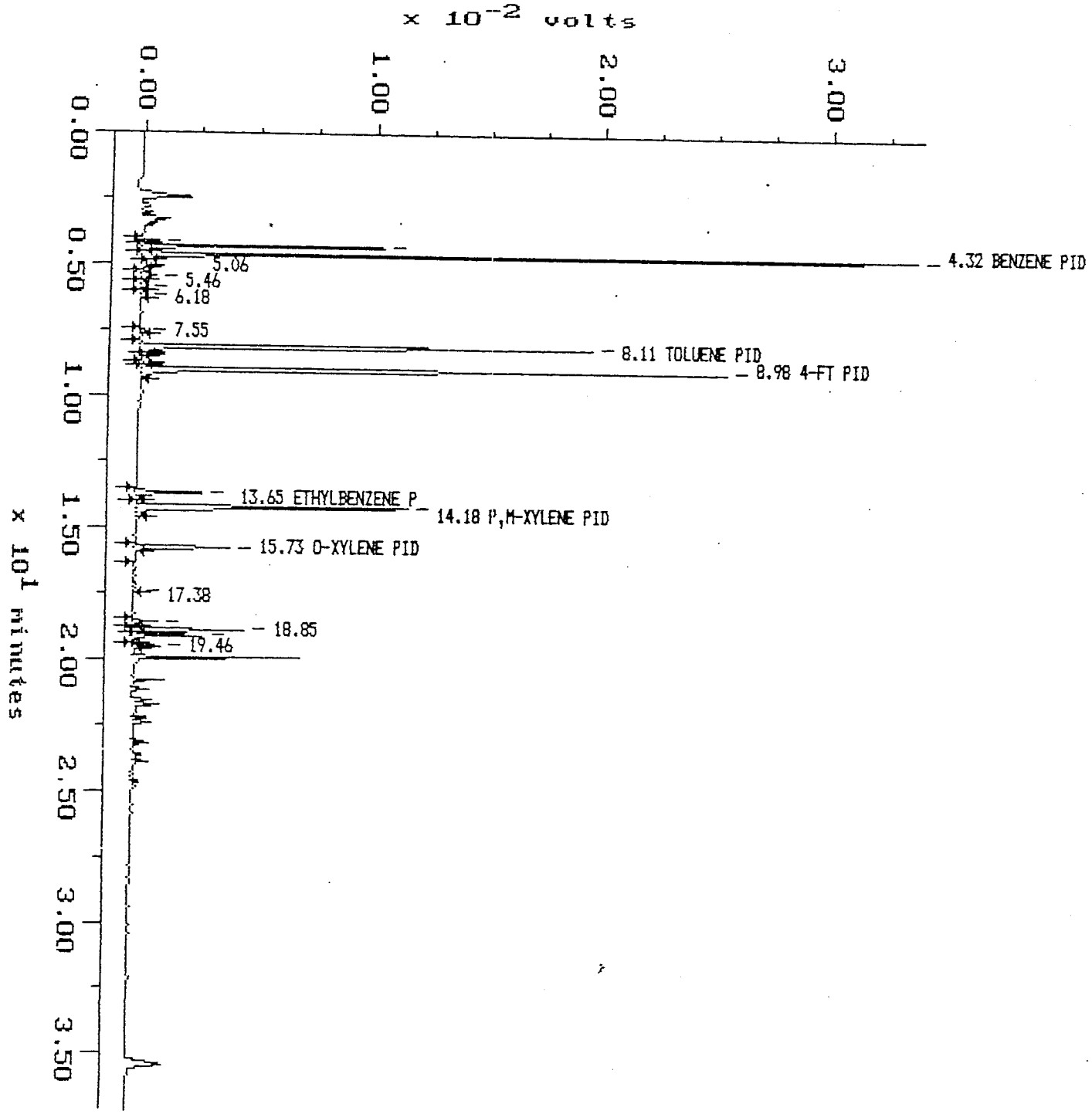
Analyte	Spike Added (ug/kg)	Percent Recovery	QC Limits Percent Recovery
Benzene	35.5	88	63-117
Toluene	95.7	90	67-114
Hydrocarbons as Gasoline	1000	93	63-120

*** END OF REPORT ***

Sample: 500 PPB GAS LCS
Acquired: 14-NOV-94 8:20
Dilution: 1 : 100.000

Channel: PID
Method: C:\MAX\DATA7\METTPH
Amount: 500.000

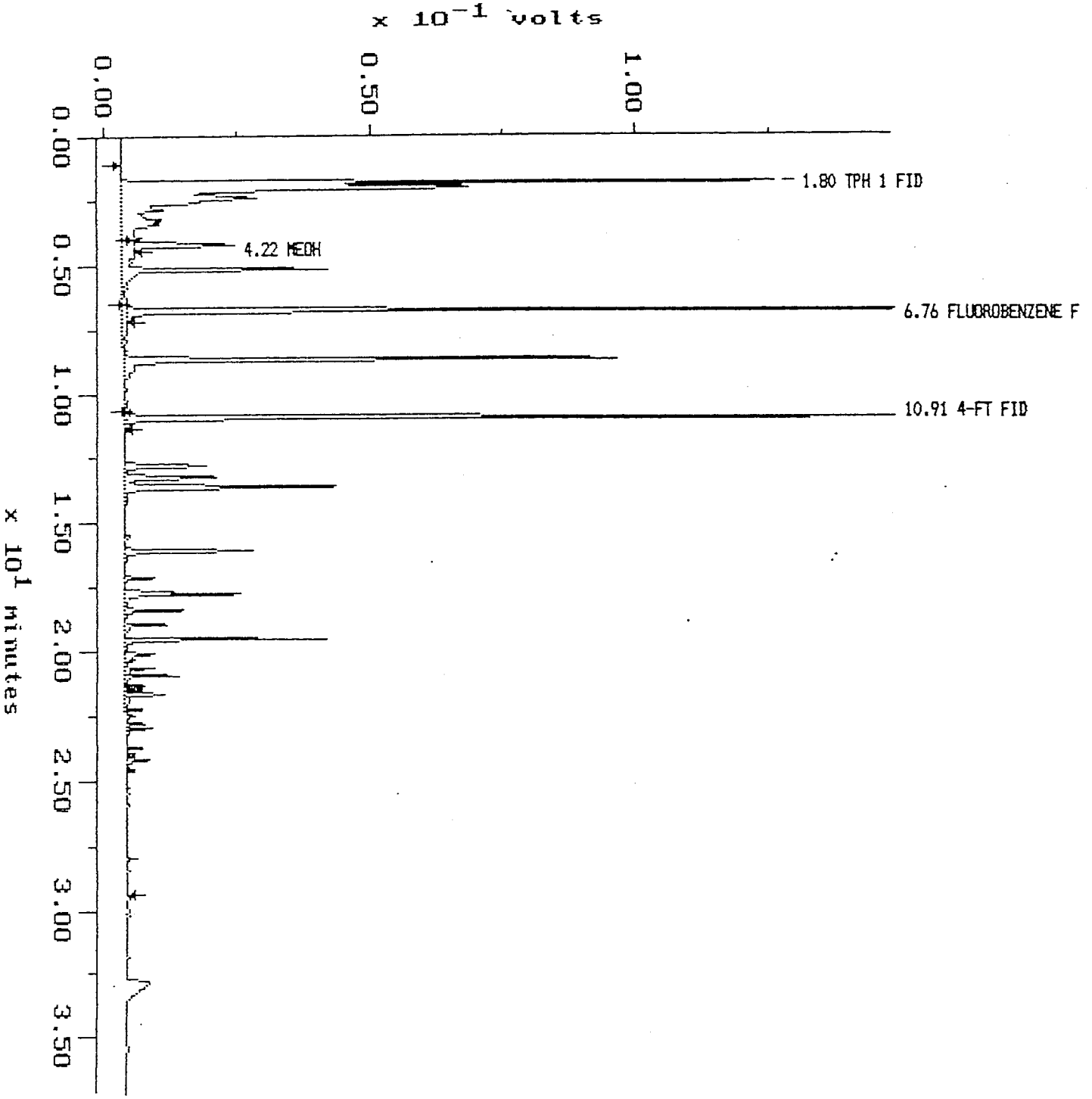
Filename: F11141
Operator:



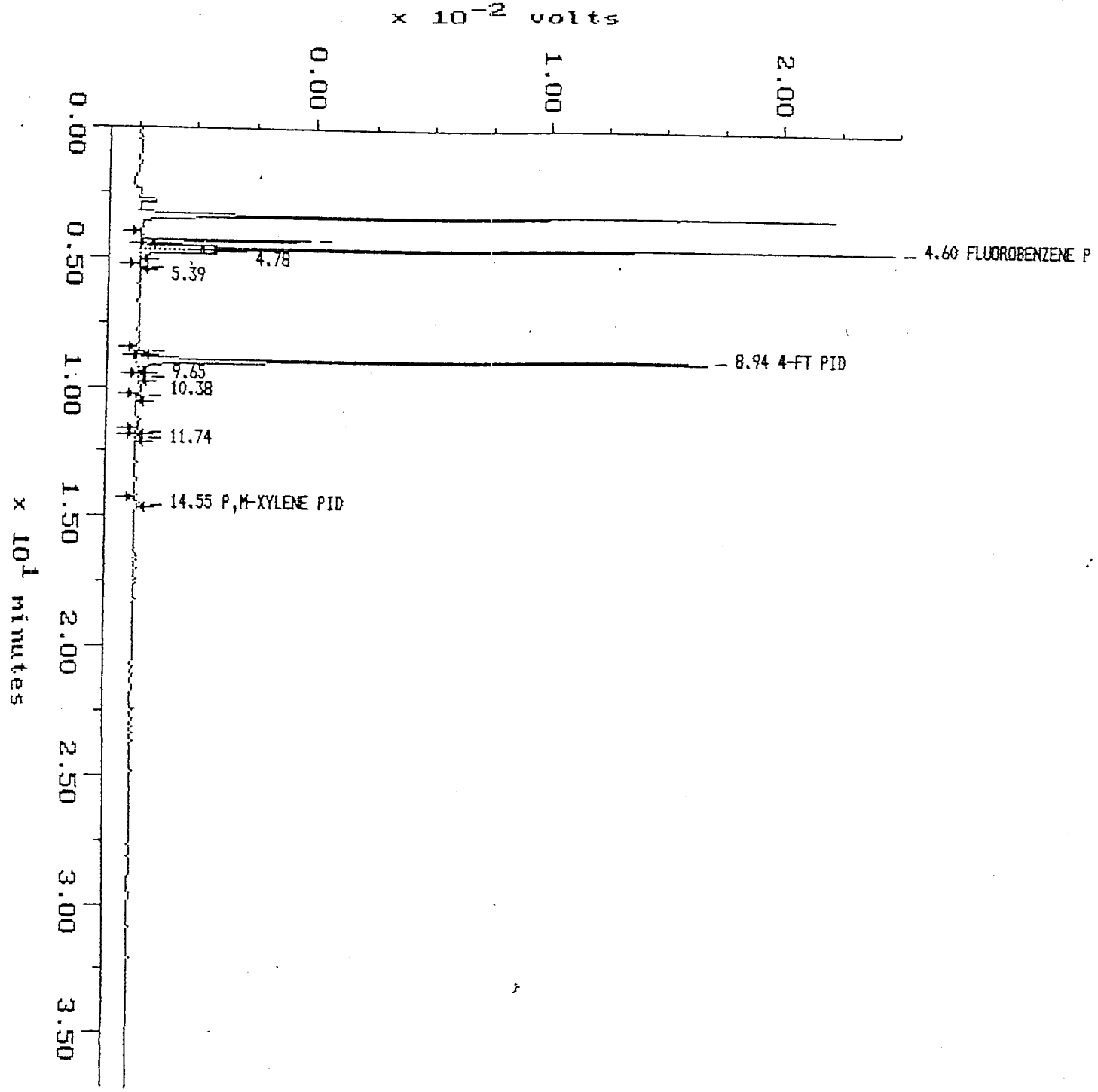
Sample: 500 PPB GAS LCS
Acquired: 14-NOV-94 8:20
Dilution: 1 : 100.000

Channel: FID
Method: C:\MAX\DATA7\METTPH
Amount: 500.000

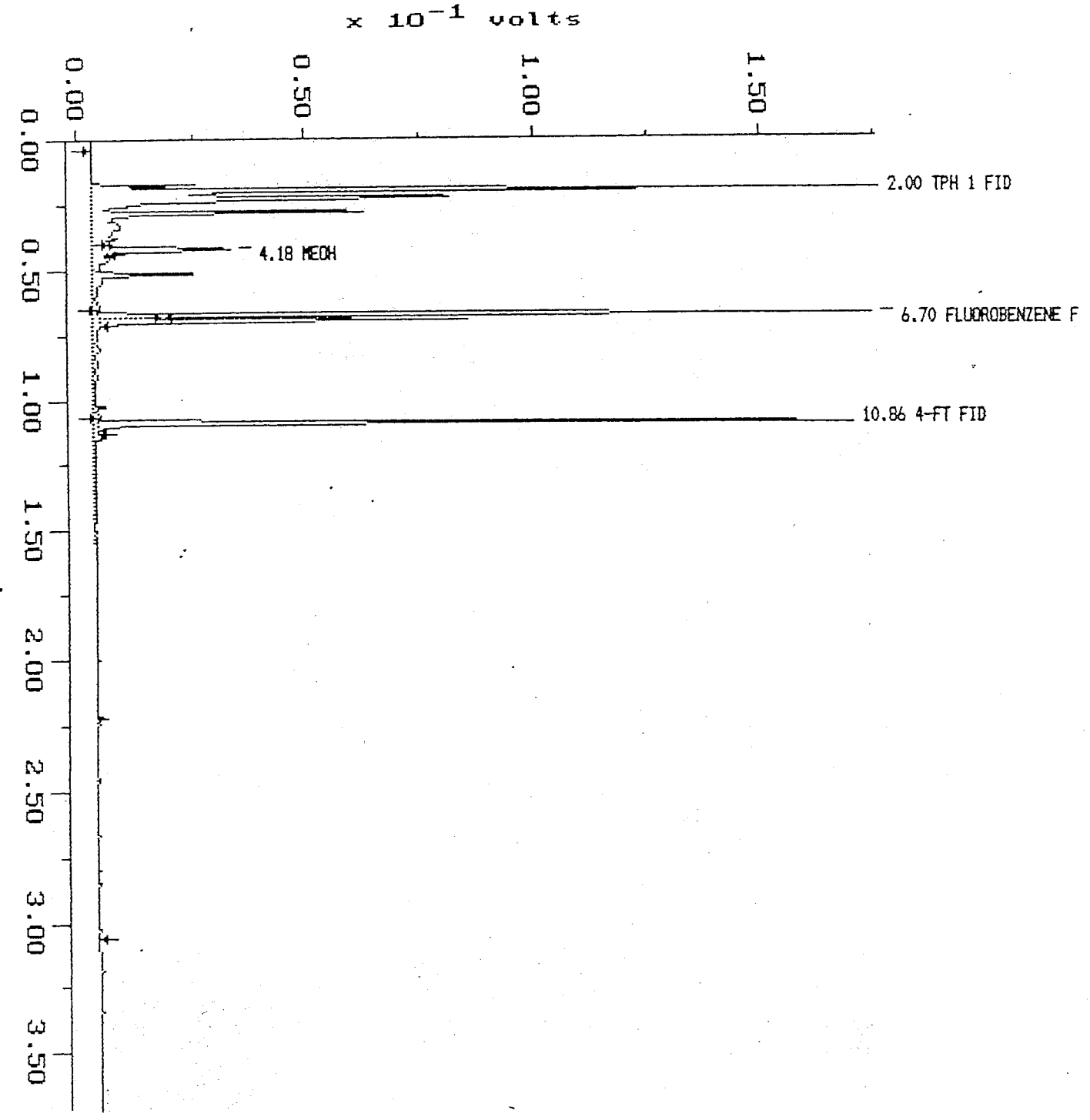
Filename: F11141
Operator:



Sample: 11123-036 10ML Channel: PID
Acquired: 14-NOV-94 23:30 Method: C:\MAX\DATA7\METTPH
Filename: F111418
Operator:

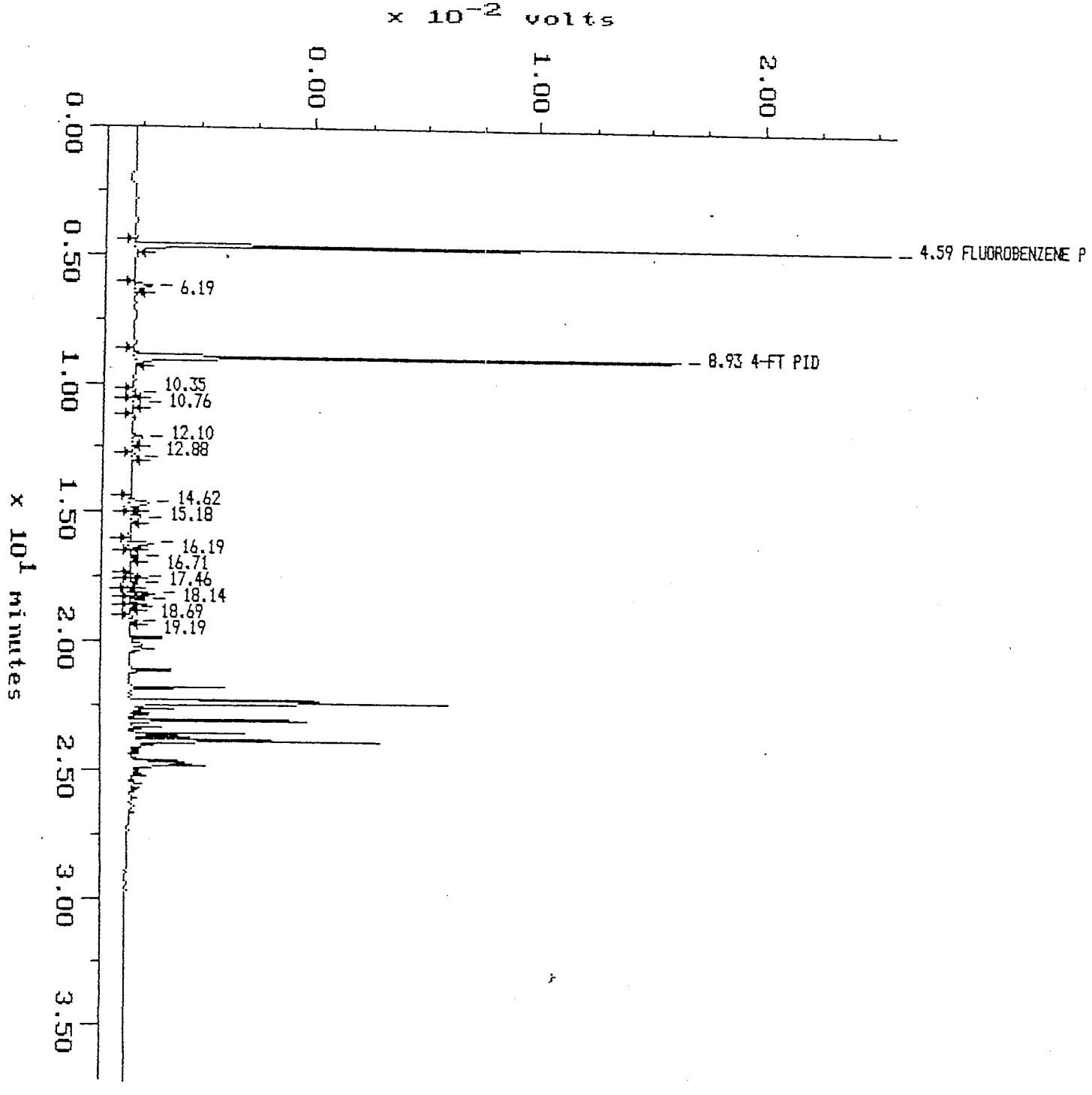


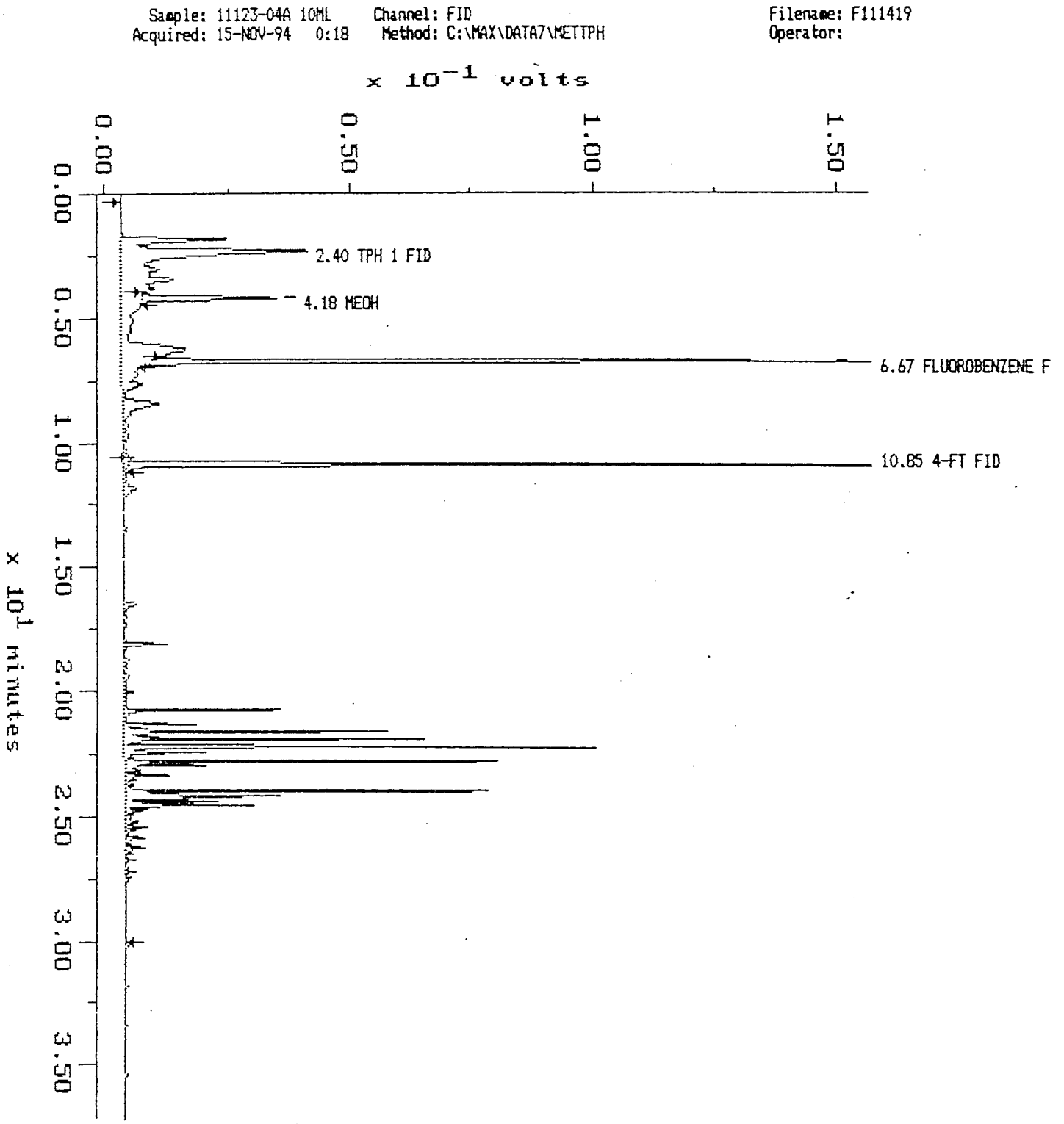
Sample: 11123-036 10ML Channel: FID Filename: F111418
Acquired: 14-NOV-94 23:30 Method: C:\MAX\DATA7\METTPH Operator:



Sample: 11123-04A 10ML Channel: PID
Acquired: 15-NOV-94 0:18 Method: C:\MAX\DATA7\METTPH

Filename: F111419
Operator:

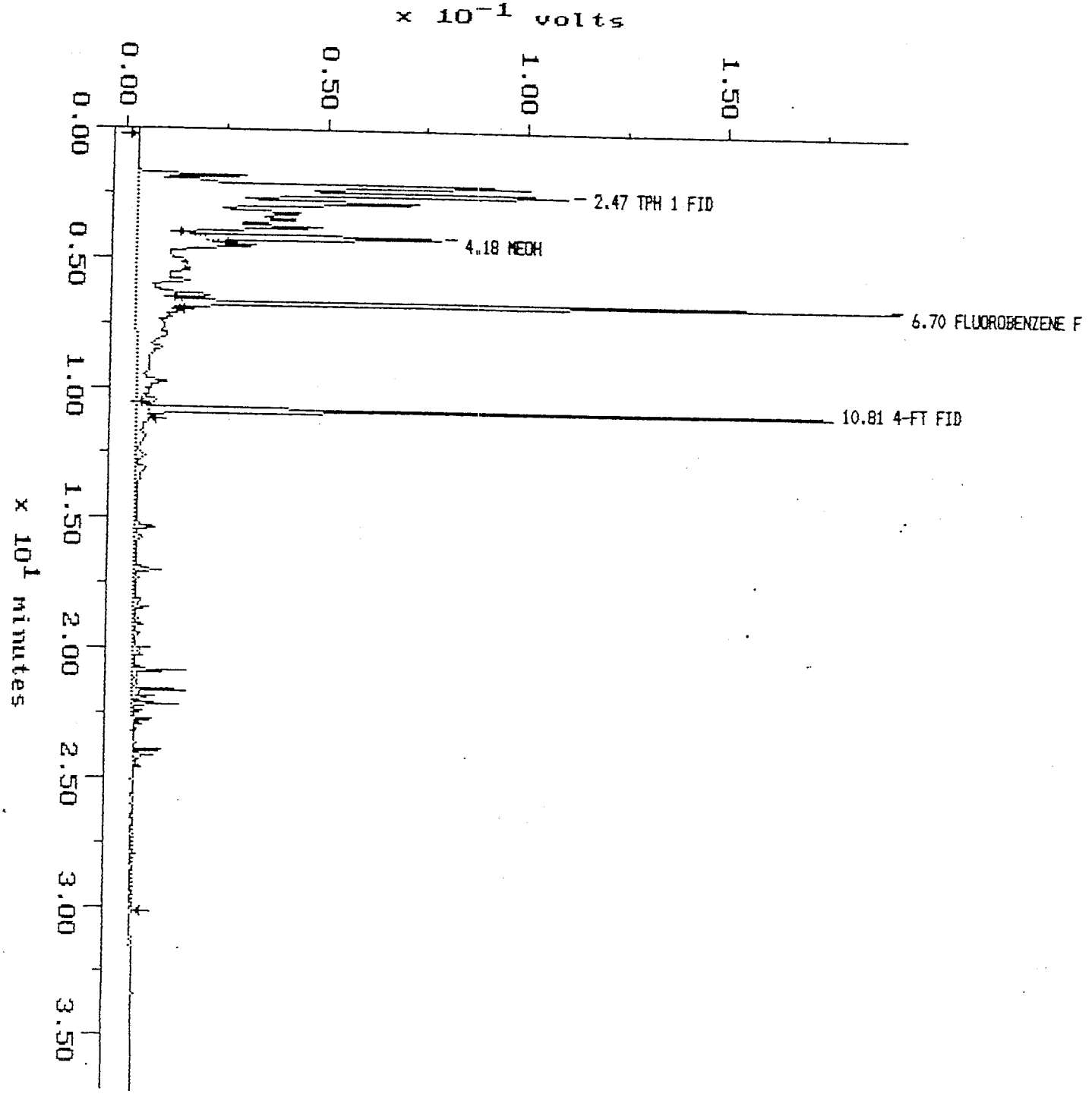



Sample: 11123-04A 10ML
Acquired: 15-NOV-94 0:18
Channel: FID
Method: C:\MAX\DATA7\METTPH
Filename: F111419
Operator:
x 10⁻¹ volts
0.00
0.50
1.00
1.50
2.40 TPH 1 FID
4.18 MEOH
6.67 FLUOROBENZENE F
10.85 4-FT FID
x 10¹ minutes
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50

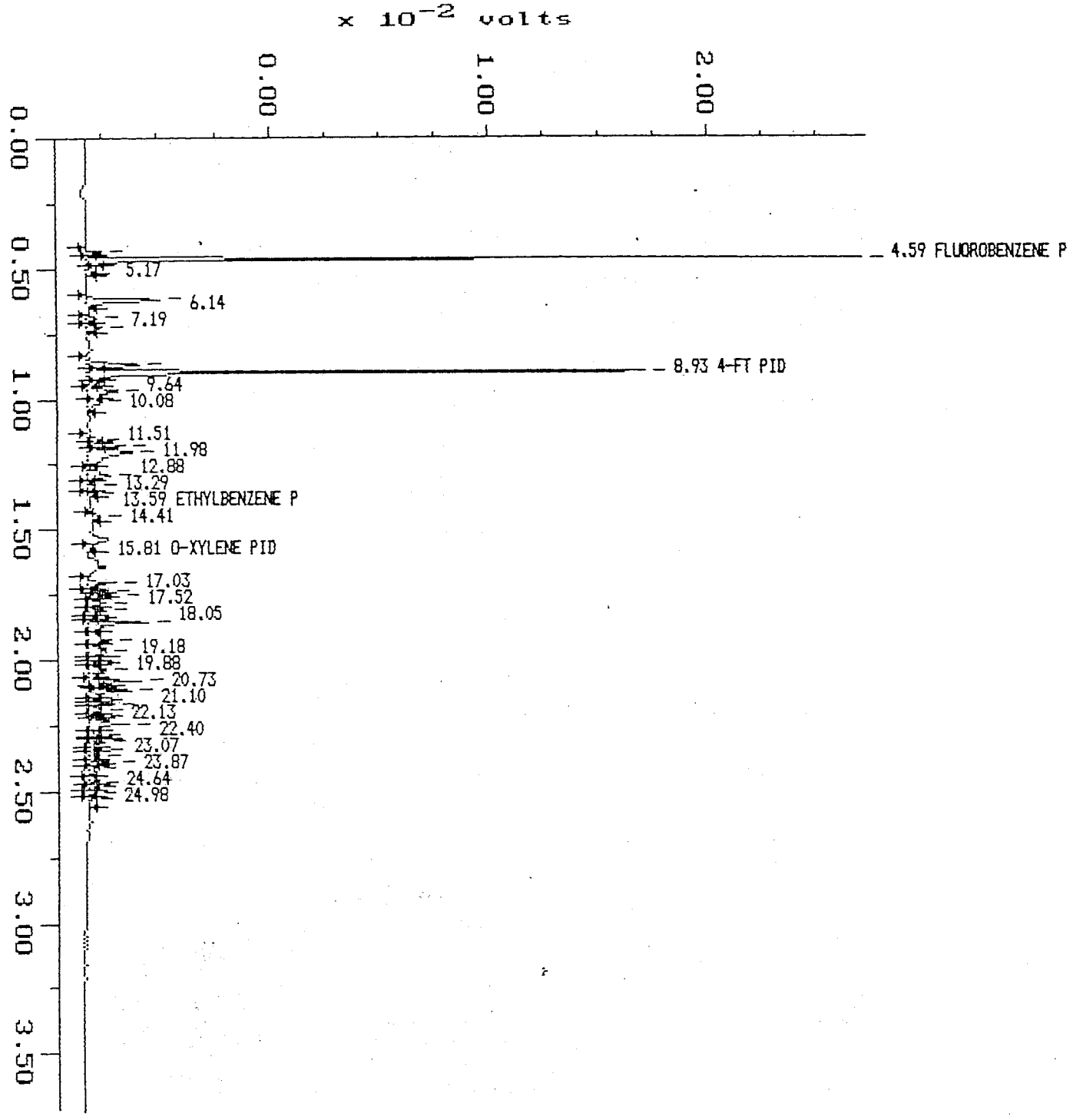
Sample: 11123-05A 1:20
Acquired: 15-NOV-94 1:07
Dilution: 1 : 20.000

Channel: FID
Method: C:\MAX\DATA7\METTPH

Filename: F111420
Operator:



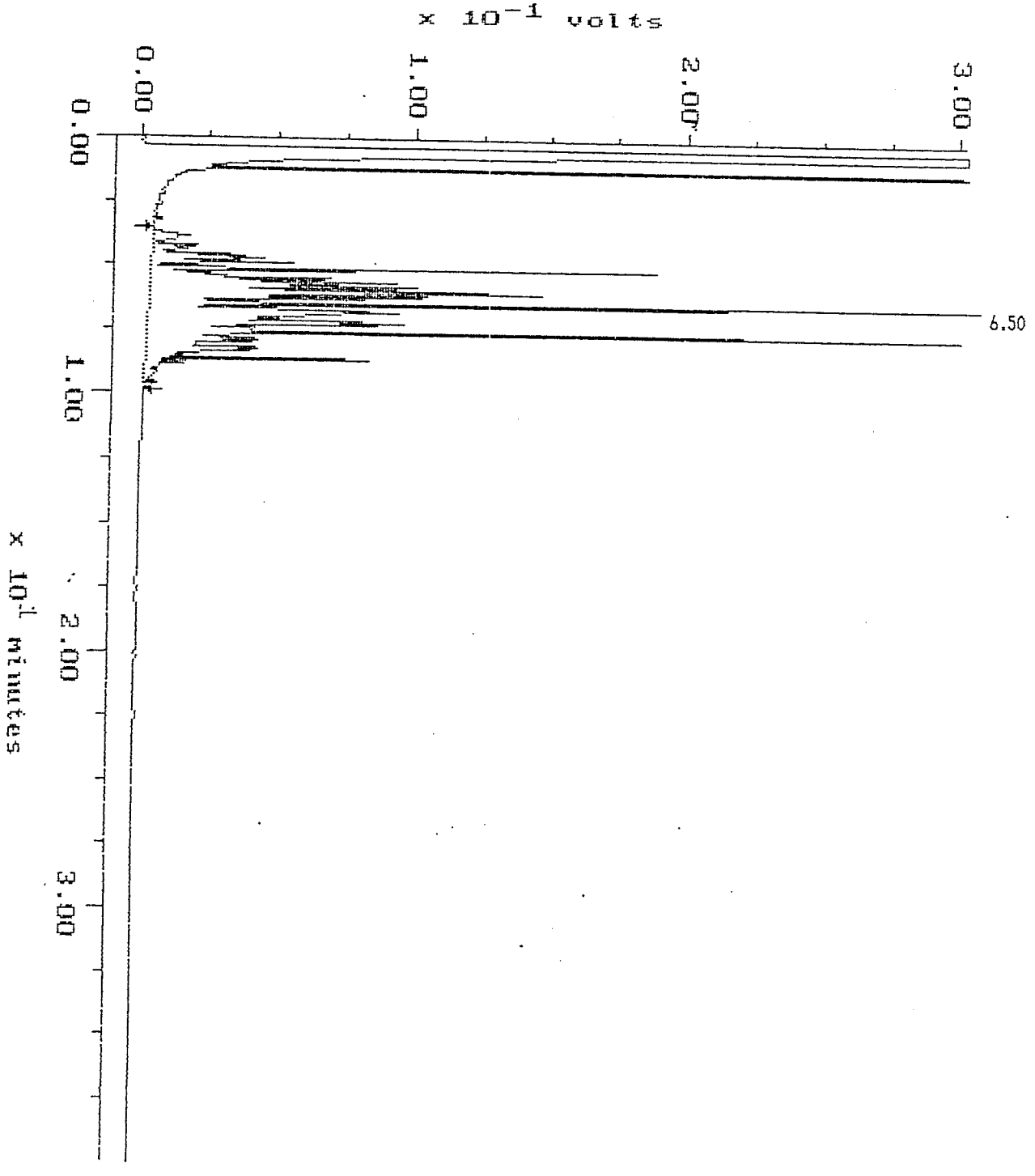
Sample: 11123-05A 1:20 Channel: PID Filename: F111420
Acquired: 15-NOV-94 1:07 Method: C:\MAX\DATA7\METTPH Operator:
Dilution: 1 : 20.000



Sample: MINERAL SPIRITS
Acquired: CLOCK NOT SET

Channel: FID 1 INST CA
Method: C:\MAX\DATA3A\DIF2

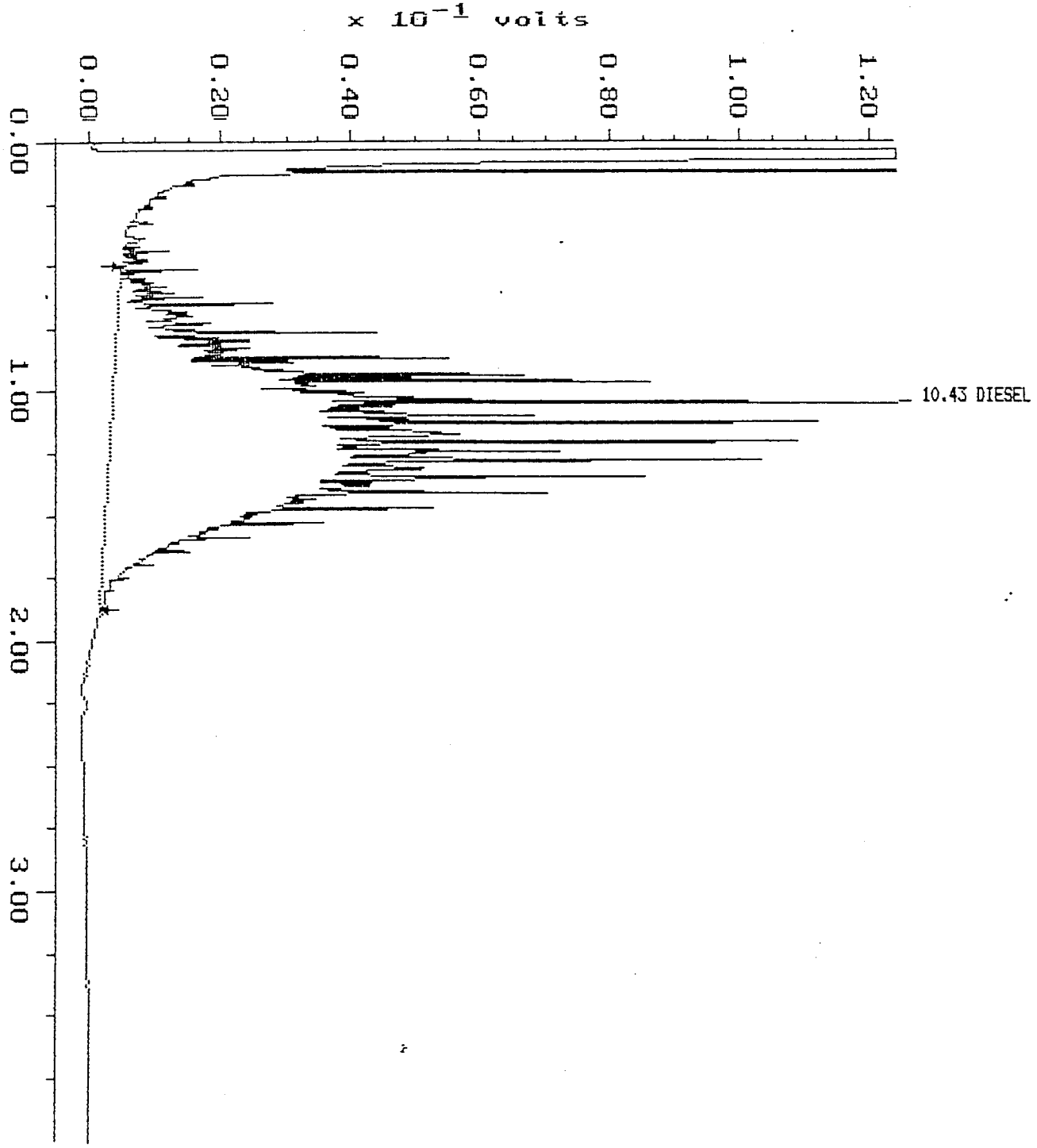
Filename: CA111352
Operator:



Sample: 500PPM DIE
Acquired: 15-NOV-94 16:39
Dilution: 1 : 100.000

Channel: FID 1 INST CA
Method: C:\MAX\DATA3A\DIE2
Amount: 500.000

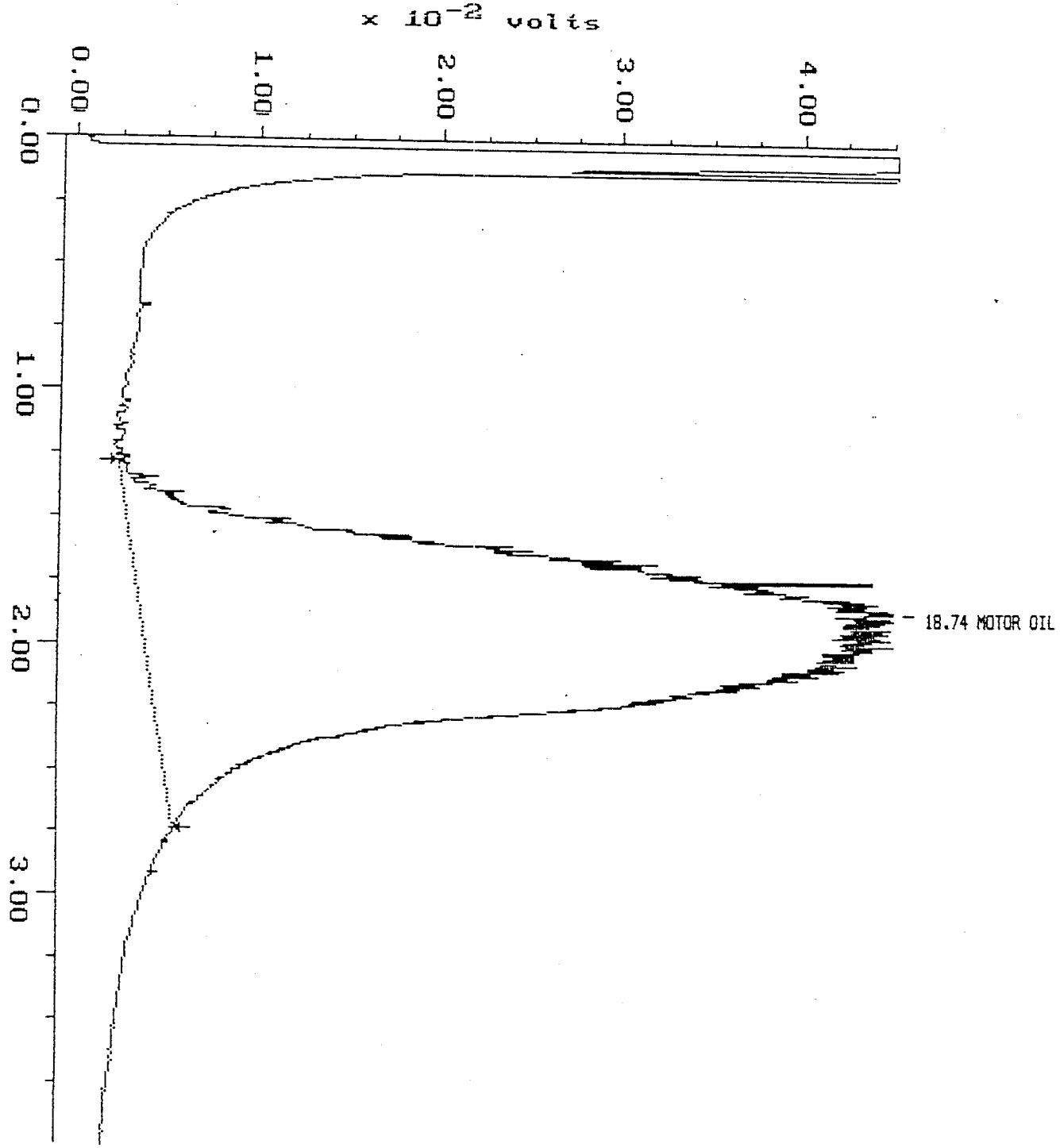
Filename: CA111345
Operator:



Sample: 500PPM OIL
Acquired: 15-NOV-94 15:43
Dilution: 1 : 100.000

Channel: FID 1 INST CA
Method: C:\MAX\DATA3A\DIE2
Amount: 500.000

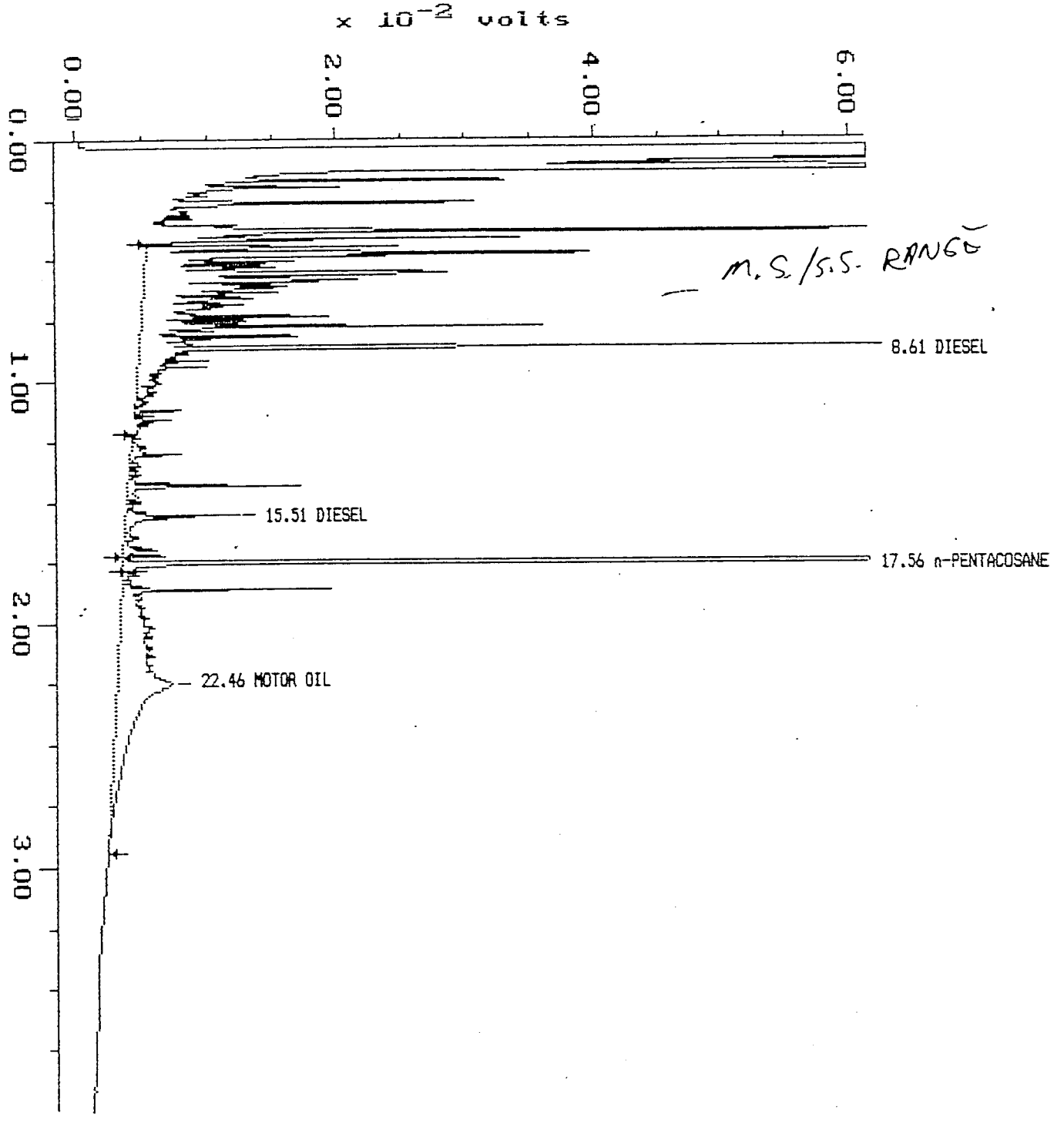
Filename: CA111344
Operator:



Sample: 11123-38 (58)
Acquired: 15-NOV-94 18:35
Dilution: 1 : 2.000

Channel: FID 1 INST CA
Method: C:\MAX\DATA3A\DIE2
Amount: 1002.000

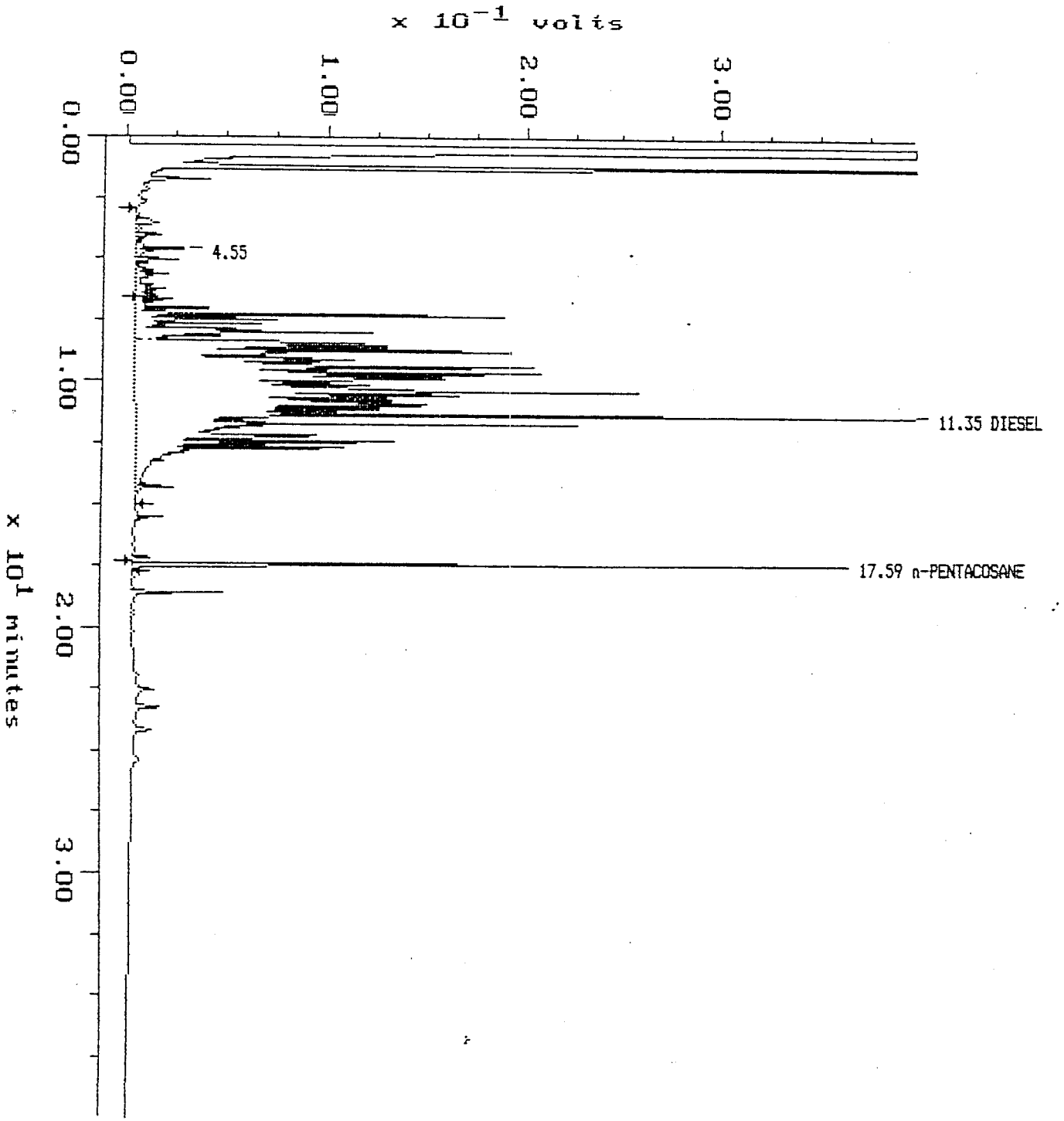
Filename: CA111346
Operator:



Samole: 11123-4D
Acquired: 15-NOV-94 19:32
Dilution: 1 : 2.000

Channel: FID 1 INST CA
Method: C:\MAX\DATA3A\DIE2
Amount: 941.000

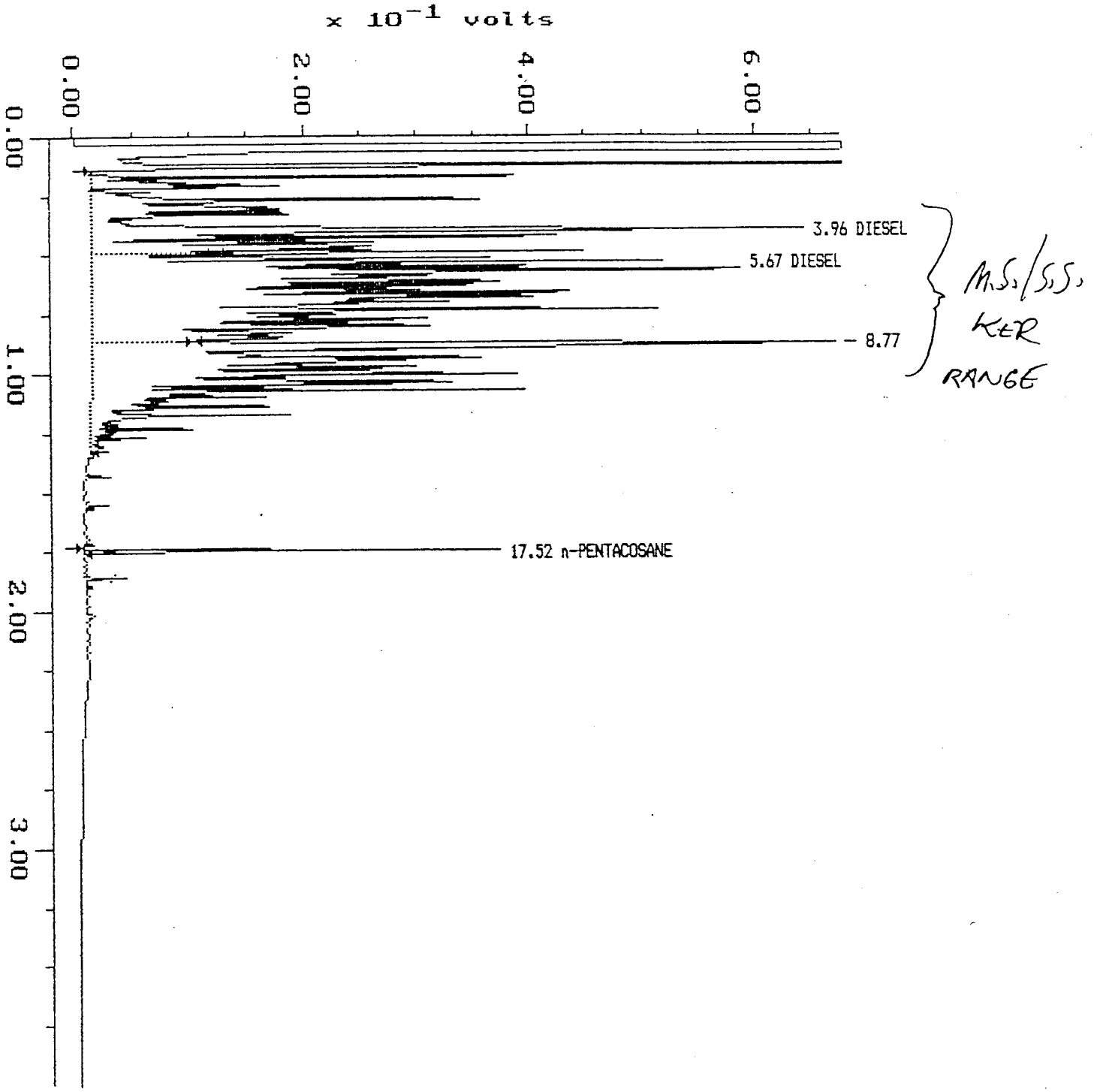
Filename: CA111347
Operator:



Sample: 11123-5D
Acquired: CLOCK NOT SET
Dilution: 1 : 2.000

Channel: FID 1 INST CA
Method: C:\MAX\DATA3A\DIE2
Amount: 932.000

Filename: CA111348
Operator:



R-5,S-0

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

9411123

Project No.: 3230.94 | Field Logbook No.: | Date: 11/8/94 | Serial No.: № 013250

Project Name: Safeway WIRET | Project Location: Oakland

Sampler (Signature): [signature]

Samplers: RWB

SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	5520 / EPA 8015	8270 EPA 624	TPPH*	TEPH**	8010	8020	HOLD	RUSH	REMARKS
B-55	11/8/94	11:20	01A-H	8	H2O			X	X		~~X~~ RB			* as gas (BTEX)
B-54	↓	10:30	02A-K	11	↓			X	X	X	*			** as mineral spirits + Stoddard solvent
B-56		12:10	03A-P	16		X	X	X	X	X	*			
B-57		4:00	04A-E	5				X	X					
B-58	↓	2:30	05A-E	5	↓			X	X					Results to Rick Hirsch
B-54-8		10:05	06A	1	Soil							X		
B-55-9		11:07	07A	1	↓							X		11-14-94 Per Rick Hirsch -
B-56-9		11:34	08A	1								X		cancel 8020 on B-55. RB
B-56-11.5		12:09	09A	1				*	*			~~X~~ DSH		
B-57-9		2:46	10A	1								X		
B-58-11	↓	1:42	11A	1	↓							X		labeled B-58-11 gsr
B-58-24		2:09	12A									*		rec'd but not listed gsr
														*Changed (additional)
														analysis per Rick Hirsch
														11/16/94 - DSH

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
[signature]	11/8/94	4:30	Michael E. McMullen	11/9/94	11:30
Michael E. McMullen	11/9/94	12:10	Gina Gillespie	11-9-94	1210

METHOD OF SHIPMENT: | DATE | TIME | LAB COMMENTS:

Sample Collector: LEVINE-FRICKE
1900 Powell Street, 12th Floor
Emeryville, California 94608
(510) 652-4500

Analytical Laboratory: AEN

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

FORM NO. 86/COC/ARF

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

LEVINE-FRICKE
1900 POWELL ST. 12TH FL.
EMERYVILLE, CA 94608

ATTN: RICK HIRSCH
CLIENT PROJ. ID: 3230.94
CLIENT PROJ. NAME: SAFEWAY WIRET
C.O.C. NUMBER: 013183,013180,12047,013179

REPORT DATE: 12/06/94

DATE(S) SAMPLED: 11/09/94-11/10/94

DATE RECEIVED: 11/11/94

AEN WORK ORDER: 9411160

PROJECT SUMMARY:

On November 11, 1994, this laboratory received 35 soil sample(s).

On November 16, 1994, client requested 20 samples be analyzed for organic parameters. Results of analysis are summarized on the following pages. Chromatograms are included.

Please see quality control report for a summary of QC data pertaining to this project.

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

Larry Klein
Laboratory Director

LEVINE-FRICKE

SAMPLE ID: B-32-2
AEN LAB NO: 9411160-01
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/10/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	11/18/94
Toluene	108-88-3	ND	5	ug/kg	11/18/94
Ethylbenzene	100-41-4	ND	5	ug/kg	11/18/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	11/18/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.2	mg/kg	11/18/94
#Extraction for TPH	EPA 3550	-		Extrn Date	11/23/94
TPH as Mineral Spirits	GC-FID	ND	1	mg/kg	11/30/94
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	11/28/94
#Soil Extrn for O&G (GR)	SM 5520E	-		Extrn Date	11/28/94
Hydrocarbons (Gravimetric)	SM 5520EF	46 *	30	mg/kg	11/28/94
Oil & Grease (Gravimetric)	SM 5520E	53 *	30	mg/kg	11/28/94
TPH as Stoddard Solvent	GC-FID	-	1	mg/kg	11/30/94
EPA 8010 - Soil matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	5	ug/kg	11/22/94
Bromoform	75-25-2	ND	5	ug/kg	11/22/94
Bromomethane	74-83-9	ND	5	ug/kg	11/22/94
Carbon Tetrachloride	56-23-5	ND	5	ug/kg	11/22/94
Chlorobenzene	108-90-7	ND	5	ug/kg	11/22/94
Chloroethane	75-00-3	ND	5	ug/kg	11/22/94
2-Chloroethyl Vinyl Ether	110-75-8	ND	5	ug/kg	11/22/94
Chloroform	67-66-3	ND	5	ug/kg	11/22/94
Chloromethane	74-87-3	ND	5	ug/kg	11/22/94
Dibromochloromethane	124-48-1	ND	5	ug/kg	11/22/94
1,2-Dichlorobenzene	95-50-1	ND	5	ug/kg	11/22/94
1,3-Dichlorobenzene	541-73-1	ND	5	ug/kg	11/22/94
1,4-Dichlorobenzene	106-46-7	ND	5	ug/kg	11/22/94
Dichlorodifluoromethane	75-71-8	ND	5	ug/kg	11/22/94
1,1-Dichloroethane	75-34-3	ND	5	ug/kg	11/22/94
1,2-Dichloroethane	107-06-2	ND	5	ug/kg	11/22/94
1,1-Dichloroethene	75-35-4	ND	5	ug/kg	11/22/94
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/kg	11/22/94
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/kg	11/22/94
1,2-Dichloropropane	78-87-5	ND	5	ug/kg	11/22/94

LEVINE-FRICKE

SAMPLE ID: B-32-2
AEN LAB NO: 9411160-01
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/10/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/kg	11/22/94
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/kg	11/22/94
Methylene Chloride	75-09-2	ND	5	ug/kg	11/22/94
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/kg	11/22/94
Tetrachloroethene	127-18-4	ND	5	ug/kg	11/22/94
1,1,1-Trichloroethane	71-55-6	ND	5	ug/kg	11/22/94
1,1,2-Trichloroethane	79-00-5	ND	5	ug/kg	11/22/94
Trichloroethene	79-01-6	ND	5	ug/kg	11/22/94
Trichlorofluoromethane	75-69-4	ND	5	ug/kg	11/22/94
1,1,2Trichlorotrifluoroethane	76-13-1	ND	5	ug/kg	11/22/94
Vinyl Chloride	75-01-4	ND	5	ug/kg	11/22/94
EPA 8020 - Soil matrix	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	11/22/94
Chlorobenzene	108-90-7	ND	5	ug/kg	11/22/94
1,2-Dichlorobenzene	95-50-1	ND	5	ug/kg	11/22/94
1,3-Dichlorobenzene	541-73-1	ND	5	ug/kg	11/22/94
1,4-Dichlorobenzene	10-46-7	ND	5	ug/kg	11/22/94
Ethylbenzene	100-41-4	ND	5	ug/kg	11/22/94
Toluene	108-88-3	ND	5	ug/kg	11/22/94
Xylenes, total	1330-20-7	ND	20	ug/kg	11/22/94

Please see page 27 for comments regarding this sample.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-32-5
AEN LAB NO: 9411160-02
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/10/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	11/18/94
Toluene	108-88-3	ND	5	ug/kg	11/18/94
Ethylbenzene	100-41-4	ND	5	ug/kg	11/18/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	11/18/94
Purgeable HCs as Gasoline	5030/GCFID	0.3 *	0.2	mg/kg	11/18/94
#Extraction for TPH	EPA 3550	-		Extrn Date	11/28/94
TPH as Mineral Spirits	GC-FID	ND	1	mg/kg	11/30/94
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	11/28/94
#Soil Extrn for O&G (GR)	SM 5520E	-		Extrn Date	11/28/94
Hydrocarbons (Gravimetric)	SM 5520EF	ND	30	mg/kg	11/28/94
Oil & Grease (Gravimetric)	SM 5520E	ND	30	mg/kg	11/28/94
#Extraction for BNAs	EPA 3550	-		Extrn Date	11/29/94
Semi-Volatile Organics	EPA 8270				
Acenaphthene	83-32-9	ND	330	ug/kg	11/30/94
Acenaphthylene	208-96-8	ND	330	ug/kg	11/30/94
Anthracene	120-12-7	ND	330	ug/kg	11/30/94
Benzidine	92-87-5	ND	1600	ug/kg	11/30/94
Benzoic Acid	65-85-0	ND	1600	ug/kg	11/30/94
Benzo(a)anthracene	56-55-3	ND	330	ug/kg	11/30/94
Benzo(b)fluoranthene	205-99-2	ND	330	ug/kg	11/30/94
Benzo(k)fluoranthene	207-08-9	ND	330	ug/kg	11/30/94
Benzo(g,h,i)perylene	191-24-2	ND	330	ug/kg	11/30/94
Benzo(a)pyrene	50-32-8	ND	330	ug/kg	11/30/94
Benzyl Alcohol	100-51-6	ND	660	ug/kg	11/30/94
Bis(2-chloroethoxy)methane	111-91-1	ND	330	ug/kg	11/30/94
Bis(2-choroethyl) Ether	111-44-4	ND	330	ug/kg	11/30/94
Bis(2-chloroisopropyl) Ether	108-60-1	ND	330	ug/kg	11/30/94
Bis(2-ethylhexyl) Phthalate	117-81-7	ND	330	ug/kg	11/30/94
4-Bromophenyl Phenyl Ether	101-55-3	ND	330	ug/kg	11/30/94
Butylbenzyl Phthalate	85-68-7	ND	330	ug/kg	11/30/94
4-Chloroaniline	106-47-8	ND	660	ug/kg	11/30/94
2-Chloronaphthalene	91-58-7	ND	330	ug/kg	11/30/94
4-Chlorophenyl Phenyl Ether	7005-72-3	ND	330	ug/kg	11/30/94

LEVINE-FRICKE

SAMPLE ID: B-32-5
AEN LAB NO: 9411160-02
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/10/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Chrysene	218-01-9	ND	330	ug/kg	11/30/94
Dibenzo(a,h)anthracene	53-70-3	ND	330	ug/kg	11/30/94
Dibenzofuran	132-64-9	ND	330	ug/kg	11/30/94
Di-n-butyl Phthalate	84-74-2	ND	330	ug/kg	11/30/94
1,2-Dichlorobenzene	95-50-1	ND	330	ug/kg	11/30/94
1,3-Dichlorobenzene	541-73-1	ND	330	ug/kg	11/30/94
1,4-Dichlorobenzene	106-46-7	ND	330	ug/kg	11/30/94
3,3'-Dichlorobenzidine	91-94-1	ND	660	ug/kg	11/30/94
Diethyl Phthalate	84-66-2	ND	330	ug/kg	11/30/94
Dimethyl Phthalate	131-11-3	ND	330	ug/kg	11/30/94
2,4-Dinitrotoluene	121-14-2	ND	330	ug/kg	11/30/94
2,6-Dinitrotoluene	606-20-2	ND	330	ug/kg	11/30/94
Di-n-octyl Phthalate	117-84-0	ND	330	ug/kg	11/30/94
1,2-Diphenylhydrazine	122-66-7	ND	330	ug/kg	11/30/94
Fluoranthene	206-44-0	ND	330	ug/kg	11/30/94
Fluorene	86-73-7	ND	330	ug/kg	11/30/94
Hexachlorobenzene	118-74-1	ND	330	ug/kg	11/30/94
Hexachlorobutadiene	87-68-3	ND	330	ug/kg	11/30/94
Hexachlorocyclopentadiene	77-47-4	ND	330	ug/kg	11/30/94
Hexachloroethane	67-72-1	ND	330	ug/kg	11/30/94
Indeno(1,2,3-cd)pyrene	193-39-5	ND	330	ug/kg	11/30/94
Isophorone	78-59-1	ND	330	ug/kg	11/30/94
2-Methylnaphthalene	91-57-6	ND	330	ug/kg	11/30/94
Naphthalene	91-20-3	ND	330	ug/kg	11/30/94
2-Nitroaniline	88-74-4	ND	1600	ug/kg	11/30/94
3-Nitroaniline	99-09-2	ND	1600	ug/kg	11/30/94
4-Nitroaniline	100-01-6	ND	1600	ug/kg	11/30/94
Nitrobenzene	98-95-3	ND	330	ug/kg	11/30/94
N-Nitrosodimethylamine	62-75-9	ND	330	ug/kg	11/30/94
N-Nitrosodiphenylamine	86-30-6	ND	330	ug/kg	11/30/94
N-Nitrosodi-n-propylamine	621-64-7	ND	330	ug/kg	11/30/94
Phenanthrene	85-01-8	ND	330	ug/kg	11/30/94
Pyrene	129-00-0	ND	330	ug/kg	11/30/94
1,2,4-Trichlorobenzene	120-82-1	ND	330	ug/kg	11/30/94
4-Chloro-3-methylphenol	59-50-7	ND	330	ug/kg	11/30/94
2-Chlorophenol	95-57-8	ND	330	ug/kg	11/30/94
2,4-Dichlorophenol	120-83-2	ND	330	ug/kg	11/30/94
2,4-Dimethylphenol	105-67-9	ND	330	ug/kg	11/30/94
4,6-Dinitro-2-methylphenol	534-52-1	ND	1600	ug/kg	11/30/94
2,4-Dinitrophenol	51-28-5	ND	1600	ug/kg	11/30/94
2-Methylphenol	95-48-7	ND	330	ug/kg	11/30/94
4-Methylphenol	106-44-5	ND	330	ug/kg	11/30/94
2-Nitrophenol	88-75-5	ND	330	ug/kg	11/30/94

LEVINE-FRICKE

SAMPLE ID: B-32-5
AEN LAB NO: 9411160-02
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/10/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
4-Nitrophenol	100-02-7	ND	1600	ug/kg	11/30/94
Pentachlorophenol	87-86-5	ND	1600	ug/kg	11/30/94
Phenol	108-95-2	ND	330	ug/kg	11/30/94
2,4,5-Trichlorophenol	95-95-4	ND	330	ug/kg	11/30/94
2,4,6-Trichlorophenol	88-06-2	ND	330	ug/kg	11/30/94
TPH as Stoddard Solvent	GC-FID	-	1	mg/kg	11/30/94
EPA 8010 - Soil matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	5	ug/kg	11/23/94
Bromoform	75-25-2	ND	5	ug/kg	11/23/94
Bromomethane	74-83-9	ND	5	ug/kg	11/23/94
Carbon Tetrachloride	56-23-5	ND	5	ug/kg	11/23/94
Chlorobenzene	108-90-7	ND	5	ug/kg	11/23/94
Chloroethane	75-00-3	ND	5	ug/kg	11/23/94
2-Chloroethyl Vinyl Ether	110-75-8	ND	5	ug/kg	11/23/94
Chloroform	67-66-3	ND	5	ug/kg	11/23/94
Chloromethane	74-87-3	ND	5	ug/kg	11/23/94
Dibromochloromethane	124-48-1	ND	5	ug/kg	11/23/94
1,2-Dichlorobenzene	95-50-1	ND	5	ug/kg	11/23/94
1,3-Dichlorobenzene	541-73-1	ND	5	ug/kg	11/23/94
1,4-Dichlorobenzene	106-46-7	ND	5	ug/kg	11/23/94
Dichlorodifluoromethane	75-71-8	ND	5	ug/kg	11/23/94
1,1-Dichloroethane	75-34-3	ND	5	ug/kg	11/23/94
1,2-Dichloroethane	107-06-2	ND	5	ug/kg	11/23/94
1,1-Dichloroethene	75-35-4	ND	5	ug/kg	11/23/94
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/kg	11/23/94
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/kg	11/23/94
1,2-Dichloropropane	78-87-5	ND	5	ug/kg	11/23/94
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/kg	11/23/94
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/kg	11/23/94
Methylene Chloride	75-09-2	ND	5	ug/kg	11/23/94
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/kg	11/23/94
Tetrachloroethene	127-18-4	ND	5	ug/kg	11/23/94
1,1,1-Trichloroethane	71-55-6	ND	5	ug/kg	11/23/94
1,1,2-Trichloroethane	79-00-5	ND	5	ug/kg	11/23/94
Trichloroethene	79-01-6	ND	5	ug/kg	11/23/94
Trichlorofluoromethane	75-69-4	ND	5	ug/kg	11/23/94
1,1,2Trichlorotrifluoroethane	76-13-1	ND	5	ug/kg	11/23/94
Vinyl Chloride	75-01-4	ND	5	ug/kg	11/23/94
EPA 8020 - Soil matrix	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	11/23/94

LEVINE-FRICKE

SAMPLE ID: B-32-5
AEN LAB NO: 9411160-02
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/10/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Chlorobenzene	108-90-7	ND	5	ug/kg	11/23/94
1,2-Dichlorobenzene	95-50-1	ND	5	ug/kg	11/23/94
1,3-Dichlorobenzene	541-73-1	ND	5	ug/kg	11/23/94
1,4-Dichlorobenzene	10-46-7	ND	5	ug/kg	11/23/94
Ethylbenzene	100-41-4	ND	5	ug/kg	11/23/94
Toluene	108-88-3	ND	5	ug/kg	11/23/94
Xylenes, total	1330-20-7	ND	20	ug/kg	11/23/94

Please see page 27 for comments regarding this sample.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-32-9.5
AEN LAB NO: 9411160-03
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/10/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	11/18/94
Toluene	108-88-3	ND	5	ug/kg	11/18/94
Ethylbenzene	100-41-4	ND	5	ug/kg	11/18/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	11/18/94
Purgeable HCs as Gasoline	5030/GCFID	0.6 *	0.2	mg/kg	11/18/94
#Extraction for TPH	EPA 3550	-		Extrn Date	11/28/94
TPH as Mineral Spirits	GC-FID	ND	1	mg/kg	11/30/94
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	11/28/94
#Soil Extrn for O&G (GR)	SM 5520E	-		Extrn Date	11/28/94
Hydrocarbons (Gravimetric)	SM 5520EF	ND	30	mg/kg	11/28/94
Oil & Grease (Gravimetric)	SM 5520E	ND	30	mg/kg	11/28/94
TPH as Stoddard Solvent	GC-FID	-	1	mg/kg	11/30/94
EPA 8010 - Soil matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	5	ug/kg	11/23/94
Bromoform	75-25-2	ND	5	ug/kg	11/23/94
Bromomethane	74-83-9	ND	5	ug/kg	11/23/94
Carbon Tetrachloride	56-23-5	ND	5	ug/kg	11/23/94
Chlorobenzene	108-90-7	ND	5	ug/kg	11/23/94
Chloroethane	75-00-3	ND	5	ug/kg	11/23/94
2-Chloroethyl Vinyl Ether	110-75-8	ND	5	ug/kg	11/23/94
Chloroform	67-66-3	ND	5	ug/kg	11/23/94
Chloromethane	74-87-3	ND	5	ug/kg	11/23/94
Dibromochloromethane	124-48-1	ND	5	ug/kg	11/23/94
1,2-Dichlorobenzene	95-50-1	ND	5	ug/kg	11/23/94
1,3-Dichlorobenzene	541-73-1	ND	5	ug/kg	11/23/94
1,4-Dichlorobenzene	106-46-7	ND	5	ug/kg	11/23/94
Dichlorodifluoromethane	75-71-8	ND	5	ug/kg	11/23/94
1,1-Dichloroethane	75-34-3	ND	5	ug/kg	11/23/94
1,2-Dichloroethane	107-06-2	ND	5	ug/kg	11/23/94
1,1-Dichloroethene	75-35-4	ND	5	ug/kg	11/23/94
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/kg	11/23/94
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/kg	11/23/94
1,2-Dichloropropane	78-87-5	ND	5	ug/kg	11/23/94

LEVINE-FRICKE

SAMPLE ID: B-32-9.5
AEN LAB NO: 9411160-03
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/10/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/kg	11/23/94
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/kg	11/23/94
Methylene Chloride	75-09-2	ND	5	ug/kg	11/23/94
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/kg	11/23/94
Tetrachloroethene	127-18-4	ND	5	ug/kg	11/23/94
1,1,1-Trichloroethane	71-55-6	ND	5	ug/kg	11/23/94
1,1,2-Trichloroethane	79-00-5	ND	5	ug/kg	11/23/94
Trichloroethene	79-01-6	ND	5	ug/kg	11/23/94
Trichlorofluoromethane	75-69-4	ND	5	ug/kg	11/23/94
1,1,2Trichlorotrifluoroethane	76-13-1	ND	5	ug/kg	11/23/94
Vinyl Chloride	75-01-4	ND	5	ug/kg	11/23/94
EPA 8020 - Soil matrix	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	11/23/94
Chlorobenzene	108-90-7	ND	5	ug/kg	11/23/94
1,2-Dichlorobenzene	95-50-1	ND	5	ug/kg	11/23/94
1,3-Dichlorobenzene	541-73-1	ND	5	ug/kg	11/23/94
1,4-Dichlorobenzene	10-46-7	ND	5	ug/kg	11/23/94
Ethylbenzene	100-41-4	ND	5	ug/kg	11/23/94
Toluene	108-88-3	ND	5	ug/kg	11/23/94
Xylenes, total	1330-20-7	ND	20	ug/kg	11/23/94

Please see page 27 for comments regarding this sample.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-45-6
AEN LAB NO: 9411160-06
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/10/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	100	ug/kg	11/22/94
Toluene	108-88-3	ND	100	ug/kg	11/22/94
Ethylbenzene	100-41-4	ND	100	ug/kg	11/22/94
Xylenes, Total	1330-20-7	150 *	100	ug/kg	11/22/94
Purgeable HCs as Gasoline	5030/GCFID	95 *	5	mg/kg	11/22/94
#Extraction for TPH	EPA 3550	-		Extrn Date	11/23/94
TPH as Mineral Spirits	GC-FID	16 *	1	mg/kg	11/30/94
TPH as Stoddard Solvent	GC-FID	-	1	mg/kg	11/30/94

Reporting limits elevated for gasoline/BTEX due to high levels of target compounds; sample run at dilution. See page 27 for additional comments.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-45-9.5
AEN LAB NO: 9411160-07
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/10/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	300	ug/kg	11/23/94
Toluene	108-88-3	ND	300	ug/kg	11/23/94
Ethylbenzene	100-41-4	ND	300	ug/kg	11/23/94
Xylenes, Total	1330-20-7	980 *	300	ug/kg	11/23/94
Purgeable HCs as Gasoline	5030/GCFID	350 *	10	mg/kg	11/23/94
#Extraction for TPH	EPA 3550	-		Extrn Date	11/23/94
TPH as Mineral Spirits	GC-FID	32 *	1	mg/kg	11/30/94
TPH as Stoddard Solvent	GC-FID	-	1	mg/kg	11/30/94

Reporting limits elevated for gasoline/BTEX due to high levels of target compounds; sample run at dilution. See page 27 for additional comments.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-39-0.5
AEN LAB NO: 9411160-10
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/10/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	11/28/94
#Soil Extrn for O&G (GR)	SM 5520E	-		Extrn Date	11/28/94
Hydrocarbons (Gravimetric)	SM 5520EF	ND	30	mg/kg	11/28/94
Oil & Grease (Gravimetric)	SM 5520E	ND	30	mg/kg	11/28/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-39-1.5
AEN LAB NO: 9411160-11
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/10/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	11/28/94
#Soil Extrn for O&G (GR)	SM 5520E	-		Extrn Date	11/28/94
Hydrocarbons (Gravimetric)	SM 5520EF	ND	30	mg/kg	11/28/94
Oil & Grease (Gravimetric)	SM 5520E	ND	30	mg/kg	11/28/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-39-5.0
AEN LAB NO: 9411160-12
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/10/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	11/28/94
#Soil Extrn for O&G (GR)	SM 5520E	-		Extrn Date	11/28/94
Hydrocarbons (Gravimetric)	SM 5520EF	ND	30	mg/kg	11/28/94
Oil & Grease (Gravimetric)	SM 5520E	ND	30	mg/kg	11/28/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-39-10.0
AEN LAB NO: 9411160-13
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/10/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	12/01/94
#Soil Extrn for O&G (GR)	SM 5520E	-		Extrn Date	12/01/94
Hydrocarbons (Gravimetric)	SM 5520EF	400 *	30	mg/kg	12/02/94
Oil & Grease (Gravimetric)	SM 5520E	470 *	30	mg/kg	12/02/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-40-1
AEN LAB NO: 9411160-15
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/09/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	12/01/94
#Soil Extrn for O&G (GR)	SM 5520E	-		Extrn Date	12/01/94
Hydrocarbons (Gravimetric)	SM 5520EF	ND	30	mg/kg	12/02/94
Oil & Grease (Gravimetric)	SM 5520E	ND	30	mg/kg	12/02/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-40-2
AEN LAB NO: 9411160-16
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/09/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	12/01/94
#Soil Extrn for O&G (GR)	SM 5520E	-		Extrn Date	12/01/94
Hydrocarbons (Gravimetric)	SM 5520EF	ND	30	mg/kg	12/02/94
Oil & Grease (Gravimetric)	SM 5520E	ND	30	mg/kg	12/02/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-40-5
AEN LAB NO: 9411160-17
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/09/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	12/01/94
#Soil Extrn for O&G (GR)	SM 5520E	-		Extrn Date	12/01/94
Hydrocarbons (Gravimetric)	SM 5520EF	ND	30	mg/kg	12/02/94
Oil & Grease (Gravimetric)	SM 5520E	ND	30	mg/kg	12/02/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-40-10
AEN LAB NO: 9411160-18
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/09/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	12/01/94
#Soil Extrn for O&G (GR)	SM 5520E	-		Extrn Date	12/01/94
Hydrocarbons (Gravimetric)	SM 5520EF	ND	30	mg/kg	12/02/94
Oil & Grease (Gravimetric)	SM 5520E	ND	30	mg/kg	12/02/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-38-1
AEN LAB NO: 9411160-21
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/09/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	12/01/94
#Soil Extrn for O&G (GR)	SM 5520E	-		Extrn Date	12/01/94
Hydrocarbons (Gravimetric)	SM 5520EF	ND	30	mg/kg	12/02/94
Oil & Grease (Gravimetric)	SM 5520E	ND	30	mg/kg	12/02/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-38-5
AEN LAB NO: 9411160-22
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/09/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	12/01/94
#Soil Extrn for O&G (GR)	SM 5520E	-		Extrn Date	12/01/94
Hydrocarbons (Gravimetric)	SM 5520EF	ND	30	mg/kg	12/02/94
Oil & Grease (Gravimetric)	SM 5520E	ND	30	mg/kg	12/02/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-38-10
AEN LAB NO: 9411160-23
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/09/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	12/01/94
#Soil Extrn for O&G (GR)	SM 5520E	-		Extrn Date	12/01/94
Hydrocarbons (Gravimetric)	SM 5520EF	ND	30	mg/kg	12/02/94
Oil & Grease (Gravimetric)	SM 5520E	ND	30	mg/kg	12/02/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-34-1
AEN LAB NO: 9411160-29
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/10/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	11/18/94
Toluene	108-88-3	ND	5	ug/kg	11/18/94
Ethylbenzene	100-41-4	ND	5	ug/kg	11/18/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	11/18/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.2	mg/kg	11/18/94
#Extraction for TPH	EPA 3550	-		Extrn Date	11/23/94
TPH as Mineral Spirits	GC-FID	ND	1	mg/kg	11/30/94
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	12/01/94
#Soil Extrn for O&G (GR)	SM 5520E	-		Extrn Date	12/01/94
Hydrocarbons (Gravimetric)	SM 5520EF	40 *	30	mg/kg	12/02/94
Oil & Grease (Gravimetric)	SM 5520E	70 *	30	mg/kg	12/02/94
TPH as Stoddard Solvent	GC-FID	-	1	mg/kg	11/30/94

Please see page 27 for comments regarding this sample.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-34-2
AEN LAB NO: 9411160-30
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/10/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	11/21/94
Toluene	108-88-3	ND	5	ug/kg	11/21/94
Ethylbenzene	100-41-4	ND	5	ug/kg	11/21/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	11/21/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.2	mg/kg	11/21/94
#Extraction for TPH	EPA 3550	-		Extrn Date	11/23/94
TPH as Mineral Spirits	GC-FID	ND	1	mg/kg	11/30/94
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	12/02/94
#Soil Extrn for O&G (GR)	SM 5520E	-		Extrn Date	12/02/94
Hydrocarbons (Gravimetric)	SM 5520EF	ND	30	mg/kg	12/03/94
Oil & Grease (Gravimetric)	SM 5520E	ND	30	mg/kg	12/03/94
TPH as Stoddard Solvent	GC-FID	-	1	mg/kg	11/30/94

Please see page 27 for comments regarding this sample.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-34-5
AEN LAB NO: 9411160-31
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/10/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	11/19/94
Toluene	108-88-3	ND	5	ug/kg	11/19/94
Ethylbenzene	100-41-4	ND	5	ug/kg	11/19/94
Xylenes, Total	1330-20-7	ND	5	ug/kg	11/19/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.2	mg/kg	11/19/94
#Extraction for TPH	EPA 3550	-		Extrn Date	11/23/94
TPH as Mineral Spirits	GC-FID	ND	1	mg/kg	11/30/94
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	12/02/94
#Soil Extrn for O&G (GR)	SM 5520E	-		Extrn Date	12/02/94
Hydrocarbons (Gravimetric)	SM 5520EF	ND	30	mg/kg	12/03/94
Oil & Grease (Gravimetric)	SM 5520E	ND	30	mg/kg	12/03/94
TPH as Stoddard Solvent	GC-FID	-	1	mg/kg	11/30/94

Please see page 27 for comments regarding this sample.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: B-34-10
AEN LAB NO: 9411160-32
AEN WORK ORDER: 9411160
CLIENT PROJ. ID: 3230.94

DATE SAMPLED: 11/10/94
DATE RECEIVED: 11/11/94
REPORT DATE: 12/06/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	300	ug/kg	11/19/94
Toluene	108-88-3	310 *	300	ug/kg	11/19/94
Ethylbenzene	100-41-4	630 *	300	ug/kg	11/19/94
Xylenes, Total	1330-20-7	ND	300	ug/kg	11/19/94
Purgeable HCs as Gasoline	5030/GCFID	170 *	10	mg/kg	11/19/94
#Extraction for TPH	EPA 3550	-		Extrn Date	11/23/94
TPH as Mineral Spirits	GC-FID	82 *	1	mg/kg	11/30/94
#Soil Extrn for HCs (GR)	SM 5520EF	-		Extrn Date	12/02/94
#Soil Extrn for O&G (GR)	SM 5520E	-		Extrn Date	12/02/94
Hydrocarbons (Gravimetric)	SM 5520EF	ND	30	mg/kg	12/03/94
Oil & Grease (Gravimetric)	SM 5520E	ND	30	mg/kg	12/03/94
TPH as Stoddard Solvent	GC-FID	-	1	mg/kg	11/30/94

Reporting limits elevated for gasoline/BTEX due to high levels of target compounds; sample run at dilution. See page 27 for additional comments.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9411160

CLIENT PROJECT ID: 3230.94

Quality Control Summary

Regarding samples 9411160-01, -02, -03, -06, -07, -29, -30, -31, -32: Stoddard Solvent elutes from the gas chromatic column within the retention time envelope of mineral spirits. Stoddard Solvent cannot be detected in the presence of mineral spirits.

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9411160
AEN LAB NO: 1122-BLANK
DATE EXTRACTED: 11/22/94
DATE ANALYZED: 11/24/94

Method Blank

	Result (mg/kg)	Reporting Limit (mg/kg)
Diesel	ND	1

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9411160
DATE EXTRACTED: 11/22/94
INSTRUMENT: C
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
11/30/94	B-32-2	01	71
11/30/94	B-32-5	02	86
11/30/94	B-32-9.5	03	82
11/30/94	B-45-6	06	78
11/30/94	B-45-9.5	07	73
11/30/94	B-34-1	29	72
11/30/94	B-34-2	30	75
11/30/94	B-34-5	31	78
11/30/94	B-34-10	32	70
QC Limits:			45-120

DATE EXTRACTED: 11/23/94
DATE ANALYZED: 11/30/94
SAMPLE SPIKED: LCS
INSTRUMENT: C

Laboratory Control Sample

Analyte	Spike Added (mg/kg)	Average Percent Recovery	QC Limits Percent Recovery
Diesel	40.0	87	53-103

QUALITY CONTROL DATA

AEN JOB NO: 9411160
DATE EXTRACTED: 11/23/94
DATE ANALYZED: 11/26/94
SAMPLE SPIKED: LCS
INSTRUMENT: GRAVIMETRIC
MATRIX: SOIL

Laboratory Control Sample
Method: SM 5520

Analyte	Spike Added (mg/kg)	Percent Recovery	QC Limits Percent Recovery
Oil	3,060	93	90-102

Method Blank Result

Lab Id.	Hydrocarbons (mg/kg)
112394-BLANK	ND
Reporting Limit	10

QUALITY CONTROL DATA

AEN JOB NO: 9411160
AEN LAB NO: 1122-BLANK
DATE ANALYZED: 11/22/94
INSTRUMENT: G

EPA Method 8010
Halogenated Volatile Organics

Analyte	CAS #	Result (ug/kg)	Reporting Limit (ug/kg)
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
Carbon Tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
2-Chloroethyl Vinyl Ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
cis-1,3-Dichloropropene	10061-01-5	ND	5
trans-1,3-Dichloropropene	10061-02-6	ND	5
Methylene Chloride	75-09-2	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Trichlorofluoromethane	75-69-4	ND	5
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	5
Vinyl Chloride	75-01-4	ND	5

QUALITY CONTROL DATA

AEN JOB NO: 9411160
AEN LAB NO: 1123-BLANK
DATE ANALYZED: 11/23/94
INSTRUMENT: G

EPA Method 8010
Halogenated Volatile Organics

Analyte	CAS #	Result (ug/kg)	Reporting Limit (ug/kg)
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
Carbon Tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
2-Chloroethyl Vinyl Ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
cis-1,3-Dichloropropene	10061-01-5	ND	5
trans-1,3-Dichloropropene	10061-02-6	ND	5
Methylene Chloride	75-09-2	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Trichlorofluoromethane	75-69-4	ND	5
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	5
Vinyl Chloride	75-01-4	ND	5

QUALITY CONTROL DATA

AEN JOB NO: 9411160
AEN LAB NO: 1122-BLANK
DATE ANALYZED: 11/22/94
INSTRUMENT: G

EPA Method 8020
Aromatic Volatile Organics

Analyte	CAS #	Result (ug/kg)	Reporting Limit (ug/kg)
Benzene	71-43-2	ND	5
Chlorobenzene	108-90-7	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Ethylbenzene	100-41-4	ND	5
Toluene	108-88-3	ND	5
Xylenes, total	1330-20-7	ND	20

AEN LAB NO: 1123-BLANK
DATE ANALYZED: 11/23/94
INSTRUMENT: G

EPA Method 8020
Aromatic Volatile Organics

Analyte	CAS #	Result (ug/kg)	Reporting Limit (ug/kg)
Benzene	71-43-2	ND	5
Chlorobenzene	108-90-7	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Ethylbenzene	100-41-4	ND	5
Toluene	108-88-3	ND	5
Xylenes, total	1330-20-7	ND	20

QUALITY CONTROL DATA

METHOD: EPA 8010/8020

AEN JOB NO: 9411160
INSTRUMENT: G
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Bromochloro-methane	1-Bromo-3-chloro-propane	1-Chloro-2-fluoro-benzene
11/22/94	B-32-2	01	102	89	86
11/23/94	B-32-5	02	96	68	86
11/23/94	B-32-9.5	03	100	91	91
QC Limits			62-137	53-143	74-116

DATE ANALYZED: 11/22/94
SAMPLE SPIKED: LCS
INSTRUMENT: G

Laboratory Control Sample

Analyte	Spike Added (ug/kg)	Average Percent Recovery	QC Limits Percent Recovery
1,1-Dichloroethene	50	109	60-115
Trichloroethene	50	115	64-137
Benzene	50	93	88-125
Toluene	50	91	87-125
Chlorobenzene	50	93	54-122

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9411160
AEN LAB NO: 1118-BLANK
DATE ANALYZED: 11/18/94
MATRIX: SOIL

Method Blank

	CAS #	Result (ug/kg)	Reporting Limit (ug/kg)
Benzene	71-43-2	ND	5
Toluene	108-88-3	ND	5
Ethylbenzene	100-41-4	ND	5
Xylenes, Total	1330-20-7	ND	5
HCs as Gasoline		ND mg/kg	0.2 mg/kg

AEN LAB NO: 1119-BLANK
DATE ANALYZED: 11/19/94

Method Blank

	CAS #	Result (ug/kg)	Reporting Limit (ug/kg)
Benzene	71-43-2	ND	5
Toluene	108-88-3	ND	5
Ethylbenzene	100-41-4	ND	5
Xylenes, Total	1330-20-7	ND	5
HCs as Gasoline		ND mg/kg	0.2 mg/kg

AEN LAB NO: 1121-BLANK
DATE ANALYZED: 11/21/94

Method Blank

	CAS #	Result (ug/kg)	Reporting Limit (ug/kg)
Benzene	71-43-2	ND	5
Toluene	108-88-3	ND	5
Ethylbenzene	100-41-4	ND	5
Xylenes, Total	1330-20-7	ND	5
HCs as Gasoline		ND mg/kg	0.2 mg/kg

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9411160
AEN LAB NO: 1122-BLANK
DATE ANALYZED: 11/22/94
MATRIX: SOIL

Method Blank

	CAS #	Result (ug/kg)	Reporting Limit (ug/kg)
Benzene	71-43-2	ND	5
Toluene	108-88-3	ND	5
Ethylbenzene	100-41-4	ND	5
Xylenes, Total	1330-20-7	ND	5
HCs as Gasoline		ND mg/kg	0.2 mg/kg

AEN LAB NO: 1123-BLANK
DATE ANALYZED: 11/23/94

Method Blank

	CAS #	Result (ug/kg)	Reporting Limit (ug/kg)
Benzene	71-43-2	ND	5
Toluene	108-88-3	ND	5
Ethylbenzene	100-41-4	ND	5
Xylenes, Total	1330-20-7	ND	5
HCs as Gasoline		ND mg/kg	0.2 mg/kg

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9411160
INSTRUMENT: E
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
11/18/94	B-32-2	01	104
11/18/94	B-32-5	02	99
11/18/94	B-32-9.5	03	97
11/22/94	B-45-6	06	100
11/23/94	B-45-9.5	07	99
11/18/94	B-34-1	29	102
11/21/94	B-34-2	30	103
11/19/94	B-34-5	31	101
11/19/94	B-34-10	32	98
QC Limits:			92-110

DATE ANALYZED: 11/18/94
SAMPLE SPIKED: LCS
INSTRUMENT: E

Laboratory Control Sample

Analyte	Spike Added (ug/kg)	Percent Recovery	QC Limits Percent Recovery
Benzene	35.5	88	63-117
Toluene	95.7	93	67-114
Hydrocarbons as Gasoline	1000	89	63-120

QUALITY CONTROL DATA

AEN JOB NO: 9411160
AEN LAB NO: 1129-BLANK
DATE EXTRACTED: 11/29/94
DATE ANALYZED: 11/30/94
INSTRUMENT: 11
MATRIX: SOIL

Semi-Volatile Organic Compounds
GC/MS Extractables
Method: EPA 8270

Analyte	CAS #	Result (ug/kg)	Reporting Limit (ug/kg)
Acenaphthene	83-32-9	ND	330
Acenaphthylene	208-96-8	ND	330
Anthracene	120-12-7	ND	330
Benzidine	92-87-5	ND	1600
Benzoic Acid	65-85-0	ND	1600
Benzo(a)anthracene	56-55-3	ND	330
Benzo(b)fluoranthene	205-99-2	ND	330
Benzo(k)fluoranthene	207-08-9	ND	330
Benzo(g,h,i)perylene	191-24-2	ND	330
Benzo(a)pyrene	50-32-8	ND	330
Benzyl Alcohol	100-51-6	ND	660
Bis(2-chloroethoxy)methane	111-91-1	ND	330
Bis(2-chloroethyl)ether	111-44-4	ND	330
Bis(2-chloroisopropyl)ether	108-60-1	ND	330
Bis(2-ethylhexyl)phthalate	117-81-7	ND	330
4-Bromophenyl phenyl ether	101-55-3	ND	330
Butylbenzyl phthalate	85-68-7	ND	330
4-Chloroaniline	106-47-8	ND	660
2-Chloronaphthalene	91-58-7	ND	330
4-Chlorophenyl phenylether	7005-72-3	ND	330
Chrysene	218-01-9	ND	330
Dibenzo(a,h)anthracene	53-70-3	ND	330
Dibenzofuran	132-64-9	ND	330
Di-n-butylphthalate	84-74-2	ND	330
1,2-Dichlorobenzene	95-50-1	ND	330
1,3-Dichlorobenzene	541-73-1	ND	330
1,4-Dichlorobenzene	106-46-7	ND	330
3,3'-Dichlorobenzidine	91-94-1	ND	660
Diethylphthalate	84-66-2	ND	330
Dimethylphthalate	131-11-3	ND	330
2,4-Dinitrotoluene	121-14-2	ND	330
2,6-Dinitrotoluene	606-20-2	ND	330
Di-n-octylphthalate	117-84-0	ND	330
1,2-Diphenylhydrazine	122-66-7	ND	330

QUALITY CONTROL DATA

AEN JOB NO: 9411160
AEN LAB NO: 1129-BLANK
DATE EXTRACTED: 11/29/94
DATE ANALYZED: 11/30/94
INSTRUMENT: 11
MATRIX: SOIL

GC/MS Extractables (Cont.)
Method: EPA 8270

Analyte	CAS #	Result (ug/kg)	Reporting Limit (ug/kg)
Fluoranthene	206-44-0	ND	330
Fluorene	86-73-7	ND	330
Hexachlorobenzene	118-74-1	ND	330
Hexachlorobutadiene	87-68-3	ND	330
Hexachlorocyclopentadiene	77-47-4	ND	330
Hexachloroethane	67-72-1	ND	330
Indeno(1,2,3-cd)pyrene	193-39-5	ND	330
Isophorone	78-59-1	ND	330
2-Methylnaphthalene	91-57-6	ND	330
Naphthalene	91-20-3	ND	330
2-Nitroaniline	88-74-4	ND	1600
3-Nitroaniline	99-09-2	ND	1600
4-Nitroaniline	100-01-6	ND	1600
Nitrobenzene	98-95-3	ND	330
N-nitrosodimethylamine	62-75-9	ND	330
N-nitrosodiphenylamine	86-30-6	ND	330
N-nitroso-di-n-propylamine	621-64-7	ND	330
Phenanthrene	85-01-8	ND	330
Pyrene	129-00-0	ND	330
1,2,4-Trichlorobenzene	120-82-1	ND	330
4-Chloro-3-methylphenol	59-50-7	ND	330
2-Chlorophenol	95-57-8	ND	330
2,4-Dichlorophenol	120-83-2	ND	330
2,4-Dimethylphenol	105-67-9	ND	330
4,6-Dinitro-2-methylphenol	534-52-1	ND	1600
2,4-Dinitrophenol	51-28-5	ND	1600
2-Methylphenol	95-48-7	ND	330
4-Methylphenol	106-44-5	ND	330
2-Nitrophenol	88-75-5	ND	330
4-Nitrophenol	100-02-7	ND	1600
Pentachlorophenol	87-86-5	ND	1600
Phenol	108-95-2	ND	330
2,4,5-Trichlorophenol	95-95-4	ND	330
2,4,6-Trichlorophenol	88-06-2	ND	330

QUALITY CONTROL DATA

METHOD: EPA 8270

AEN JOB NO: 9411160
DATE EXTRACTED: 11/29/94
INSTRUMENT: 11
MATRIX: SOIL

Surrogate Standard Recovery Summary

			Percent Recovery					
Date Analyzed	Client Id.	Lab Id.	Nitro-benzene-d_5	2-Fluoro-biphenyl	Terphenyl-d_{14}	Phenol-d_5	2-Fluoro-phenol	2,4,6-Tribromo-phenol
11/30/94	B-32-5	02	89	85	75	101	80	109
QC Limits:			14-133	34-126	39-157	27-134	18-130	50-144

DATE EXTRACTED: 11/28/94
DATE ANALYZED: 11/28/94
SAMPLE SPIKED: 9411276-11
INSTRUMENT: 11

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Phenol	3330	82	13	39-102	36
2-Chlorophenol	3330	107	4	20-123	37
1,4-Dichlorobenzene	3400	75	10	20-108	14
N-Nitroso-di-n-propylamine	3320	81	4	0-156	41
1,2,4-Trichlorobenzene	3330	75	4	31-101	33
4-Chloro-3-methylphenol	3270	86	15	37-136	38
Acenaphthene	3330	105	<1	48-115	18
4-Nitrophenol	3300	105	7	18-131	35
2,4-Dinitrotoluene	3330	77	8	34-101	33
Pentachlorophenol	3380	77	28	0-140	30
Pyrene	3320	95	<1	26-148	24

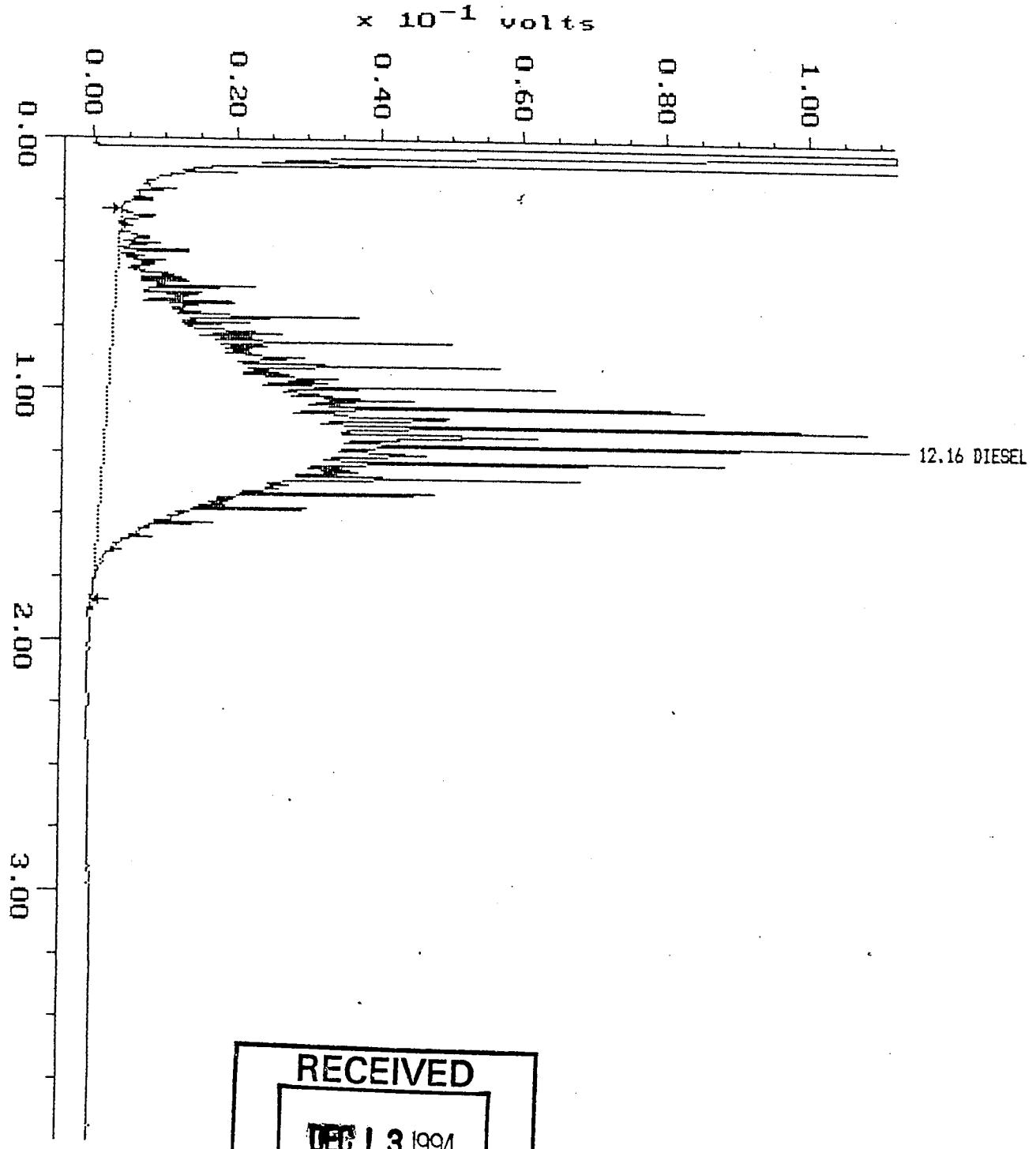
*** END OF REPORT ***

Diesel Standard

Sample: 500PPM DIE
Acquired: 30-NOV-94 20:42
Dilution: 1 : 100.000

Channel: FID-DB5
Method: C:\MAX\DATA4\DIE-D2
Amount: 500.000

Filename: D112923
Operator:

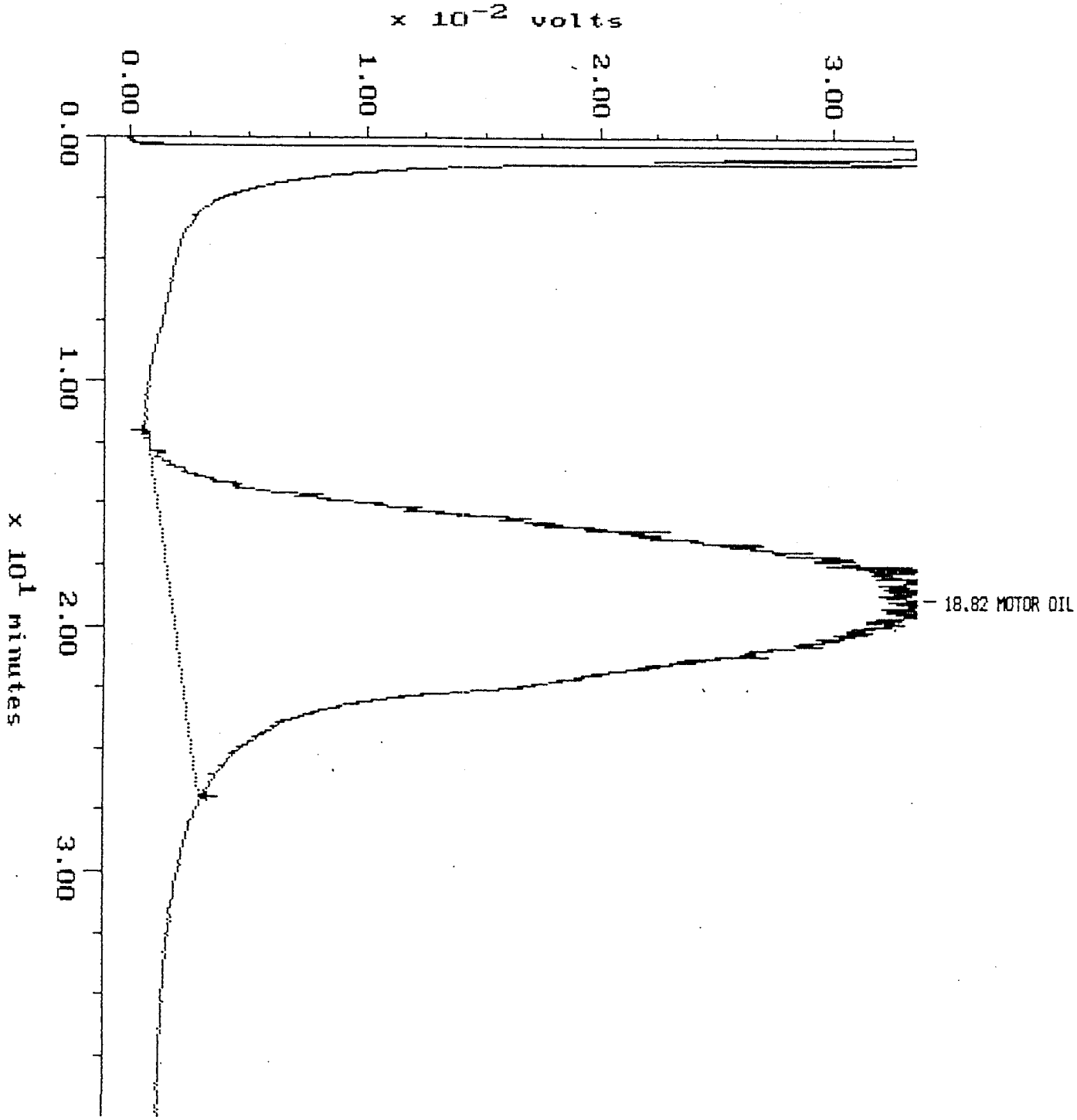


Oil Standard

Sample: 500PPM OIL
Acquired: 30-NOV-94 19:55
Dilution: 1 : 100.000

Channel: FID-DB5
Method: C:\MAX\DATA4\DIE-D2
Amount: 500.000

Filename: D112922
Operator:

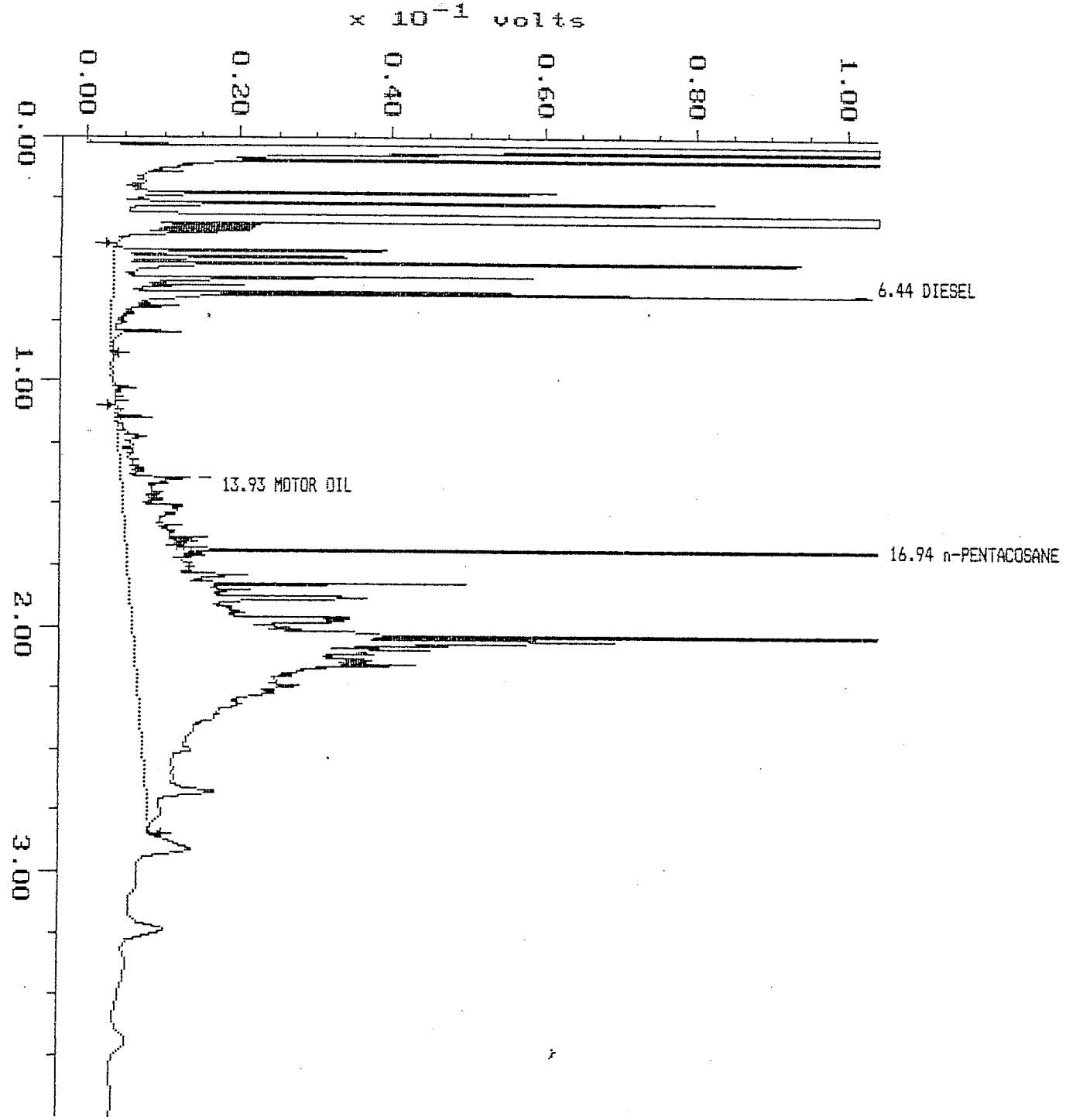


B-32-2

Sample: 11160-1A
Acquired: 30-NOV-94 16:43
Dilution: 1 : 2.000

Channel: FID-DB5
Method: C:\MAX\DATA4\DIE-D2
Amount: 50.000

Filename: D112919
Operator:

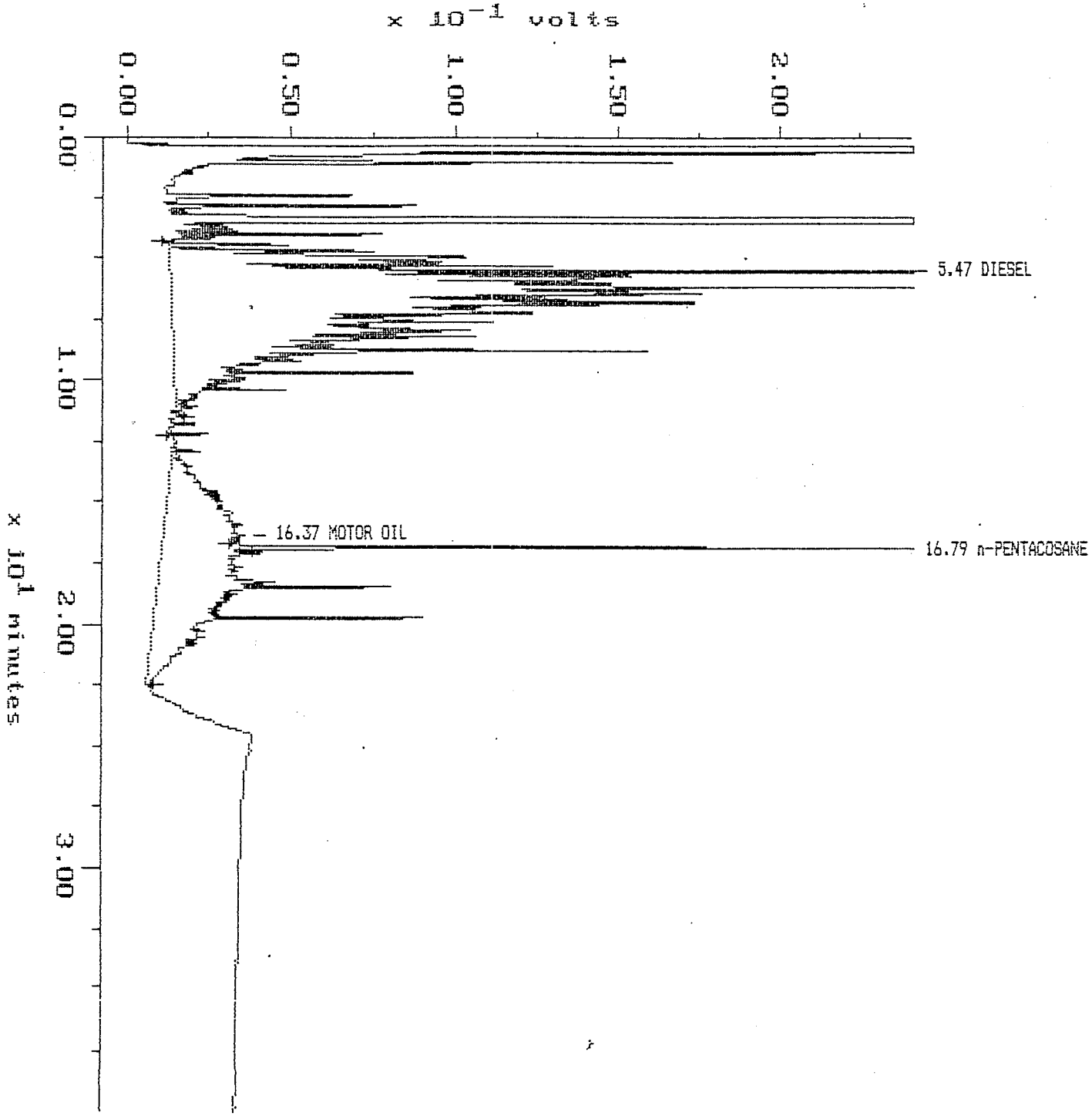


B-45-9.5

Sample: 11160-7A
Acquired: 30-NOV-94 5:33
Dilution: 1 : 2.000

Channel: FID-DB5.
Method: C:\MAX\DATA4\DIE-D2
Amount: 50.000

Filename: D112913
Operator:

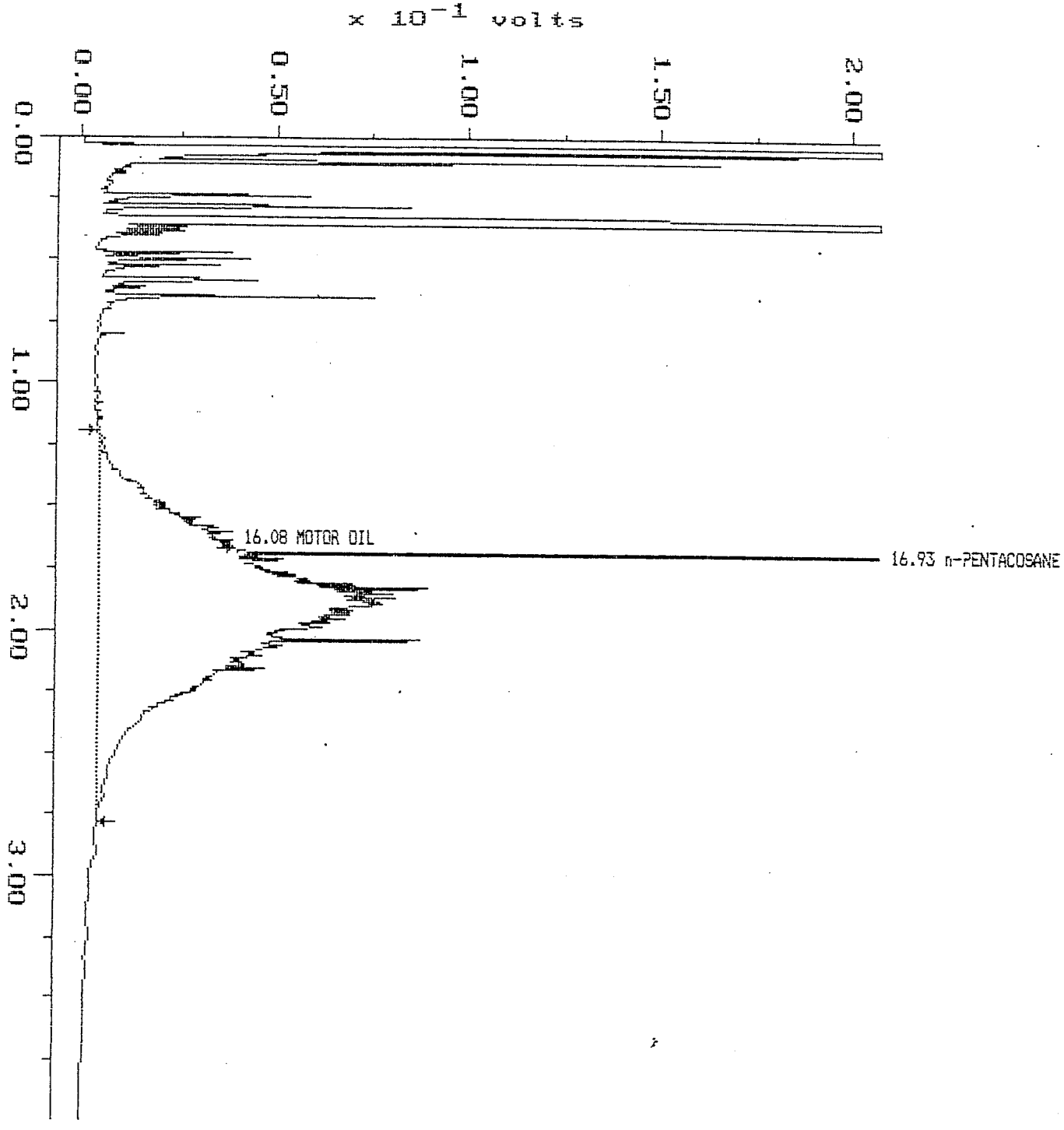


B-34-1

Sample: 11160-29A
Acquired: 30-NOV-94 14:40
Dilution: 1 : 2.000

Channel: FID-DB5
Method: C:\MAX\DATA4\DIE-D2
Amount: 50.000

Filename: D112917
Operator:

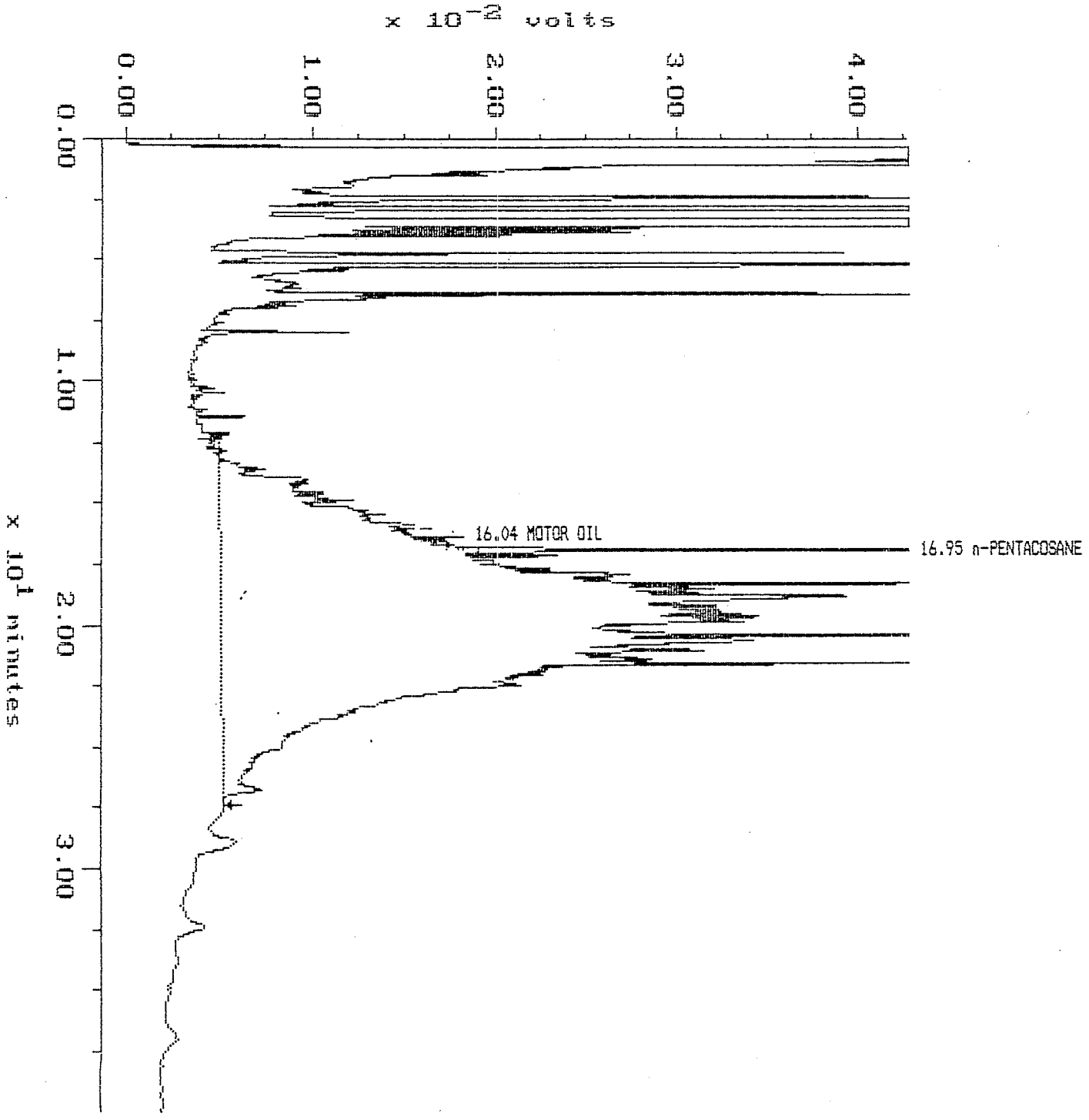


B-34-2

Sample: 11160-30A
Acquired: 30-NOV-94 15:41
Dilution: 1 : 2.000

Channel: FID-DB5
Method: C:\MAX\DATA4\DIE-D2
Amount: 50.000

Filename: D112918
Operator:

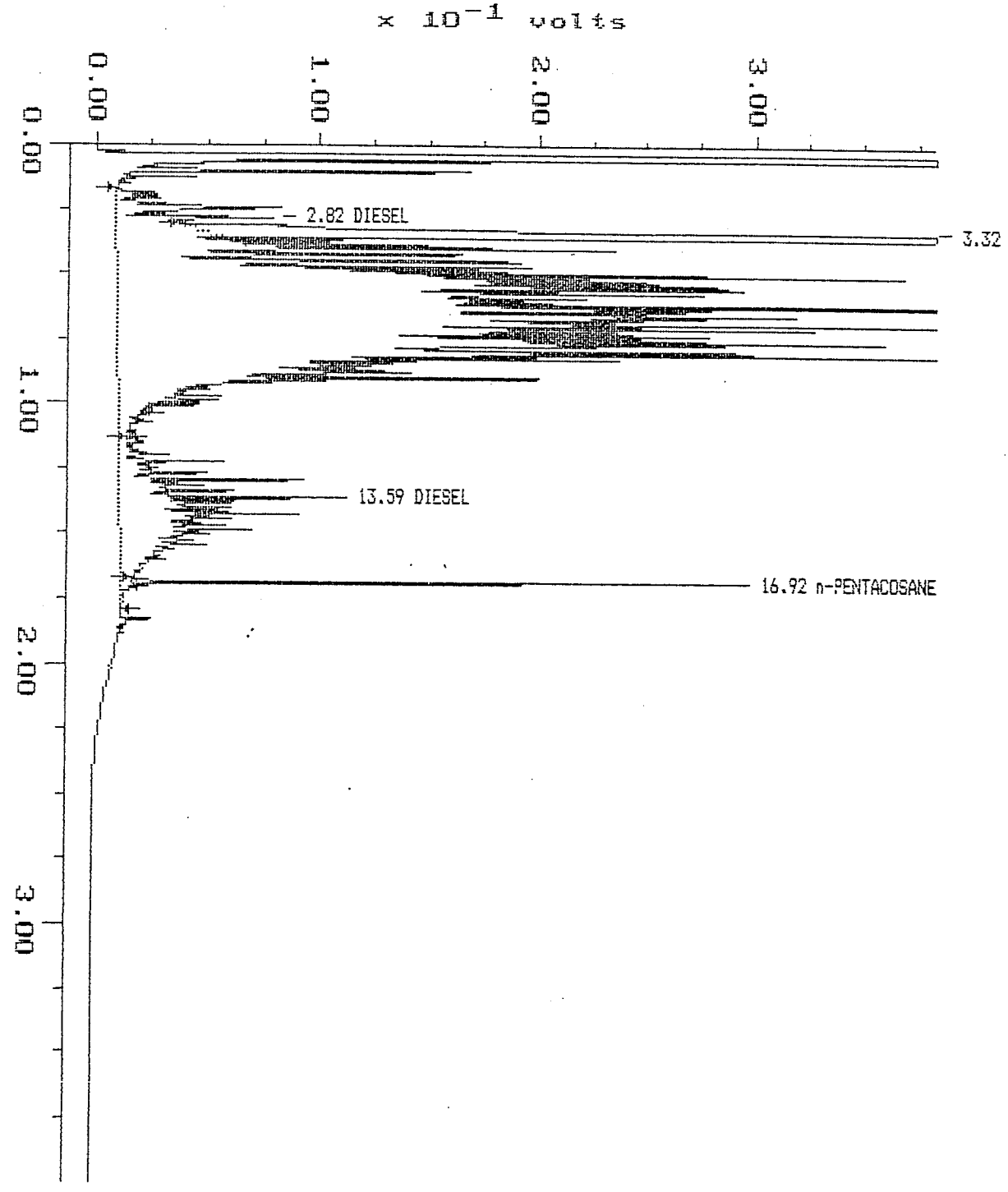


B-34-10

Sample: 11160-32A
Acquired: 30-NOV-94 13:38
Dilution: 1 : 2.000

Channel: FID-DB5
Method: C:\MAX\DATA4\DIE-D2
Amount: 50.000

Filename: D112916
Operator:



R-5, S-D

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

9411160

Project No.: 3230.04	Field Logbook No.:	Date: 11/10/94	Serial No.: № 013183
Project Name: Safeway HQ RFI	Project Location: Oakland		
Sampler (Signature): [signature]			Samplers: RWB

SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601/8010/8020	EPA 624	5520EF	TPH gas/BTEX	TPH as/MS/SS	8270	HOLD	RUSH	REMARKS
B-32-2	11/10/94	2:15	01A	1	Soil	*		*	*	*		X		Results to Rick Hirsch
B-32-5	11/10/94	252	02A			*		*	*	*	*			Call Rick for which
B-32-9.5		259	03A			*		*	*	*				samples to analyze and
B-32-15		314	04A									*		for what
B-32-20		319	05A									*		
B-45-6		410	06A						*	*				
B-45-9.5		416	07A						*	*				
B-45-15		420	08A									*		* Changes to analysis per
B-45-21	↓	430	09A	↓	↓							*		Rick Hirsch 11/16 -DSH

RELINQUISHED BY: (Signature) [signature]	DATE 11/10/94	TIME 5:00	RECEIVED BY: (Signature) [signature]	DATE 11-11-94	TIME 11:15
RELINQUISHED BY: (Signature) [signature]	DATE 11-11-94	TIME 12:30	RECEIVED BY: (Signature) Anna Gillespie	DATE 11-11-94	TIME 1230
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, California 94608
(510) 652-4500

Analytical Laboratory: ACL

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

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

9411160

Project No.: WIRET - 3230.94	Field Logbook No.:	Date: 11/10/94	Serial No.: № 013180
Project Name: WIRET - 2240 Filbert St	Project Location: Oakland		
Sampler (Signature):			Samplers: RJH

SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	TPHg/BTEX	TPH MS/SS	Std M 5520 B&F	HOLD	RUSH	REMARKS
B-40	11/10/94	7:35am	3VOAs/2-1l	5	water			X	X	X			
B-62	11/10/94	10:00am	3 VOAs/1-1l	4	water			X	X				
B-61	11/10/94	11:50am	3 VOAs/2-1l	5	water			X	X				
B-63	11/10/94	1:25pm	3 VOAs/2-1l	5	water			X	X				9411161
B-34	11/10/94	1:50pm	3VOAs/4-1l	7	water			X	X	X			
B-39	11/10/94	4:20pm	3VOAs/2-1l	5	water			X	X				
													*Changes to analysis per Rick Hirsch 11/16 - DSH
B-39-0.5	11/10/94	1:40pm	10A							*	X		
B-39-1.5		1:42pm	11A							*	X		TPH MS/SS - TPH as Mineral Spirits / Stoddard Solvent
B-39-5.0		1:45pm	12A							*	X		
B-39-10.0		1:50pm	13A							*	X		
B-39-15.0	▽	2:07pm	14A								X		

RELINQUISHED BY: (Signature)	DATE 11/10/94	TIME 5:15PM	RECEIVED BY: (Signature)	DATE 11-11-94	TIME 11:15
RELINQUISHED BY: (Signature)	DATE 11-11-94	TIME 12:30	RECEIVED BY: (Signature) Anna Gillespie	DATE 11-11-94	TIME 1230
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, California 94608
(510) 652-4500

Analytical Laboratory:

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

FORM NO. 86/COC/ARF

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

9411160

Project No.: 3230.94	Field Logbook No.:	Date: 11/10/94	Serial No.:
Project Name: Safeway WTBET	Project Location: Oakland		No. 12047
Sampler (Signature):			Samplers:

SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	TPH BTEX	TEPH	5520 B&F	HOLD	RUSH	REMARKS
B-59	11/9/94	10:50		4	H_2O			X	X	~~X~~			TEPH as Mineralspirits and Stoddard solvent
B-60	11/9/94	11:45	9411161	4	↓			X	X				
B-38	11/9/94	3:40		~~6~~	↓			X	X	X			Call Rick Hirsch about what soils to analyze and for what.
~~B-50~~	11/9/94	~~11:50~~		1	Soil						X		
B-40-1		12:30	15A							*			
B-40-2		12:35	16A							*			
B-40-5		12:40	17A							*			*Changes to analysis per Rick Hirsch 11/16 -DSH
B-40-10		12:50	18A							*			
B-40-15		12:55	19A								*		
B-40-20		1:00	20A								*		
B-38-1		2:04	21A							*			
B-38-5		2:06	22A							*			
B-38-10		2:14	23A							*			
B-38-15		2:42	24A								*		
B-38-20		2:50	25A								*		
B-38-25	↓	3:00	26A	↓	↓						~~*~~		

RELINQUISHED BY: (Signature)	DATE 11/10/94	TIME 10:00	RECEIVED BY: (Signature)	DATE 11-11-94	TIME 11:15
RELINQUISHED BY: (Signature)	DATE 11-11-94	TIME 12:30	RECEIVED BY: (Signature)	DATE 11-11-94	TIME 1230
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, California 94608
(510) 652-4500

Analytical Laboratory: AEN

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

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

9411160

Project No.: 3230.94	Field Logbook No.:	Date: 11/10/94	Serial No.: № 013179
Project Name: Safeway WIRET	Project Location: Oakland		
Sampler (Signature): [signature]			Samplers: [signature]

SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	TPH gas/BTEX	TPH as MS/SS	5520EF	HOLD	RUSH	REMARKS
B-59-7	11/9/94	9:31	27A	1	Soil						X		
B-60-9	11/9/94	11:26	28A	1	Soil						X		Results to Rick Hirsch
B-34-1	11/10/94	10:42	29A					*	*	*	X		Call Rick about what soils
B-34-2		10:44	30A					*	*	*	X		to analyze and for what
B-34-5		10:52	31A					*	*	*	X		
B-34-10		10:55	32A					*	*	*	X		*Changes to analysis per
B-34-15		11:13	33A								X		Rick Hirsch 11/16/94 - DSH
B-34-20		11:24	34A								X		
B-34-25	↓	11:38	35A	↓	↓						X		

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
[signature]	11/10/94	10:00	[signature]	11-11-94	11:15
[signature]	11-11-94	12:30	[signature]	11-11-94	1:30
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, California 94608
(510) 652-4500

Analytical Laboratory:
AEN

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

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 1113

LEVINE-FRICKE
1900 POWELL ST. 12TH FL.
EMERYVILLE, CA 94608

ATTN: RICK HIRSCH
CLIENT PROJ. ID: 3230.94
CLIENT PROJ. NAME: SAFEWAY-WIRET
C.O.C. NUMBER: 12047,013180

REPORT DATE: 12/08/94
DATE(S) SAMPLED: 11/09/94-11/10/94
DATE RECEIVED: 11/11/94
AEN WORK ORDER: 9411161

PROJECT SUMMARY:

On November 11, 1994, this laboratory received 9 water sample(s).

Client requested sample(s) be analyzed for organic parameters. Results of analysis are summarized on the following page(s).

Please see quality control report for a summary of QC data pertaining to this project.

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

Larry Klein
Laboratory Director

RECEIVED
DEC 13
LEVINE-FRICKE

Revision of report dated 11/28/94.