

**SUBSURFACE INVESTIGATION OF BURIED FILL DEPOSIT  
ALTAMONT RACEWAY PARK  
17001 MIDWAY ROAD  
TRACY, ALAMEDA COUNTY, CA 95376**

Prepared For:

**ALTAMONT RACEWAY PARK, INC.  
17001 Midway Road  
Tracy, CA 95376**

Prepared By:

**LEE INCORPORATED  
1153 Bordeaux Drive, Suite 103  
Sunnyvale, CA 94089**

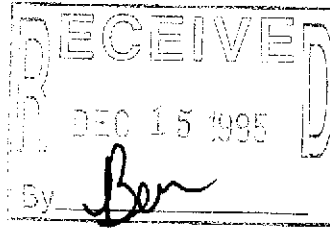
**LEE Project 1053  
December 8, 1995**

# LEE Incorporated

1153 Bordeaux Drive, Suite 103, Sunnyvale, California 94089

Phone: (408) 734-2556 Fax: (408) 734-9020

Mr. James Baum  
Altamont Raceway Park, Inc.  
17001 Midway Road  
Tracy, CA 95376



December 8, 1995

**Subject: Report on Subsurface Investigation of Buried Fill Deposit,  
Altamont Raceway Park, 17001 Midway Road, Tracy, Alameda County, CA**

Dear Mr. Baum:

Please find attached our report on the exploratory borings recently completed at the subject site. A copy of this report should be submitted to the lead regulatory agency, Alameda County Environmental Health, for their review and evaluation. Let me know and I will go ahead and mail a copy of the report to the County.

If you have questions, please call me at 415-802-8358 or page me at 408-951-0204. Thank you.

Sincerely Yours,  
*LEE INCORPORATED*

A handwritten signature in cursive script, appearing to read "Paul Studemeister".

Paul Studemeister, CEG 1746  
Project Manager

Attachment: Subsurface Investigation Report

cc: 1 copy: Addressee  
1 copy: Mr. Bob Miller, General Manager, Altamont Raceway Park, Inc.

TABLE OF CONTENTS

	Page
INTRODUCTION	1
SCOPE OF WORK	1
SITE AND VICINITY DESCRIPTION	
Study Area Description	2
Regional Geology	2
Regional Hydrogeology	3
EXPLORATORY BORINGS: METHODS AND PROCEDURES	3
Workplan	3
Drilling	4
Fill and Soil Sampling	4
Perched Groundwater Sampling	5
Sample Selection	5
LABORATORY ANALYSES	6
INVESTIGATION RESULTS	8
Study Area Lithology and Hydrogeology	8
Analytical Results of Fill Samples	8
Analytical Results of Perched Groundwater Sample	9
Analytical Results of Native Soils	10
FINDINGS AND CONCLUSIONS	10
General Statement	10
Fill Deposit	10
Native Soils Below Fill Deposit	11
RECOMMENDATIONS	12
LIMITATIONS	12

Altamont Raceway Project 1053

PLATES AND TABLES:

Plate 1. Project Site Vicinity Map

Plate 2. Site Map

Plate 3. Study Area Map

Plate 4. Geological Cross-Section A-A'

Plate 5. Geological Cross-Section B-B'

Table 1. Laboratory Analyses Results of Soil and Fill Samples From February and March 1995  
Sampling Events

Table 2. Laboratory Analyses Results of Soil and Fill Samples From October 1995 Sampling Event

APPENDICES:

Appendix A. County Environmental Health Workplan

Appendix B. Logs of Borings

Appendix C. Laboratory Analyses Results and Chain of Custody Records

**SUBSURFACE INVESTIGATION OF BURIED FILL DEPOSIT  
ALTAMONT RACEWAY PARK  
17001 Midway Road, Tracy, Alameda County, CA 95376**

**INTRODUCTION**

LEE Incorporated (LEE) was retained by Altamont Raceway Park, Inc, (Altamont Raceway) to conduct an environmental investigation of a buried fill deposit at the Altamont Raceway Park. The subject site is located at 17001 Midway Road in an unincorporated rural area of Alameda County, approximately 8 miles west of Tracy, California. The attached Plate 1, "Project Site Vicinity Map," shows the location of the 82 acre property.

In February and March 1995, LEE dug exploratory trenches in the study area to evaluate the nature of the fill deposit and collect samples for laboratory analyses. The results of this baseline investigation were discussed with the lead regulatory agency, Department of Environmental Health, Alameda County Health Agency (County Environmental Health). From these discussions, a workplan for further subsurface investigation was developed in order for County Environmental Health to evaluate the need for future course of action. The workplan called for the drilling and sampling of exploratory borings, and laboratory analyses of fill and soils samples for target hydrocarbons naphthalene, benzopyrene, benzene, toluene, ethylbenzene and xylenes. The workplan was implemented in October 1995 and this report presents the activities and results of the investigation.

**SCOPE OF WORK**

The scope of work was as follows:

- Drilling and logging of 6 exploratory borings;
- Sampling of soils, fill, and perched groundwater from the exploratory borings;
- Laboratory analyses of selected samples for petroleum and polynuclear hydrocarbons, in particular, for naphthalene, benzopyrene, benzene, toluene, ethylbenzene and xylenes;
- Evaluation of the field and analytical data, and preparation of this technical report.

## SITE AND VICINITY DESCRIPTION

### Study Area Description

The Altamont Raceway Park Site is located south of the interchange between Highways 580 and 205 in unincorporated Alameda County, approximately 8 miles west of Tracy, California. The attached Plate 2, "Site Map," is a plan view of the subject site. The topography can be described as rolling hillsides covered with grasses and weeds. A paved roadway extends from Midway Road to a recreational racetrack facility which includes a concession building, spectator stands and a racetrack with three banked raceways of 1/2, 1/4 and 1/16 mile, respectively. Built in the 1960's, the racetrack occupies a natural bowl in the surface topography. Site description details are presented in "Environmental Site Assessment, Altamont Speedway Site," by The Bentley Company, dated October 28, 1994.

In February and March 1995, LEE conducted a preliminary subsurface investigation of the triangular-shaped area bounded by the south property boundary, paved road leading to the racetrack facility, and the racetrack perimeter fence (Plate 2). This investigation included the excavation and sampling of trenches and pits, and laboratory analyses of fill and soil samples for petroleum hydrocarbons. The investigation outlined a fill deposit, comprised of construction demolition debris, buried below the east portion of the triangular-shaped area. According to Altamont Raceway, in or about 1991, the fill was imported to the subject site and graded with locally derived soils for a parking area. The investigation results were presented in LEE Report 1053, "Report of Soil Sampling at the Altamont Raceway Project," dated April 11, 1995.

### Regional Geology

The Altamont Raceway Site is located in the Altamont Hills, part of the Diablo Range which is a northwest-southeast trending mountain range bounded to the west by the San Francisco Bay Area and to the east by the San Joaquin Valley. This is a sparsely populated unincorporated area of Alameda County characterized by gently to moderately steep rolling hills with intervening valleys and incised drainages or canyons.

The geology of the Altamont Hills is discussed in Bishop (1970). Geological descriptions for two nearby sites, the Altamont Landfill and Former Chevron Service Station Sites, are found in the files at County Environmental Health, Alameda, California. The Altamont Landfill Site is an active landfill disposal facility off Altamont Pass Road, approximately 4 miles northwest of the Altamont Raceway Site. The Former Chevron Service Station Site is located at the intersection of Highway 580 and Grant Line Road, approximately 1.4 miles northwest of the subject site. The ensuing discussion is a summary of pertinent geological features of the Altamont Hills.

The bedrock in the Altamont Hills consists of two geological formations: the Panoche Formation of Cretaceous Age and the Neroly Formation of Miocene Age. The Panoche Formation consists essentially of a lower deep marine shale assemblage and an upper sequence of shallow marine arkosic sandstone, clayey siltstone, claystone and locally conglomerate. The Neroly Formation consists essentially of non-marine sandstone with some conglomerate. The top of the bedrock in the Altamont Hills is generally weathered and overlain by residual soils and deposits of colluvium, alluvial and fluvial sediments including abundant clays, silts and fine grained sands. Landslide deposits occur notably associated with areas underlain by shale or claystone-rich bedrock and with fracture and fault zones. Depth to bedrock ranges to over 75 feet in some places in the Altamont Hills.

### **Regional Hydrogeology**

Information on groundwater conditions in the Altamont Hills can be found in the files at County Environmental Health. Hydrogeological investigations have been conducted at the Altamont Landfill Site off Altamont Pass Road and the Former Chevron Service Station Site at the junction of Highway 580 and Grant Line Road. An examination of the information available indicates depth to groundwater in the Altamont Hills is variable and reflects local geological conditions. In general, however, groundwater is found in the soil and alluvium deposits that fill valleys and basins and also in the weathered and fresh bedrock below. Groundwater flow generally follows the pattern of the surface topography, flowing along the bedrock or weathered bedrock in the surrounding hillsides and into the sediments filling valleys and basins. First groundwater tends to be deeper beneath hills and closer to the surface beneath drainage valleys. Depth to groundwater in the Altamont Hills ranges from less than 5 feet to over 100 feet in some hillside areas. The quality of groundwater in the Altamont Hills is of limited quality due to naturally occurring concentrations of nitrate, magnesium, sodium and bicarbonate.

## **EXPLORATORY BORINGS: METHODS AND PROCEDURES**

### **Workplan**

In June 1995, LEE held discussions with Ms. Madhulla Logan, Hazardous Materials Specialist, County Environmental Health to review the case. A workplan for a subsurface investigation of the study area was developed to assist County Environmental Health in their evaluation of the need for future course of action. The workplan called for the drilling and sampling of exploratory borings, and laboratory analyses of samples for target hydrocarbons naphthalene, benzopyrene, benzene, toluene, ethylbenzene and xylenes. The workplan is presented in Appendix A.

The subsurface investigation was conducted by LEE in October 1995. Prior to the field work, LEE prepared a Health and Safety Plan to address the occupational concerns and safety issues with the field work. Field personnel were briefed on the Health and Safety Plan and a copy was available at the site for reference. LEE scheduled the field work with Ms. Logan to provide her the opportunity to witness the drilling and sampling.

### **Drilling**

On October 4, 1995, HEW Drilling Company, Inc. (HEW: C-57 384167) of East Palo Alto, California drilled exploratory borings under the direction of a LEE Certified Engineering Geologist/Registered Geologist. Following the workplan recommended by County Environmental Health (Appendix A), six exploratory borings were drilled in the study area using a D75 truck mounted drill rig equipped with continuous flight hollow stem augers of 8-inch diameter. The augers and other drilling parts were steam cleaned prior to use.

The attached Plate 3, "Study Area Map," shows the location of the 6 exploratory borings, designated B1 through B6. Borings B1, B2, B5 and B6 were drilled through the main body of the fill deposit to evaluate the nature and collect samples of the fill and underlying native soils. Borings B1, B2 and B5 were each advanced to a depth of approximately 20 feet below ground surface. Since no groundwater was encountered in these borings, Boring B6 was drilled to a maximum depth of 35 feet below ground surface. No groundwater was found in Boring B6.

Borings B3 and B4 were drilled on the graded roadway at the east perimeter of the study area (Plate 3). Boring B3 was advanced to a depth of approximately 20 feet below ground surface and encountered native soils with no fill deposit. Boring B4 was advanced to 10 feet depth inasmuch as the soil lithology resembled that found at Boring B3. Except for a perched groundwater found at the base of the fill deposit at a depth of approximately 11 feet in Boring B2, no groundwater was encountered in the exploratory borings.

### **Fill and Soil Sampling**

Samples were taken at approximately 5 feet depth intervals between ground surface and the bottom of the borings. In addition, surface and near-surface soil materials were sampled and examined. Soil samples were taken using a California modified split-spoon sampler loaded with three sleeves of 2.5-inch diameter and 6-inch length. Sampling consisted of advancing the boring to the point just above the selected sampling depth, sliding the loaded sampler through the hollow stem of the auger flight, and then driving the sampler 18 inches into the soils with a 140 pound hammer dropped repeatedly 30 inches. This sampling procedure is designed to sample relatively undisturbed soils below the base of the borehole.



The sampler was retrieved from the borehole and soil materials were described following the Unified Soil Classification System. Soil materials were examined for possible evidence of petroleum hydrocarbon contaminants in the form of free product, product odor and discoloration. None were observed. For each sampling interval, the geologist selected the middle- or bottom-most soil-packed sleeve for reference and laboratory analyses. Each of these samples was sealed with aluminum foil and plastic end caps, and then labeled and placed in ice storage. A chain of custody was initiated in the field and followed the samples to the state-certified laboratory. Field data are summarized in the attached Logs of Borings, Appendix B.

### **Perched Groundwater Sampling**

During the drilling of Borings B1, B2, B5 and B6, when the drillers reached the bottom of the fill deposit, drilling was temporarily suspended to see if groundwater accumulated in the borehole. Except for Boring B2, no groundwater was found to accumulate in the borings. In Boring B-2, groundwater was observed to slowly seep into the borehole at the level of the base of the fill deposit. The auger flight was raised approximately one foot and the LEE geologist collected a water sample. The sample, designated B2-W, represented perched groundwater at the base of the fill deposit, approximately 11 feet below ground surface.

The sampling procedure took approximately 45 minutes as the water seeped into the borehole cavity slowly. A disposable Teflon bailer was lowered through the hollow stem of the auger flight to retrieve a grab sample of the perched groundwater. Before dewatering, LEE was able to recover enough water to fill four 40-ml volatile organic analyses. The vials were sealed with Telfon lined caps, labeled and placed in iced storage. A chain of custody record was initiated in the field and followed the water sample to the designated state-certified laboratory.

No saturated soil conditions or soil groundwater was found in Borings B1, B2, B3, B4 and B5. Following the workplan (Appendix A), Boring B6 was advanced to a depth of 35 feet and again no soil groundwater was found in this deeper boring. Based on the field data, depth to groundwater in the study area was inferred to be greater than 35 feet.

### **Sample Selection**

The LEE geologist selected a suite of fill and soil samples from Borings B1, B2, B5 and B6 for laboratory analyses. These samples represent the body of the buried fill deposit, the overlying soil cover and the underlying native soils. The selected samples are tabulated in the attached Table 2, "Laboratory Analyses of Soil and Fill Samples From October 1995 Sampling Event."

1300

The following is a description of the selected samples:

- Samples B1-2.5/3 and B2-2.5/3 represent the clayey soils covering the fill deposit. These surface soils are locally derived soils used to grade the area landfilled with imported debris. These clayey soils contain variable amounts of intermixed construction debris, namely fragments of portland cement concrete, asphalt concrete and wood.
- Samples B1-5.5/6, B1-11/11.5, B2-6/6.5, B2-11/11.5, B5-6/6.5, B5-10.5/11, B5-16/16.5, B6-5.5/6 and B6-11/11.5 represent the body of the fill deposit. These samples consisted of construction demolition debris with variable amounts of intermixed clayey soils. The debris consist mainly of angular fragments of portland cement concrete and asphalt concrete, irregular pieces of wood, and crushed rock/sand materials. The proportion of debris to soil constituents, and debris particulate size, increase with depth within the body of the fill deposit. Concrete fragments range up to several feet in diameter.
- Samples B2-W represents perched groundwater at the base of the fill deposit, at a depth of approximately 11 feet in Boring B2.
- Samples B1-15.5/16, B1-21/21.5, B2-16/16.5, B2-20.5/21.5, B5-21/21.5, B6-15.5/16 and B6-26/26.5 represent native silty clay and clayey silt below the fill deposit to a maximum depth of 26 feet below ground surface.

Following drilling and sampling, the boreholes were sealed by HEW with neat cement grout following county borehole sealment practice. Soil cuttings were placed in an enclosure of plastic visqueen in the study area.

#### LABORATORY ANALYSES

The soil and fill samples, and the perched groundwater sample, were submitted with chain of custody documentation to Sequoia Analytical (Sequoia: California Department of Health Services Certificate 1210) of Redwood City, California. The samples were analyzed for total recoverable petroleum hydrocarbons as oil and grease (TRPH with silica gel clean-up) by Environmental Protection Agency (EPA) Method SM 5520E&F Modified; polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8310; and for benzene, toluene, ethylbenzene and xylenes by EPA Method 8020. Perched groundwater Sample B2-W, was analyzed for PAH's by EPA Method 8310 and for benzene, toluene, ethylbenzene and xylenes by EPA Method 8020.

Following receipt of these analytical results, Sequoia was instructed to prepare a composite of Samples B2-11/11.5, B5-10.5/11 and B6-11/11.5. Representing the body of the fill deposit, this composite was analyzed for reactivity, corrosivity (pH) and ignitability (flashpoint) panel as per CA Hazardous Characterization Title 22/EPA Methods. The laboratory also prepared an extract of the composite by the WET Method (Soluble Threshold Limit Concentration, STLC) and analyzed this extract for STLC PAH's by EPA Method 8310; STLC benzene, STLC toluene, STLC ethylbenzene and STLC total xylenes by EPA Method 8020; and STLC CAM 17 Metals (Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Hg, Mo, Ni, Se, Ag, Tl, V and Zn). Similarly, the laboratory prepared an extract by the WET Method of soil Samples B1-15.5/16 and B2-21/21.5 and analyzed each extract for STLC TRPH by EPA Method SM 5520B&F Modified.

Sample B6-11/11.5 and the composite of Samples B2-11/11.5, B5-10.5/11 and B6-11/11.5 were each analyzed for total petroleum hydrocarbons by EPA Method 8015 Modified. Sequoia compared the chromatogram patterns of these two samples with respect to the chromatogram pattern of asphalt concrete samples. This study complimented a similar comparison made in April 1995 by Chromalab, Inc. (Chromalab: CDHSC 1094) of Pleasanton, California. In that comparison, Chromalab compared the total petroleum hydrocarbons chromatogram pattern of fill Sample ST-4A/4B with the chromatogram pattern of Sample SAM-1. Sample SAM-1 represented chunks of asphalt concrete retrieved from the study area. The purpose of these chromatogram comparisons was to collaborate the field and microscopical examinations which suggested asphalt concrete as source of the hydrocarbons detected in the fill samples.

Native soils samples from the study area were submitted for particle size analyses to Soil and Plant Laboratory, Inc. of Santa Clara, California to assist in soil classification. The following soil samples, taken from the Trench T-7 in March 1995, were tested: Sample T7-TSC represented dark brown silty clay from the 0.5 to 3 feet depth interval; Samples T7-MSC represented brown clayey silt with fine sand from the 4.5 to 7.5 feet depth interval; and Sample T7-B represented brown silty clay at approximately 9 feet depth.

The laboratory analyses reports and chain of custody records are in Appendix C.

## INVESTIGATION RESULTS

### Study Area Lithology and Hydrogeology

The fill deposit underlies a graded area measuring approximately 100 feet by 100 feet at the east portion of the triangular shaped area (Plate 3). The fill deposit is approximately 7 feet thick and is overlain by a surface cover of locally derived clayey soils, this cover is approximately 3 to 5 feet thick. The attached Plates 4 and 5, "Geological Cross-Section A-A'" and B-B'" represent subsurface cross-sections through the study area.

The fill deposit consists of construction demolition debris with some intermixed clayey soils, the soils appear to represent locally derived soils. The imported debris include angular fragment of asphalt and portland cement concrete, pieces of wood, crushed rock/sand/gravel, and minor amounts of electrical wiring and pieces of steel and aluminum metal. The proportion of debris to soils constituents in the fill deposit increases with depth, and the bottom portion of the fill deposit consists mainly of coarse fragments of asphalt and portland cement concrete up to several feet in diameter. No underground storage tanks, or pieces thereof, were observed in the trenches and borings excavated into the fill deposit. According to Altamont Raceway representatives, in or about 1991, the fill was imported to the subject site and graded with locally derived soils to create a parking area.

The native soils below the fill deposit to a maximum depth of 35 feet consist stiff to hard, massive silty clay and clay silt with fine grained sand (Appendix B). These fine grained, clay-rich soils showed no overt indication of hydrocarbon contamination. Depth to groundwater is inferred to be greater than 35 feet below the study area.

### Analytical Results of Fill Samples

Laboratory analyses data of fill and soil samples from the study area are presented in the attached Table 1, "Laboratory Analyses Results of Soil and Fill Samples From February and March 1995 Sampling Events," and Table 2, "Laboratory Analyses Results of Soil and Fill Samples From October 1995 Sampling Event." An examination of the data indicates the following:

- Laboratory analyses results indicate no detectable levels of naphthalene, benzopyrene, benzene, toluene, ethylbenzene and xylenes in samples of the surficial clayey soils that cover the fill deposit (Table 2). Laboratory detection limits were reported to be 50 part per billion (ppb) for naphthalene, 4 ppb for benzopyrene and 5.0 ppb for each of benzene, toluene, ethylbenzene and xylenes.

- Except for Samples B5-6/6.5 and B6-5.5/6, laboratory analyses results indicate no detectable levels of naphthalene, benzopyrene, benzene, toluene, ethylbenzene, and xylenes in fill samples (Tables 1 and 2). Traces of xylenes were found in Sample B5-6/6.5 with 8.3 ppb and Samples B6-5.5/6 with 7.0 ppb. These are relatively low levels when compared to the laboratory detection limit of 5 ppb for xylenes.
- The presence of medium to heavy weight petroleum hydrocarbons in the fill samples is indicated by the laboratory data of up to 5,900 part per million (ppm) TRPH. TRPH refers to total petroleum hydrocarbons and likely represents hydrocarbons from particulate asphalt concrete ubiquitous in the fill deposit. There is no evidence in the data for the presence of gasoline or diesel fuel hydrocarbons (Tables 1 and 2). The chromatogram patterns of fill samples collaborate the field and microscopical data and point to the particulate asphalt concrete as the source of the petroleum-based hydrocarbons, TRPH, reported by the laboratories (Appendix C: Sequoia Report 9510958, dated October 27, 1995 and Chromalab Report 9503461, dated April 10, 1995).
- Laboratory analyses results indicate no detectable levels of PAHs in the fill samples except for 55 ppb pyrene in Sample B6-5.5-6 (Table 2). Further analyses of a fill composite by the WET Method indicate no detectable levels of STLC PAHs, except for 39 ppb fluoranthene (Table 2). Pyrene and fluoranthene are classified by EPA as D: "not classified as to human carcinogenicity." These PAHs are characterized by high soil-binding affinity (e.g. high sorption coefficient), low solubility (e.g. low water solubility) and low volatility (e.g. low vapor pressure), features that limit the mobility and health risk of these compounds in the subsurface environment (Calabrese, E. J. and Koestrecki, P. T., 1993; "Principles and Practices For Petroleum Contaminated Soils," Lewis Publishers, Boca Raton, FL, pp 511-527 and pp 812-820).
- Laboratory analyses results of the fill composite indicate no detectable levels of STLC benzene, toluene, ethylbenzene and xylenes (Table 2). The STLC metals meet Title 22 non-hazardous waste criteria for heavy metals.

#### **Analytical Results of Perched Groundwater Sample**

Laboratory analyses results indicate no detectable levels of naphthalene, benzopyrene, benzene, toluene, ethylbenzene and xylenes in the grab sample of perched groundwater retrieved from the base of the fill deposit. Laboratory detection limits are reported to be 13 ppb for naphthalene, 1.3 ppb for benzopyrene, and 0.50 ppb for each of benzene, toluene, ethylbenzene and xylenes. This perched groundwater is considered to represent surface rainfall that has percolated through the buried fill deposit and concentrated along the base of the coarse detritus at the interface with the underlying low permeability silty clays.

### **Analytical Results of Native Soil Samples**

Laboratory analyses results indicate no detectable levels of naphthalene, benzopyrene, benzene, toluene, ethylbenzene and xylenes in native soils sampled below the fill deposit (Table 2). A trace of TRPH was reported in Samples B1-15.5/16 at 15.5 feet depth; however, the STLC TRPH for this sample is non-detectable at the 5.0 ppm detection limit. The possibility of traces of naturally occurring, petroleum-based bituminous organic matter in the native soils cannot be ruled out. In the field, no outward appearance of hydrocarbon contamination was observed in the native soils sampled from the borings. The native soils consist of relatively fine grained, low permeability, massive silty clay and sandy clayey silt.

## **FINDINGS AND CONCLUSIONS**

### **General Statement**

- Based on the investigation results, the perceived threat of the buried fill deposit to water resources and human health is considered to be low. The medium to heavy weight petroleum hydrocarbons reported by the laboratory in the fill samples are attributed to particulate asphalt concrete, a ubiquitous constituent of the fill deposit. No appreciable concentrations of naphthalene, benzopyrene, benzene, toluene, ethylbenzene and xylenes were found in the fill deposit, overlying soil cover, and underlying native soils. The boring data indicate a natural buffer zone, over 20 feet thick, of low permeability clay-rich soils separates the base of the fill deposit from first soil groundwater.

### **Fill Deposit**

- The fill deposit consists of construction demolition debris with angular fragments of asphalt concrete and portland cement concrete, wood pieces, crushed rock/gravel/sand intermixed with clayey soils. The clayey soils intermixed and atop the debris appear to be locally derived soils used to grade the area landfilled with the imported debris. Laboratory analyses results indicate no detectable levels of naphthalene, benzopyrene, benzene, toluene, ethylbenzene and xylenes in samples of the surficial soils.
- The chromatogram patterns indicate the medium to heavy weight hydrocarbons reported by the laboratory in fill samples (up to 5,900 ppm TRPH) represent particulate asphalt concrete ubiquitous in the fill deposit. Laboratory analyses results indicate no detectable levels of naphthalene and benzopyrene in fill samples.

- Except for 8.3 ppb xylenes in Sample B5-6/6.5 and 7.0 ppb xylenes in Sample B6-5.5/6, laboratory analyses results indicate no detectable levels of benzene, toluene, ethylbenzene and xylenes in fill samples. Laboratory analyses results of a fill composite by the WET Method indicate no detectable levels of STLC benzene, toluene, ethylbenzene and xylenes.
- Laboratory analyses results of a grab sample of perched groundwater from the base of the fill deposit indicate no detectable levels of naphthalene, benzopyrene, benzene, toluene, ethylbenzene and xylenes. Laboratory detection limits were reported to be 13 ppb for naphthalene, 1.3 ppb for benzopyrene, and 0.50 ppb for each of benzene, toluene, ethylbenzene and xylenes.
- Laboratory analyses results indicate no detectable levels of PAHs in the fill samples except for 55 ppb pyrene in Sample B6-5.5/6. Furthermore, fluoranthene was detected at 39 ppb (STLC) in the analyses by WET Method of a fill composite. Following features suggest a low health risk for the potential migration and spread of asphalt associated PAHs (e.g. pyrene and fluoranthene) from the fill deposit: 1) depth to groundwater in excess of 35 feet below the study area; 2) a natural buffer zone of low permeability clay-rich soils below and around the fill deposit; and 3) the low volatility, low solubility and high soil-binding affinity of these PAHs.

#### **Native Soils Below Fill Deposit**

- Depth to groundwater is inferred to be greater than 35 feet below the study area.
- The fill deposit is underlain by fine grained clay-rich soils to the maximum depth investigated with borings, 35 feet below ground surface. These fine grained soils consist of stiff to hard, massive silty clay and sandy clayey silt. Soil permeability is inferred to be less than  $10E-5$  to  $10E-6$  cm/sec.
- Laboratory analyses results indicate no detectable levels of naphthalene, benzopyrene, benzene, toluene, ethylbenzene and xylenes in native soils sampled from below the fill deposit. Laboratory detection limits are reported to be 50 ppb for naphthalene, 4 ppb for benzopyrene, and 5 ppb for each of benzene, toluene, ethylbenzene and xylenes.

**RECOMMENDATIONS**

This report should be submitted to the lead regulatory agency for review and evaluation:

Ms. Madhulla Logan  
Hazardous Materials Specialist  
Alameda County Health Agency  
Department of Environmental Health  
1131 Harbor Bay Parkway, 2nd Floor  
Alameda, CA 94502

**LIMITATIONS**

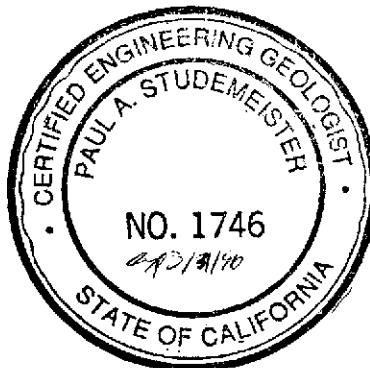
This report is based on a limited number of borings, samples and laboratory analyses. While reasonable steps were taken to ensure the completeness and accuracy of the investigation, LEE cannot guarantee the results of this investigation apply to areas outside those studied. A subsurface investigation of the entire Altamont Raceway Park Site was outside the scope of work. The findings and conclusions in this report are the result of environmental and hydrogeological analyses and an interpretation of known surface and subsurface conditions. Conditions may, and often do, vary from place to place at a site, and may vary with the passage of time. Groundwater monitoring wells can reduce the uncertainty associated with trenching and borings-based studies. Modeling and risk analyses of the data may further support the findings and conclusions presented in this report. However, the need for investigation should be balanced against the perceived threat to water resources and human health posed by the studied conditions, and against the economic incentives for gathering additional data. In the event of future changes in legislation and regulations, the findings and conclusions in this report may be invalidated or modified, and should be reexamined in light of new applicable regulations and recommendations.

It was a pleasure to work with you on this project. Please call if you have questions.

Sincerely Yours,  
*LEE INCORPORATED*



Paul Studemeister  
Project Manager, CEG 1746





**PLATES AND TABLES**

**Table 1: Laboratory Analyses Results of Fill and Soil Samples From February and March 1995 Sampling Events**  
**Altamont Raceway Project, 17001 Midway Road, Tracy, CA**

Sample	Sample Type	Sampling Depth	TRPH (ppm)	TPH as diesel (ppm)	TPH as gasoline (ppm)	Benzene (B) (ppb)	Toluene (T) (ppb)	Ethylbenzene (E) (ppb)	Xylenes (X) (ppb)
ST-1*	Fill	6 to 7 ft.	280	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
ST-2A,B*	Fill	5 to 7 ft.	150	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
ST-3*	Fill	6 to 7 ft.	130	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
ST-4A,B*	Fill	6 to 8 ft.	920	ND (<10)	ND (<1.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
SM-1*	Fill	1.5 ft.	ND (<50)	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
SM-2*	Fill	1.5 ft.	ND (<50)	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
T6-1**	Clay/Silt	9 ft.	ND (<50)	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
T6-2**	Clay/Silt	3 ft.	ND (<50)	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
T7-1**	Clay/Silt	9 ft.	ND (<50)	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
T7-2**	Clay/Silt	4 ft.	ND (<50)	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
T7-1B**	Clay/Silt	2 ft.	ND (<50)	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
T8-1**	Clay/Silt	4 ft.	ND (<50)	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
T8-2**	Clay/Silt	8.5 ft.	ND (<50)	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)

\* Sampling event of February 28, 1995

\*\* Sampling event of March 31, 1995

TRPH: Total recoverable petroleum hydrocarbons as oil and grease (with clean-up)

TPH as diesel: Total petroleum hydrocarbons as diesel

TPH as gasoline: Total petroleum hydrocarbons as gasoline

ppm: Part per million, mg/kg equivalent

ppb: Part per billion, ug/kg equivalent

ND (<1.0): Not detected (ND) at or above the indicated laboratory detection limit

Table 2: Laboratory Analyses Results of Soil and Fill Samples From October 1995 Sampling Event  
Altamont Raceway Project, 17001 Midway Road, Tracy, CA

Boring & Sample	Sample Type	Sampling Depth (ft)	TRPH (ppm)	Polynuclear Aromatic Hydrocarbons, PAHs (EPA 8310)			BTEX (ppb)
				Naphthalene (ppb)	Benzopyrene (ppb)	Other PAH's (ppb)	
B1-2.5/3	Fill/Clay	2.5	130	ND (<50)	ND (<4.0)	ND (<1.0 to <200)	ND (<5.0)
B1-5.5/6	Fill	5.5	ND (<50)	ND (<50)	ND (<4.0)	ND (<1.0 to <200)	ND (<5.0)
B1-11/11.5	Fill/Silty Clay	11	ND (<50)	ND (<50)	ND (<4.0)	ND (<1.0 to <200)	ND (<5.0)
B1-15.5/16	Clay/Silt	15.5	89**	ND (<50)	ND (<4.0)	ND (<1.0 to <200)	ND (<5.0)
B1-21/21.5	Clay/Silt	21	ND (<50)	ND (<50)	ND (<4.0)	ND (<1.0 to <200)	ND (<5.0)
B2-2.5/3	Fill/Clay	2.5	67	ND (<50)	ND (<4.0)	ND (<1.0 to <200)	ND (<5.0)
B2-6/6.5	Fill	6	ND (<50)	ND (<50)	ND (<4.0)	ND (<1.0 to <200)	ND (<5.0)
B2-11/11.5	Fill/Silty Clay	11	1,900***	ND (<500)	ND (<40)	ND (<10 to <4,000)	ND (<5.0)
B2-W*	Water	11	NA	ND (<13)	ND (<1.3)	ND (<1.3 to <50)	ND (<0.50)
B2-16/16.5	Clay/Silt	16	ND (<50)	ND (<50)	ND (<4.0)	ND (<1.0 to <200)	ND (<5.0)
B2-20.5/21.5	Clay/Silt	21	<50**	ND (<50)	ND (<4.0)	ND (<1.0 to <200)	ND (<5.0)
B5-6/6.5	Fill	6	1,500	ND (<50)	ND (<4.0)	ND (<1.0 to <200)	BTE: ND (<5.0); X: 8.3
B5-10.5/11	Fill	10.5	5,100***	ND (<2,500)	ND (<200)	ND (<50 to <10,000)	ND (<5.0)
B5-16/16.5	Fill/Clay	16	190	ND (<500)	ND (<40)	ND (<10 to <2,000)	ND (<5.0)
B5-21/21.5	Clay/Silt	21	ND (<50)	ND (<50)	ND (<4.0)	ND (<1.0 to <200)	ND (<5.0)
B6-5.5/6	Fill	5.5	190	ND (<500)	ND (<40)	Pyrene: 55	BTE: ND (<5.0); X: 7.0
B6-11/11.5	Fill	11	5,900***	ND (<5,000)	ND (<400)	ND (<100 to <20,000)	ND (<5.0)
B6-15.5-16	Clay/Silt	15.5	ND (<50)	ND (<50)	ND (<4.0)	ND (<1.0 to <200)	ND (<5.0)
B6-26/26.5	Clay/Silt	26	ND (<50)	ND (<50)	ND (<4.0)	ND (<1.0 to <200)	ND (<5.0)

TRPH: Total recoverable petroleum hydrocarbons as oil and grease (with clean-up)

BTEX: Benzene (B); toluene (T); ethylbenzene (E); total xylenes (X)

ppm: Part per million (mg/kg equivalent); ppb: Part per billion (ug/kg equivalent)

ND (<1.0): Not detected at or above the indicated laboratory detection limit

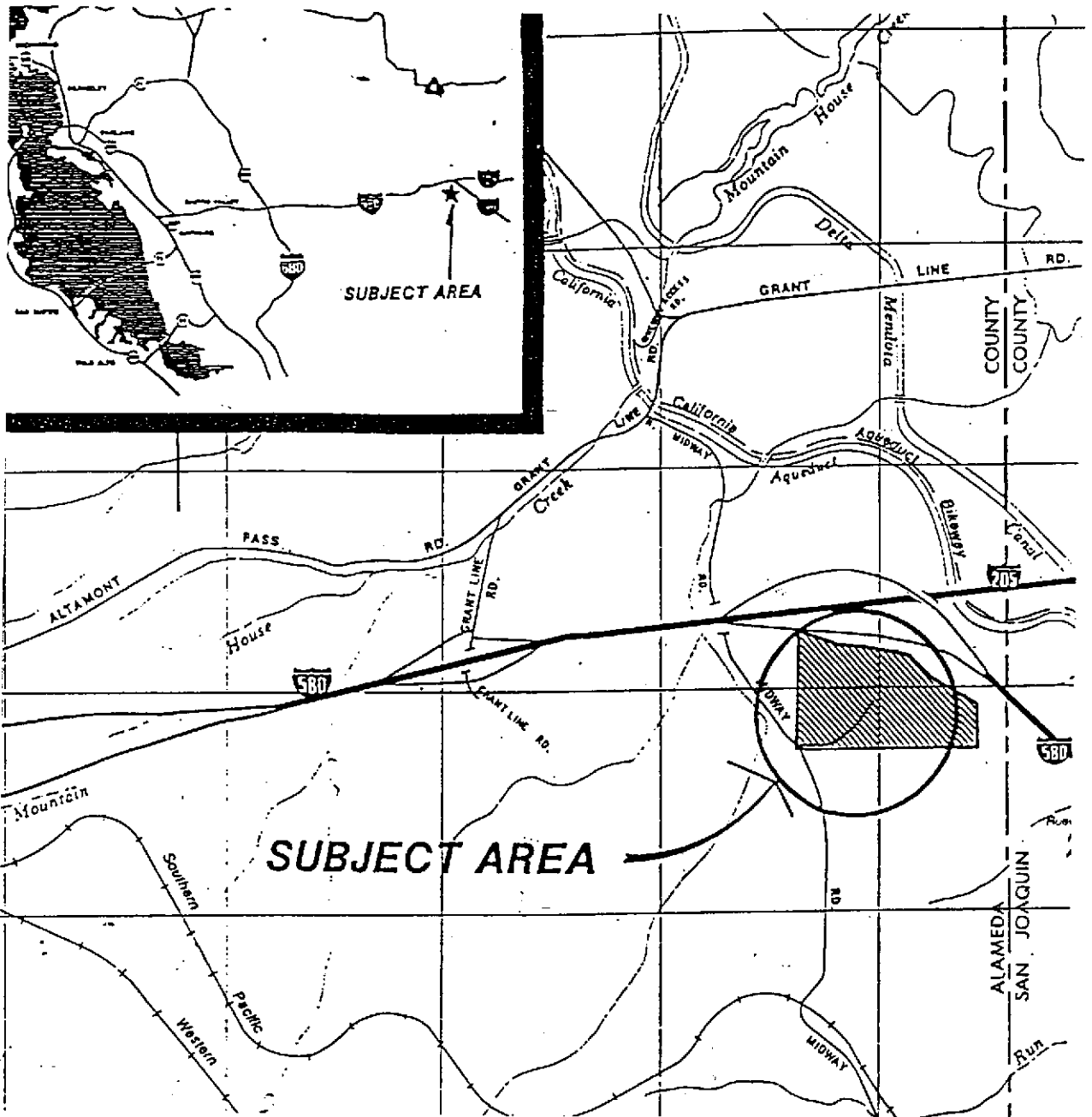
\* B2-W is a grab sample of perched groundwater at the base of the fill deposit, approximately 11 feet depth in Boring B2.

\*\* Samples B1-15.5/16 and B2-21/21.5 were each extracted by Title 22-WET method followed by analyses of these extracts for Soluble Threshold Limit Concentration (STLC) TRPH by Method 5520B&F. Results were as follows: ND (<5.0 mg/l) STLC TRPH for each sample.

\*\*\* A composite of fill Samples B2-11/11.5 (326-01), B5-10.5/11 (287-02) and B6-11/11.5 (290-02) was prepared by the laboratory for further analyses.

Further analyses indicated the total petroleum hydrocarbons chromatogram patterns resembled the chromatogram pattern of asphalt concrete. The composite was analyzed for RCI and for STLC PAH's, STLC BTEX and STLC CAM 17 Metals. Results were as follows (ppm = mg/l equivalent & ppb = ug/l equivalent):

Reactivity	None; Sulfides = ND (<13 ppm); Cyanide = ND (<0.50 ppm)		
Corrosivity	pH = 9.3		
Flashpoint	Greater than 100oC		
STLC BTEX	ND (<0.50 ppb for each of BTEX constituents)		
STLC Napthalene	ND (<20 ppb)		
STLC Benzopyrene	ND (<0.10 ppb)		
Other STLC PAH's	39 ppb fluoranthene; ND (<0.10 to <100 ppb) for all other PAHs		
STLC CAM 17 Metals (ppm = mg/l equivalent):			
Antimony, Sb	ND (<0.10 ppm)	Mercury, Hg	ND (<0.0010 ppm)
Arsenic, As	ND (<0.10 ppm)	Molybdenum, Mo	ND (<0.050 ppm)
Barium, Ba	3.5 ppm	Nickel, Ni	0.27 ppm
Beryllium, Be	ND (<0.010 ppm)	Selenium, Se	ND (<0.020 ppm)
Cadmium, Cd	ND (<0.010 ppm)	Silver, Ag	ND (<0.010 ppm)
Chromium, Cr	0.086 ppm	Thallium, Tl	ND (<0.10 ppm)
Cobalt, Co	0.12 ppm	Vanadium, V	0.16 ppm
Copper, Cu	1.0 ppm	Zinc, Zn	2.0 ppm
Lead, Pb	1.1 ppm		

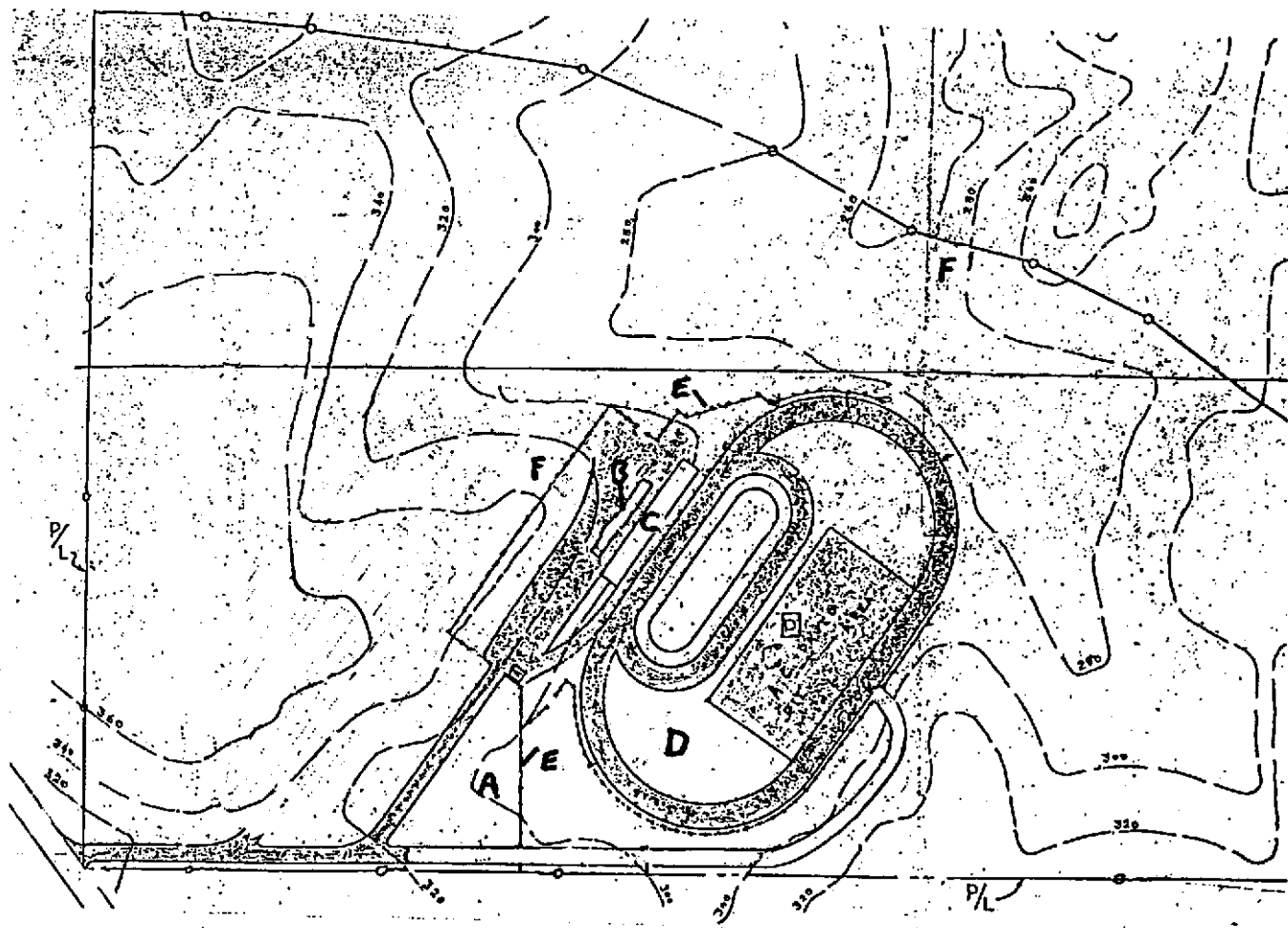


**PROJECT SITE VICINITY MAP**

Altamont Raceway Park

17001 Midway Road

Tracy, Alameda County, CA 95376

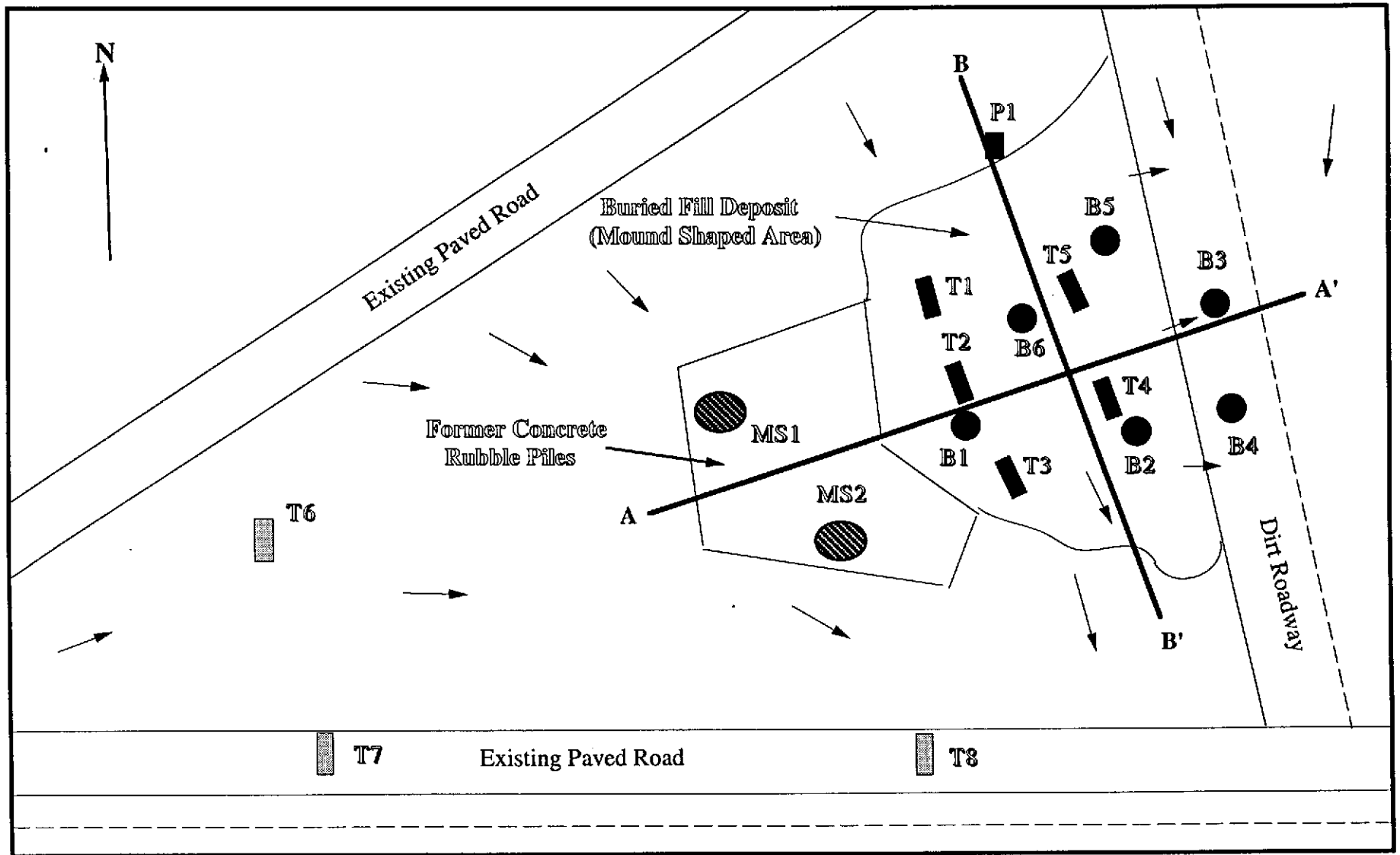


Scale: 1 inch = 375 Feet

- A: Study Area
- B: Main Bldg.
- C: Grand Stands
- D: Racetrack
- E: Fencing
- F: Water Well

**Plate 2: Site Map**

Altamont Raceway Park  
 17001 Miday Road  
 Tracy, CA 95376



- B6 Exploratory Boring (LEE, October 1995)
- ▤ T8 Trench (LEE, March 1995)
- ◐ SM2 Pit Sample (LEE, February 1995)
- ▬ T5 Trench (LEE, February 1995)

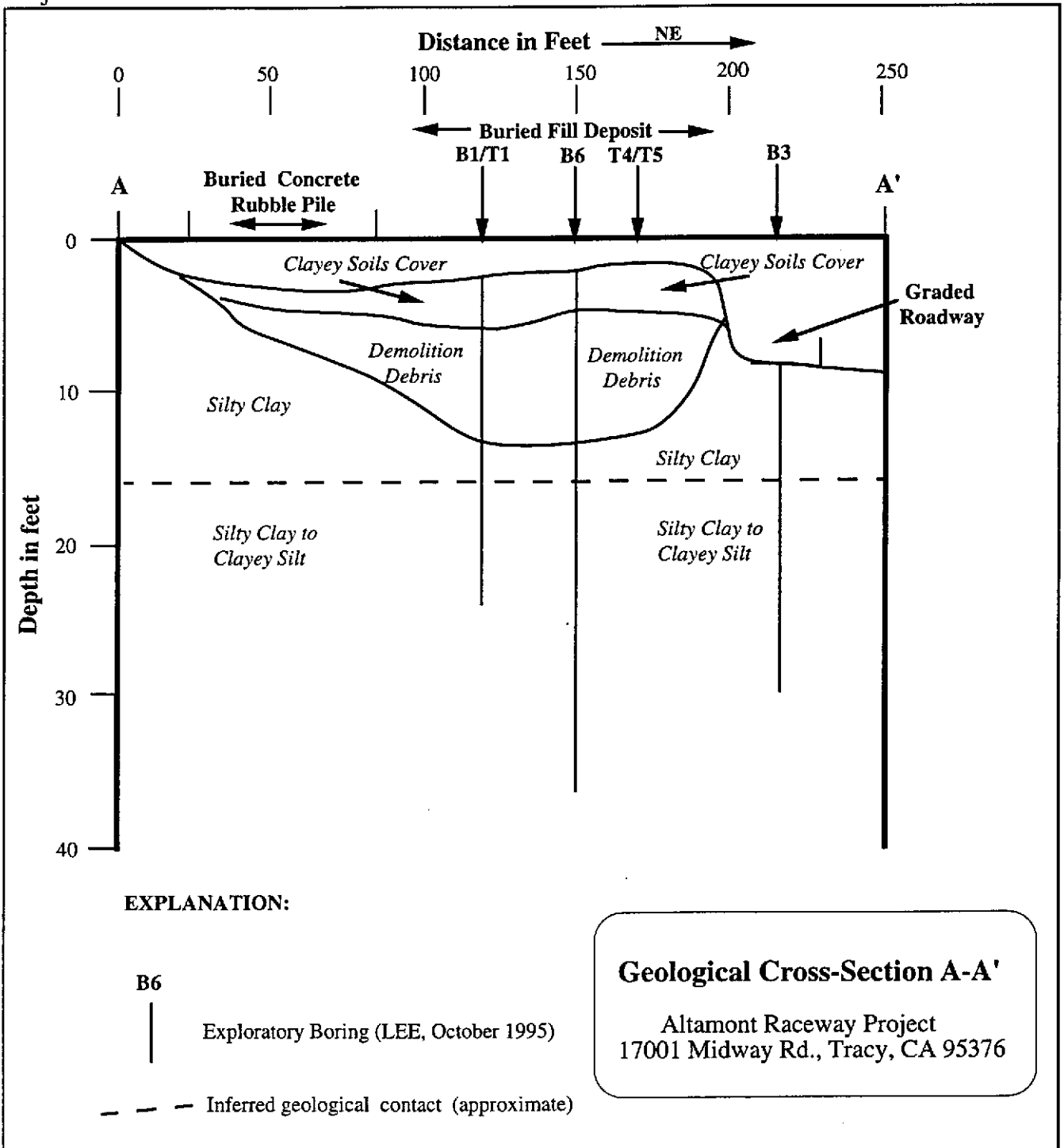


Approximate Scale in Feet

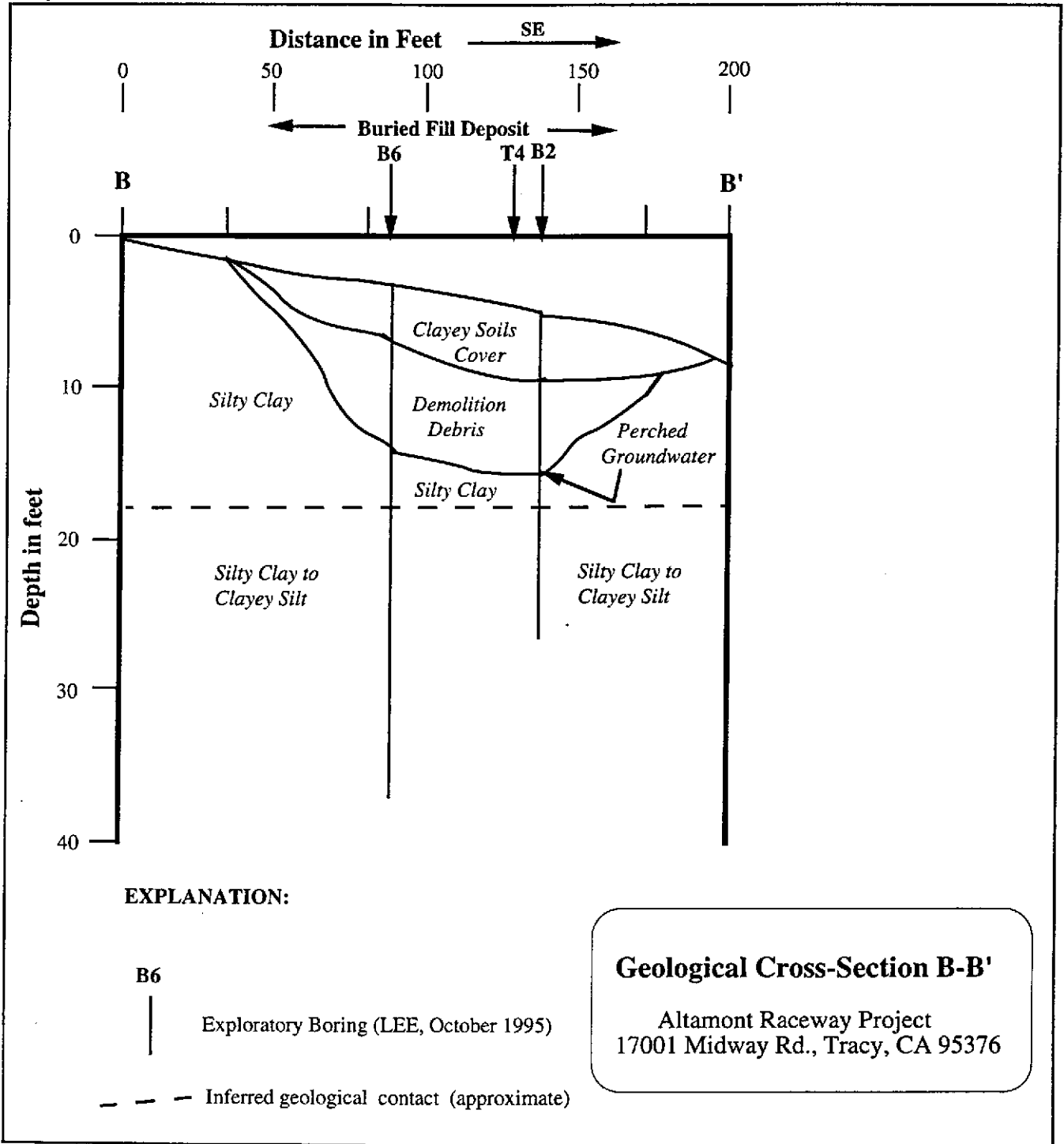
- Fence
- Slope direction
- A — A' Cross-Section

**Plate 3: Study Area Map**

**Altamont Raceway Project**  
**17001 Midway Road**  
**Tracy, CA 95376**







**APPENDIX A**

**COUNTY ENVIRONMENTAL HEALTH WORKPLAN**

ALAMEDA COUNTY  
HEALTH CARE SERVICES  
AGENCY

DAVID J. KEARS, Agency Director



RAFAT A. SHAHID, Director

DEPARTMENT OF ENVIRONMENTAL HEALTH  
Environmental Protection Division  
1131 Harbor Bay Parkway, #250  
Alameda, CA 94502-6577  
(510) 567-6700

July 14, 1995

Mr. Mark Crutcher  
700 Larkspur Landing Circle, St 100  
Larkspur, CA - 94939

Subject: Altamont Raceway Prohect, 17001 Midway Road, Tracy,  
Alameda County, California

Dear Mr. Crutcher:

I am in receipt of the workplan dated May 12, 1995, prepared by Paul Studemeister of Lee Incorporated for the property located at the above referenced address. The workplan has been reviewed by this Department and is acceptable with the following changes:

The boring locations should be changed as per the attached revised copy of the sample location map. Soil samples should be collected at the surface, and at 5 feet intervals upto 20 feet. However one boring marked "x" in the sample location map should be drilled upto 35 feet if groundwater is not encountered at the other 20 feet borings. If groundwater is encountered, then one groudwater sample should be collected from each boring.

The soil and groundwater samples should be analyzed (using silica-gel) for total oil and grease, benzene, toluene, ethyl Benzene, and xylene (BTEX), naphthalene and benzopyrene. Based on this initial results, samples may have to be analyzed using a wet test to determine the leaching potential of the contaminants. It is important that the initial sample results are submitted to this Department as soon they are received so that decisions regarding the wet test (number of samples, the constituent to be analyzed) can be made before the holding time expires.

The soil and groundwater sample analytical resultls will be evaluated by this Department using the Tier 1 criteria of the ASTM's Risk Based Corrective Action and guidelines related to water quality. Based on the analysis, future course of action for this project will then be determined.

Prior notification should be given before field work begins. If you have any questions, call me at (510) 567-6764.

Sincerely,

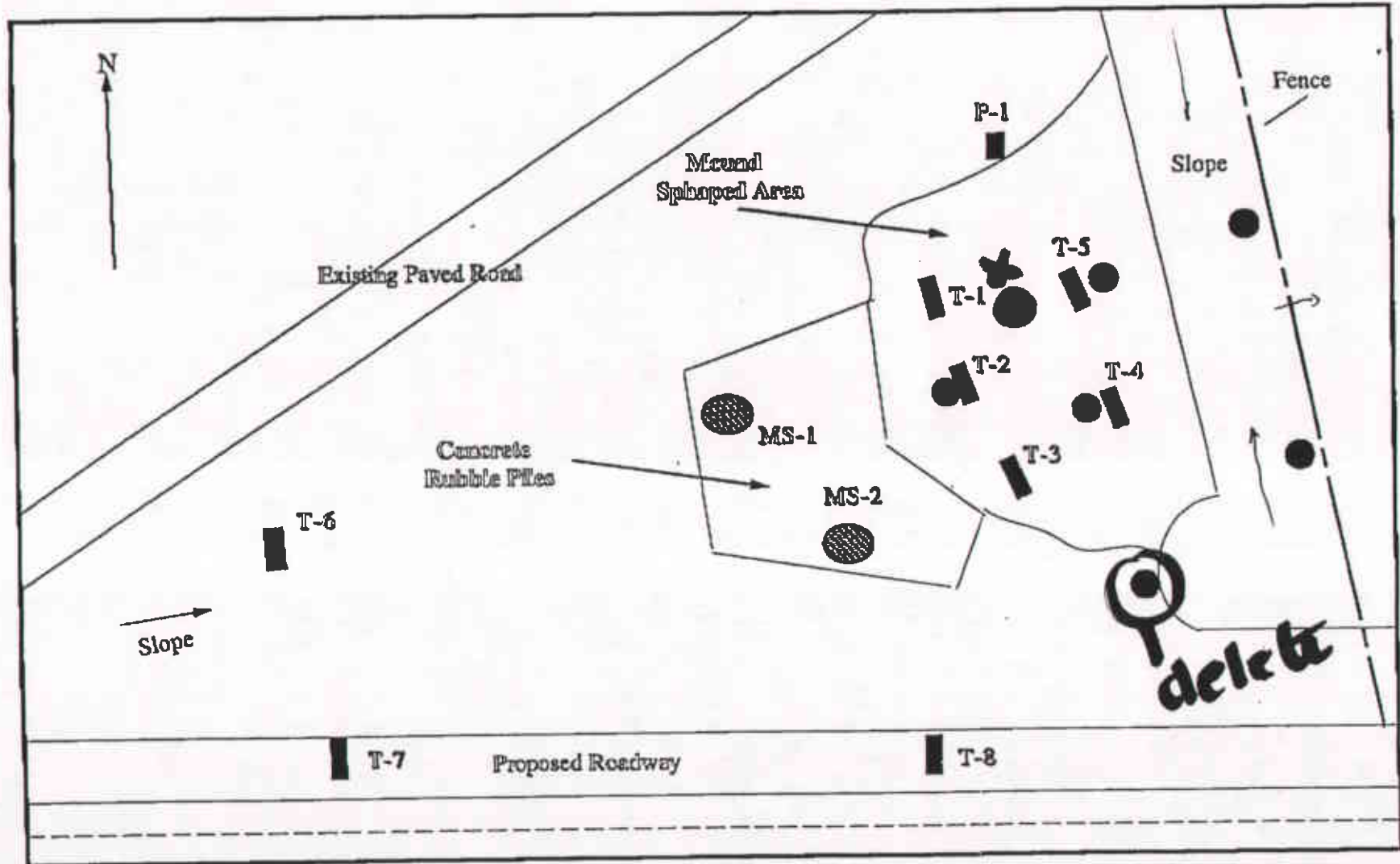
  
Madhulla Logan




Hazardous Material Specialist

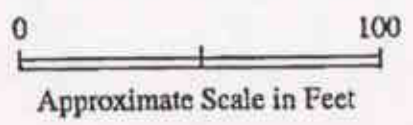
CC: Paul Studemeister, Lee Incorporated, 1153 Bordeaux Drive,  
St 103, Sunnyvale, CA - 94089

Ron Gee, Alameda County Planning Department, 399 Elmhurst  
Street, Hayward, CA - 94544.

Gary Moore, Altamont Raceway, 17001 Midway Rd, Livermore,  
California.



-   Areas sampled
-  Proposed Boring Locations



Study Area Map  
 Altamont Racetrack Project  
 17001 Midway Road  
 Tracy, CA 95376

**APPENDIX B**  
**LOGS OF BORINGS**

**LOG OF BORING B1**

Client: Altamont Raceway Park, Inc.  
 Site: Altamont Raceway Park, 17001 Midway Rd., Tracy, CA 95376  
 Driller: HEW Drilling Company, Inc.  
 Drill Rig/Drilling Method: Mobile D75/Hollow-stem auger

Logged By: Paul Studemeister, CEG  
 Date Drilled: October 4, 1995  
 Hole Diameter: 8 inches  
 Hole Depth: 20 feet

Sample	Blows per 0.5 ft.	Cement Seal	Depth in feet	U.S. C.S.	Description
B1-2.5/3	4/6/7		0	CL	<b>CLAYEY SOILS WITH FILL:</b> Brown silty clay (native soils) with small amounts of intermixed crushed rock/gravel and wood and traces of concrete, stiff, damp to dry.
B1-5.5/6 B1-6/6.5	5/4/7		5	FILL	<b>COARSE FILL:</b> Coarse demolition debris composed of crushed rock/gravel, wood and concrete, with some intermixed brown silty clay (soils like above), medium dense, dry to damp, particulate matter ranges to over 5 in. size, size and proportion of concrete fragments increase with depth.  - Abundant coarse asphalt concrete fragments with lumps of silty clay and crushed rock/gravel/sand intermixed, moist at interface with underlying dark brown silty clay.
B1-10.5/11 B1-11/11.5	4/4/5		10	CL/ CH	<b>SILTY CLAY (CL/CH):</b> Dark brown silty clay, stiff, moist to damp with depth, massive, soils are disturbed as evidenced by small wood debris embedded in clay at top.
B1-15.5/16	8/13/17		15	CL/ ML	<b>SILTY CLAY TO CLAYEY SILTY WITH FINE SAND (CL/ML):</b> Gray-brown silty clay to clayey silt with variable fine grained sand, very stiff to hard, dry to damp, low plasticity, calcareous. -Gray-brown, dry, hard clayey silt with fine sand and light gray calcareous inclusions/deposits in matrix.
B1-20.5/21 B1-21/21.5	5/10/16		20		-Gray-brown to green-brown clayey silt to fine sandy clayey silt, damp, very stiff to hard, with calcareous inclusions/deposits. No groundwater was found in boring.

**LOG OF BORING B2**

Client: Altamont Raceway Park, Inc.  
 Site: Altamont Raceway Park, 17001 Midway Rd., Tracy, CA 95376  
 Driller: HEW Drilling Company, Inc.  
 Drill Rig/Drilling Method: Mobile D75/Hollow-stem auger

Logged By: Paul Studemeister, CEG  
 Date Drilled: October 4, 1995  
 Hole Diameter: 8 inches  
 Hole Depth: 20 feet

Sample	Blows per 0.5 ft.	Cement Seal	Depth in feet	U.S. C.S.	Description
B2-2.5/3	4/5/8		0		<b>CL/ FILL</b> <b>CLAYEY SOILS WITH FILL:</b> Brown silty clay with fine sand (native soils), stiff to firm, damp to dry, low plasticity, with intermixed crushed rock/gravel and small fragments of concrete and wood; proportion of fill constituents to soils increases with depth.
B2-6/6.5	5/3/3		5		
B2-11/11.5	10/10/5		10		
B2-W					
B2-16/16.5	8/13/22		15		
				<b>FILL</b> <b>COARSE FILL:</b> Coarse demolition debris composed of angular particulate asphalt concrete, crushed rock/gravel and some portland cement concrete/mortar and wood fragments, with intermixed brown silty clayey soils (soils like above).  - Abundant coarse asphalt concrete fragments with silty clay lumps, crushed rock/gravel/sand, wet at bottom interface with clay. Grab sample of perched groundwater, B2-W, at fill-clay interface.	
				<b>CL/ CH</b> <b>SILTY CLAY (CL/CH):</b> Dark brown silty clay, stiff, damp, disturbed as evidenced at top by presence of fine particulate concrete and wood embedded in matrix.	
				<b>CL/ ML</b> <b>SILTY CLAY TO CLAYEY SILT WITH FINE SAND (CL/ML):</b> Gray-brown silty clay to clayey silt with fine sand, very stiff to hard, dry, low plasticity, calcareous.  -Gray-brown, hard, dry clayey silt with fine sand, low plasticity.	
B2-20.5/21	8/11/13		20		-Gray-brown to green-brown clayey silt to silty clay with fine sand, very stiff to hard, damp, low plasticity. Except for perched water at fill-clay interface, no groundwater was found in boring.



### LOG OF BORING B3

Client: Altamont Raceway Park, Inc.

Logged By: Paul Studemeister, CEG

Site: Altamont Raceway Park, 17001 Midway Rd., Tracy, CA 95376

Date Drilled: October 4, 1995

Driller: HEW Drilling Company, Inc.

Hole Diameter: 8 inches

Drill Rig/Drilling Method: Mobile D75/Hollow-stem auger

Hole Depth: 20 feet

Sample	Blows per 0.5 ft.	Cement Seal	Depth in feet	U.S. C.S.	Description
B3-2.5/3 B2-3/3.5	8/9/11		0	CL	<b>SILTY CLAY:</b> Dry gray silty clay with traces of crushed rock and gravel particles intermixed with the soils at top, particulate matter includes portland cement concrete and asphalt concrete, compacted roadbed/native soils.
B3-6/6.5	8/10/15		5	CL/ CH	<b>SILTY CLAY (CL/CH):</b> Dark brown, very stiff, dry, low plasticity silty clay with traces of fine sand.  -Dark brown, massive, dry silty clay.
B3-11/1.5	5/10/16		10	CL/ ML	<b>SILTY CLAY TO CLAYEY SILT WITH FINE SAND (CL/ML):</b> Gray-brown silty clay to clay silt with fine sand, very stiff to hard, dry to damp, massive, with light gray calcareous inclusions/deposits in matrix.  - Silty clay grading into clayey silt, massive, damp, with calcareous inclusions/deposits.
B3-16/16.5	4/14/20		15		- Gray-brown to gray-green, massive, hard, damp silty clay to clayey silt with fine sand, with gray calcareous inclusions/deposits.
B3-20.5/21	8/19/21		20		- Gray-brown to gray-green fine sandy silt to clayey silt with fine sand damp, hard, laminated, slight plasticity. No groundwater was encountered in boring.

**LOG OF BORING B4**

Client: Altamont Raceway Park, Inc.

Logged By: Paul Studemeister, CEG

Site: Altamont Raceway Park, 17001 Midway Rd., Tracy, CA 95376

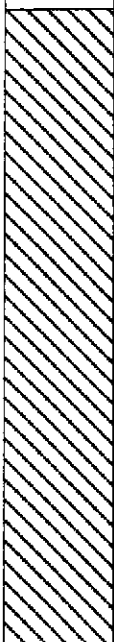
Date Drilled: October 4, 1995

Driller: HEW Drilling Company, Inc.

Hole Diameter: 8 inches

Drill Rig/Drilling Method: Mobile D75/Hollow-stem auger

Hole Depth: 10 feet

Sample	Blows per 0.5 ft.	Cement Seal	Depth in feet	U.S. C.S.	Description
B4-6/6.5	8/13/19		0	CL	<b>SILTY CLAY (CL):</b> Brown, stiff, dry silty clay with traces of crushed rock, gravel and portland cement concrete fragments, compacted native soils roadbed.
			5	CL/CH	<b>SILTY CLAY (CL/CH):</b> Dark brown, very stiff to hard, damp to dry massive silty clay grading near bottom of boring into gray-brown, hard, dry, massive clayey silt with fine sand.  - Dark brown, hard, dry silty clay.
			10	CL/ML	<b>SILTY CLAY TO CLAYEY SILT (CL/ML):</b> Brown-gray, very stiff to hard, damp to dry massive silty clay to clayey silt with fine sand, calcareous.
B4-11/11.5	11/18/20		10		- Gray-brown silty clay to clayey silt, damp, very stiff to hard, massive, with calcareous inclusions/deposits in matrix. No groundwater was encountered in boring.
			15		
			20		

**LOG OF BORING B5**

Client: Altamont Raceway Park, Inc.

Logged By: Paul Studemeister, CEG

Site: Altamont Raceway Park, 17001 Midway Rd., Tracy, CA 95376




Date Drilled: October 4, 1995

Driller: HEW Drilling Company, Inc.

Hole Diameter: 8 inches

Drill Rig/Drilling Method: Mobile D75/Hollow-stem auger


Hole Depth: 20 feet

Sample	Blows per 0.5 ft.	Cement Seal	Depth in feet	U.S. C.S.	Description
B5-6/6.5	6/9/6		0	CL	<b>SILTY CLAY (CL):</b> Brown silty to sandy clay with minor amounts of intermixed crushed rock/gravel, wood and concrete
			5	FILL	<b>MIXTURE OF NATIVE SOILS AND FILL:</b> Similar to above, but greater proportion of crushed rock/gravel and concrete fragments.
B5-10.5/11	14/16/19		10	FILL	<b>COARSE FILL:</b> Coarse demolition debris composed mainly of angular fragments of asphalt concrete with some intermixed wood, potland cement concrete/mortar and some clayey (native) soils, debris fragments range to over 5 in. size, dry, dense.  - Coarse asphalt concrete fragments with lumps of silty clay (native soils), crushed rock/gravel/sand intermixed.
B5-16/16.5	19/19/25		15		- Coarse asphalt concrete fragments, damp at inter face with underlying clay below. No perched water encountered at base of fill deposit.
				CL/ML	<b>SILTY CLAY TO CLAYEY SILT WITH FINE SAND (CL/ML):</b> Gray-brown, hard, massive, dry silty clay to clayey silt with fine sand, low plasticity.
B5-20.5/21 B5-21/21.5	19/18/27		20		No groundwater was encountered in boring.

**LOG OF BORING B6 (Page 1 of 1)**

Client: Altamont Raceway Park, Inc.  
 Site: Altamont Raceway Park, 17001 Midway Rd., Tracy, CA 95376  
 Driller: HEW Drilling Company, Inc.  
 Drill Rig/Drilling Method: Mobile D75/Hollow-stem auger

Logged By: Paul Studemeister, CEG  
 Date Drilled: October 4, 1995  
 Hole Diameter: 8 inches  
 Hole Depth: 35 feet

Sample	Blows per 0.5 ft.	Cement Seal	Depth in feet	U.S. C.S.	Description
B6-5.5/6			0	CL	<b>SILTY CLAY (CL):</b> Brown silty clay (native soils) with intermixed portland cement concrete fragments and some asphalt concrete fragments, crushed rock/gravel debris, proportion of construction debris increases with depth, dry, hard.
			5	FILL	<b>COARSE FILL:</b> Coarse demolition debris comprises of large angular fragments of portland cement concrete, crushed rock/gravel and wood fragments, with intermixed clayey (native) soils, asphalt concrete fragments become abundant with depth, dense, dry.  - Mixture of coarse fill and clayey (native as above) soils, fill debris includes portland cement concrete fragments, crushed rock/gravel/sand and wood fragments, traces of asphalt concrete fragments.
B6-11/11.5	50/45/10		10		- Abundant coarse asphalt concrete fragments with lumps of silty clayey soils intermixed, crushed rock/gravel/sand, damp. No perched water was found at base of fill deposit.
B6-15.5/16 B6-16/16.5	5/11/18		15	CL/ML	<b>SILTY CLAY TO CLAYEY SILT WITH FINE SAND (CL/ML):</b> Gray-brown, very stiff to hard, low plasticity, dry silty clay to clayey silt with fine sand, massive, locally with light gray calcareous inclusions/deposits in matrix.  - Gray-brown, hard, dry silty clay to clayey silt with fine sand.
B6-21/21.5			20		- Gray-brown, hard, dry clayey silt with fine sand.

**LOG OF BORING B6 (Continuation - Page 2 of 2)**

Client: Altamont Raceway Park, Inc.

Logged By: Paul Studemeister, CEG

Site: Altamont Raceway Park, 17001 Midway Rd., Tracy, CA 95376

Date Drilled: October 4, 1995

Driller: HEW Drilling Company, Inc.

Hole Diameter: 8 inches

Drill Rig/Drilling Method: Mobile D75/Hollow-stem auger

Hole Depth: 35 feet

Sample	Blows per 0.5 ft.	Cement Seal	Depth in feet	U.S. C.S.	Description
B6-26/26.5	5/14/22		25		- Gray-brown to brown-green clayey silt with fine sand, hard, damp, low plasticity, with light gray calcareous inclusions/deposits, with irregular fine hairline cracks/partings.
B6-30.5/31	14/20/24		30		- Gray-brown silty clay to clayey silt with fine sand, hard, dry.
B6-30.5/31			35		-Clayey silt with fine sand, hard. No groundwater was encountered in boring.
			40		

# KEY TO EXPLORATORY BORINGS/WELLS

Unified Soils Classification System (ASTM D-2487)

Primary Divisions			Symbol	Secondary Divisions	
<b>COARSE GRAINED SOILS</b>  more than half of material is larger than No. 200 sieve	<b>GRAVELS</b> more than half of coarse fraction is larger than No. 4 sieve	Clean gravels (less than 5% fines)	GW	well graded gravels, gravel-sand mixtures, little or no fines.	
		Gravel with fines	GP	poorly graded gravels or gravel-sand mixtures, little or no fines.	
		<b>SANDS</b> More than half of coarse fraction is smaller than No. 4 sieve	Clean sands (less than 5% fines)	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines.
			Sands with fines	GC	Clayey gravels, gravel-sand-silt mixtures, plastic fines.
	<b>FINE GRAINED SOILS</b>  More than half of material is smaller than No. 200 sieve	<b>SILTS AND CLAYS</b> Liquid limit is less than 50%	Clean sands (less than 5% fines)	SW	well graded sands, gravelly sands, little or no fines.
			Sands with fines	SP	poorly graded sands or gravelly sands, little or no fines.
			Sands with fines	SM	silty sands, sand-silt mixtures, non-plastic fines.
		<b>SILTS AND CLAYS</b> Liquid limit is greater than 50%	Sands with fines	SC	clayey sands, sand-clay mixtures, plastic fines.
Sands with fines			ML	inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.	
		Sands with fines	CL	inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.	
		Sands with fines	OL	organic silts and organic clays of low plasticity.	
		Sands with fines	MH	inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.	
		Sands with fines	CH	inorganic clays of high plasticity, fat clays.	
HIGHLY ORGANIC SOILS			PT	peat and other highly organic soils.	

		SIEVE SIZES		
		inches	mm	Std.
SILTS & CLAYS		<0.003	<0.074	200
SAND	fine	<0.017	<0.42	40
	medium	<0.079	<2	10
	coarse	<0.19	<4.76	4
GRAVEL	fine	<3/4	<19	
	coarse	<3	<76	
COBBLE		<12	<305	
BOULDER		>12	>305	

SAND&GRAVEL	STD. PENETRATION (Blows/ft)	
	2" Sampler	2-1/2" Sampler
very loose	0-4	0-5
loose	4-10	5-13
med dense	10-30	13-38
dense	30-50	38-63
very dense	>50	>63
SILT&CLAY	2" Sampler	2-1/2" Sampler
very soft	0-2	0-3
soft	2-4	3-5
firm	4-8	5-10
stiff	8-16	10-20
very stiff	16-32	20-40
hard	>32	>40

**APPENDIX C**

**LABORATORY ANALYSES REPORTS AND CHAIN OF CUSTODY RECORDS**



Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Lab Proj. ID: 9510281

Sampled: 10/04/95  
Received: 10/05/95  
Analyzed: see below

Attention: Paul Studemister

Reported: 10/17/95

**LABORATORY ANALYSIS**

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9510281-01 Sample Desc: SOLID,B1-2.5/3.0				
TRPH (SM 5520 E&F Mod.)	mg/Kg	10/09/95	50	130
Lab No: 9510281-02 Sample Desc: SOLID,B1-5.5/6.0				
TRPH (SM 5520 E&F Mod.)	mg/Kg	10/10/95	50	N.D.
Lab No: 9510281-03 Sample Desc: SOLID,B1-11.0/11.5				
TRPH (SM 5520 E&F Mod.)	mg/Kg	10/09/95	50	N.D.
Lab No: 9510281-04 Sample Desc: SOLID,B1-15.5/16.0				
TRPH (SM 5520 E&F Mod.)	mg/Kg	10/09/95	50	89
Lab No: 9510281-05 Sample Desc: SOLID,B1-21.0/21.5				
TRPH (SM 5520 E&F Mod.)	mg/Kg	10/09/95	50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**EQUOIA ANALYTICAL - ELAP #1210**

*Noelle Northey*

Noelle Northey  
Project Manager







Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B1-2.5/3.0  
Matrix: SOLID  
Analysis Method: EPA 8310  
Lab Number: 9510281-01

Sampled: 10/04/95  
Received: 10/05/95  
Analyzed: 10/16/95  
Reported: 10/17/95

Attention: Paul Studemister

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthylene	200	N.D.
Indeno(1,2,3-cd)pyrene	8.0	N.D.
Naphthalene	50	N.D.
Acenaphthene	50	N.D.
Fluorene	12	N.D.
Phenanthrene	4.0	N.D.
Anthracene	4.0	N.D.
Fluoranthene	4.0	N.D.
Pyrene	4.0	N.D.
Benzo(a)anthracene	1.0	N.D.
Chrysene	4.0	N.D.
Benzo(b)fluoranthene	10	N.D.
Benzo(k)fluoranthene	4.0	N.D.
Benzo(a)pyrene	4.0	N.D.
Dibenzo(a,h)anthracene	4.0	N.D.
Benzo(g,h,i)perylene	8.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50 150	90

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1197

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B1-2.5/3.0  
Matrix: SOLID  
Analysis Method: EPA 8020  
Lab Number: 9510281-01

Sampled: 10/04/95  
Received: 10/05/95  
Extracted: 10/06/95  
Analyzed: 10/06/95  
Reported: 10/17/95

QC Batch Number: GC100695BTEXEXA  
Instrument ID: GCHP18

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	96

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B1-5.5/6.0  
Matrix: SOLID  
Analysis Method: EPA 8310  
Lab Number: 9510281-02

Sampled: 10/04/95  
Received: 10/05/95  
Analyzed: 10/16/95  
Reported: 10/17/95

Attention: Paul Studemister

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthylene	200	N.D.
Indeno(1,2,3-cd)pyrene	8.0	N.D.
Naphthalene	50	N.D.
Acenaphthene	50	N.D.
Fluorene	12	N.D.
Phenanthrene	4.0	N.D.
Anthracene	4.0	N.D.
Fluoranthene	4.0	N.D.
Pyrene	4.0	N.D.
Benzo(a)anthracene	1.0	N.D.
Chrysene	4.0	N.D.
Benzo(b)fluoranthene	10	N.D.
Benzo(k)fluoranthene	4.0	N.D.
Benzo(a)pyrene	4.0	N.D.
Dibenzo(a,h)anthracene	4.0	N.D.
Benzo(g,h,i)perylene	8.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50                      150	90

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1197**

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B1-5.5/6.0  
Matrix: SOLID  
Analysis Method: EPA 8020  
Lab Number: 9510281-02

Sampled: 10/04/95  
Received: 10/05/95  
Extracted: 10/06/95  
Analyzed: 10/06/95  
Reported: 10/17/95

QC Batch Number: GC100695BTEXEXA  
Instrument ID: GCHP18

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	93

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B1-11.0/11.5  
Matrix: SOLID  
Analysis Method: EPA 8310  
Lab Number: 9510281-03

Sampled: 10/04/95  
Received: 10/05/95

Analyzed: 10/16/95  
Reported: 10/17/95

Attention: Paul Studemister

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthylene	200	N.D.
Indeno(1,2,3-cd)pyrene	8.0	N.D.
Naphthalene	50	N.D.
Acenaphthene	50	N.D.
Fluorene	12	N.D.
Phenanthrene	4.0	N.D.
Anthracene	4.0	N.D.
Fluoranthene	4.0	N.D.
Pyrene	4.0	N.D.
Benzo(a)anthracene	1.0	N.D.
Chrysene	4.0	N.D.
Benzo(b)fluoranthene	10	N.D.
Benzo(k)fluoranthene	4.0	N.D.
Benzo(a)pyrene	4.0	N.D.
Dibenzo(a,h)anthracene	4.0	N.D.
Benzo(g,h,i)perylene	8.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50 150	81

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1197

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B1-11.0/11.5  
Matrix: SOLID  
Analysis Method: EPA 8020  
Lab Number: 9510281-03

Sampled: 10/04/95  
Received: 10/05/95  
Extracted: 10/06/95  
Analyzed: 10/06/95  
Reported: 10/17/95

QC Batch Number: GC100695BTEXEXA  
Instrument ID: GCHP18

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	91

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Noelle Northey  
Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Attention: Paul Studemister

Client Proj. ID: Altamont/1053  
Sample Descript: B1-15.5/16.0  
Matrix: SOLID  
Analysis Method: EPA 8310  
Lab Number: 9510281-04

Sampled: 10/04/95  
Received: 10/05/95

Analyzed: 10/16/95  
Reported: 10/17/95

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthylene	200	N.D.
Indeno(1,2,3-cd)pyrene	8.0	N.D.
Naphthalene	50	N.D.
Acenaphthene	50	N.D.
Fluorene	12	N.D.
Phenanthrene	4.0	N.D.
Anthracene	4.0	N.D.
Fluoranthene	4.0	N.D.
Pyrene	4.0	N.D.
Benzo(a)anthracene	1.0	N.D.
Chrysene	4.0	N.D.
Benzo(b)fluoranthene	10	N.D.
Benzo(k)fluoranthene	4.0	N.D.
Benzo(a)pyrene	4.0	N.D.
Dibenzo(a,h)anthracene	4.0	N.D.
Benzo(g,h,i)perylene	8.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50                      150	100

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1197**

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B1-15.5/16.0  
Matrix: SOLID  
Analysis Method: EPA 8020  
Lab Number: 9510281-04

Sampled: 10/04/95  
Received: 10/05/95  
Extracted: 10/06/95  
Analyzed: 10/06/95  
Reported: 10/17/95

QC Batch Number: GC100695BTEXEXA  
Instrument ID: GCHP18

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	97

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

*Noelle Northey*

Noelle Northey  
Project Manager







Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B1-21.0/21.5  
Matrix: SOLID  
Analysis Method: EPA 8310  
Lab Number: 9510281-05

Sampled: 10/04/95  
Received: 10/05/95

Analyzed: 10/16/95  
Reported: 10/17/95

Attention: Paul Studemister

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthylene	200	N.D.
Indeno(1,2,3-cd)pyrene	8.0	N.D.
Naphthalene	50	N.D.
Acenaphthene	50	N.D.
Fluorene	12	N.D.
Phenanthrene	4.0	N.D.
Anthracene	4.0	N.D.
Fluoranthene	4.0	N.D.
Pyrene	4.0	N.D.
Benzo(a)anthracene	1.0	N.D.
Chrysene	4.0	N.D.
Benzo(b)fluoranthene	10	N.D.
Benzo(k)fluoranthene	4.0	N.D.
Benzo(a)pyrene	4.0	N.D.
Dibenzo(a,h)anthracene	4.0	N.D.
Benzo(g,h,i)perylene	8.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50                      150	88

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1197

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises 1153 Bordeaux Dr. #103 Sunnyvale, CA 94089	Client Proj. ID: Altamont/1053 Sample Descript: B1-21.0/21.5 Matrix: SOLID Analysis Method: EPA 8020 Lab Number: 9510281-05	Sampled: 10/04/95 Received: 10/05/95 Extracted: 10/06/95 Analyzed: 10/06/95 Reported: 10/17/95
--	---	--

QC Batch Number: GC100695BTEXEXA  
Instrument ID: GCHP18

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	96

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Noelle Northey*  
\_\_\_\_\_  
Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr., #103  
Sunnyvale, CA 94089  
Attention: Paul Studemeister

Client Project ID: Altamont/1053  
Matrix: Solid

Work Order #: 9510281 -01-05

Reported: Nov 9, 1995

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC100695BTEXEXA	GC100695BTEXEXA	GC100695BTEXEXA	GC100695BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	G. Garcia	G. Garcia	G. Garcia	G. Garcia
MS/MSD #:	950910603	950910603	950910603	950910603
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/6/95	10/6/95	10/6/95	10/6/95
Analyzed Date:	10/6/95	10/6/95	10/6/95	10/6/95
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg
Result:	0.16	0.17	0.17	0.51
MS % Recovery:	80	85	85	85
Dup. Result:	0.17	0.17	0.18	0.53
MSD % Recov.:	85	85	90	88
RPD:	6.1	0.0	5.7	3.8
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD LCS Control Limits	55-145	47-149	47-155	56-140
---------------------------------	--------	--------	--------	--------

SEQUOIA ANALYTICAL

*Noelle Lane*  
Noelle Lane  
Project Manager

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS= Matrix Spike, MSD= MS Duplicate, RPD= Relative % Difference

9510281.LEE <1>



CHAIN OF CUSTODY RECORD

LEE ENGINEERING ENTERPRISES: Attn - Paul Studemeister  
 1153 Bordeaux Drive, Suite 103, Sunnyvale, CA 94089  
 Phone: 408-734-2556/Fax: 408-734-9020

Sampler (s): Paul Studet 9510281

Job Name: Attachment Job Number: 1053 Sampling Round Number: ANALYSIS REQUEST

Well or Sample Id.	Date	Time	Matrix	Sample Container	Pre serv	Turn @ Time	TOG (w/ BSW) clean-up	BTEX	8310 (including naphthalene + benzopyrene)												
B1																					
B1-2.5/3.0	10/4	8:45 am	SOIL	Slave	-	3-d	✓	✓	✓												
B1-5.5/6.0					-		✓	✓	✓												1
B1-11.0/11.5					-		✓	✓	✓												2
B1-15.5/16.0					-		✓	✓	✓												3
B1-21/21.5		9:30 am			-		✓	✓	✓												4
							✓	✓	✓												5

Relinquished by: (signature/date/time) 10/5/95 11:15 am (1) Relinquished by: (signature/date/time) (2) Relinquished by: (signature/date/time) (3)

Received by: (signature) Received by: (signature) Received by: (signature)

SAMPLE RECEIPT- FLD. TO OFF.  
 TOTAL NO. OF CONTAINERS \_\_\_\_\_  
 HEAD SPACE \_\_\_\_\_  
 REC'D GOOD CONDITION/COLD \_\_\_\_\_  
 CONFORMS TO RECORD \_\_\_\_\_  
 INITIAL/DATE \_\_\_\_\_

SAMPLE RECEIPT - LAB.  
 TOTAL NO. OF CONTAINERS \_\_\_\_\_  
 HEAD SPACE \_\_\_\_\_  
 REC'D GOOD CONDITION/COLD \_\_\_\_\_  
 CONFORMS TO RECORD \_\_\_\_\_  
 INITIAL/DATE \_\_\_\_\_

Received by: (signature) 10/5/95 11:15

COMMENTS: Save Samples

Paul Studet  
 415-802-8358



Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Lab Proj. ID: 9510285

Sampled: 10/04/95  
Received: 10/05/95  
Analyzed: see below

Attention: Paul Studemister

Reported: 10/17/95

**LABORATORY ANALYSIS**

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9510285-01 Sample Desc: SOLID,B2-2.5/3.0				
TRPH (SM 5520 E&F Mod.)	mg/Kg	10/09/95	50	67
Lab No: 9510285-02 Sample Desc: SOLID,B2-6.0/6.5				
TRPH (SM 5520 E&F Mod.)	mg/Kg	10/09/95	50	N.D.
Lab No: 9510285-03 Sample Desc: SOLID,B2-16.0/16.5				
TRPH (SM 5520 E&F Mod.)	mg/Kg	10/09/95	50	N.D.
Lab No: 9510285-04 Sample Desc: SOLID,B2-21.0/21.5				
TRPH (SM 5520 E&F Mod.)	mg/Kg	10/09/95	50	74

Analytes reported as N.D. were not present above the stated limit of detection.

**EQUOIA ANALYTICAL** - ELAP #1210

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B2-2.5/3.0  
Matrix: SOLID  
Analysis Method: EPA 8310  
Lab Number: 9510285-01

Sampled: 10/04/95  
Received: 10/05/95

Analyzed: 10/16/95  
Reported: 10/17/95

Attention: Paul Studemister

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthylene	200	N.D.
Indeno(1,2,3-cd)pyrene	8.0	N.D.
Naphthalene	50	N.D.
Acenaphthene	50	N.D.
Fluorene	12	N.D.
Phenanthrene	4.0	N.D.
Anthracene	4.0	N.D.
Fluoranthene	4.0	N.D.
Pyrene	4.0	N.D.
Benzo(a)anthracene	1.0	N.D.
Chrysene	4.0	N.D.
Benzo(b)fluoranthene	10	N.D.
Benzo(k)fluoranthene	4.0	N.D.
Benzo(a)pyrene	4.0	N.D.
Dibenzo(a,h)anthracene	4.0	N.D.
Benzo(g,h,i)perylene	8.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50 150	99

Analytes reported as N.D. were not present above the stated limit of detection.

**EQUOIA ANALYTICAL** - ELAP #1197

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Aitamont/1053  
Sample Descript: B2-2.5/3.0  
Matrix: SOLID  
Analysis Method: EPA 8020  
Lab Number: 9510285-01

Sampled: 10/04/95  
Received: 10/05/95  
Extracted: 10/06/95  
Analyzed: 10/06/95  
Reported: 10/17/95

QC Batch Number: GC100695BTEXEXA  
Instrument ID: GCHP18

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	93

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Attention: Paul Studemister

Client Proj. ID: Altamont/1053  
Sample Descript: B2-6.0/6.5  
Matrix: SOLID  
Analysis Method: EPA 8310  
Lab Number: 9510285-02

Sampled: 10/04/95  
Received: 10/05/95

Analyzed: 10/16/95  
Reported: 10/17/95

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthylene	200	N.D.
Indeno(1,2,3-cd)pyrene	8.0	N.D.
Naphthalene	50	N.D.
Acenaphthene	50	N.D.
Fluorene	12	N.D.
Phenanthrene	4.0	N.D.
Anthracene	4.0	N.D.
Fluoranthene	4.0	N.D.
Pyrene	4.0	N.D.
Benzo(a)anthracene	1.0	N.D.
Chrysene	4.0	N.D.
Benzo(b)fluoranthene	10	N.D.
Benzo(k)fluoranthene	4.0	N.D.
Benzo(a)pyrene	4.0	N.D.
Dibenzo(a,h)anthracene	4.0	N.D.
Benzo(g,h,i)perylene	8.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50 150	103

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1197

*Noelle Northey*

Noelle Northey  
Project Manager







Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B2-6.0/6.5  
Matrix: SOLID  
Analysis Method: EPA 8020  
Lab Number: 9510285-02

Sampled: 10/04/95  
Received: 10/05/95  
Extracted: 10/06/95  
Analyzed: 10/06/95  
Reported: 10/17/95

QC Batch Number: GC100695BTEXEXA  
Instrument ID: GCHP18

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	91

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises 1153 Bordeaux Dr. #103 Sunnyvale, CA 94089	Client Proj. ID: Altamont/1053 Sample Descript: B2-16.0/16.5 Matrix: SOLID Analysis Method: EPA 8310 Lab Number: 9510285-03	Sampled: 10/04/95 Received: 10/05/95  Analyzed: 10/16/95 Reported: 10/17/95
Attention: Paul Studemister		

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthylene	200	N.D.
Indeno(1,2,3-cd)pyrene	8.0	N.D.
Naphthalene	50	N.D.
Acenaphthene	50	N.D.
Fluorene	12	N.D.
Phenanthrene	4.0	N.D.
Anthracene	4.0	N.D.
Fluoranthene	4.0	N.D.
Pyrene	4.0	N.D.
Benzo(a)anthracene	1.0	N.D.
Chrysene	4.0	N.D.
Benzo(b)fluoranthene	10	N.D.
Benzo(k)fluoranthene	4.0	N.D.
Benzo(a)pyrene	4.0	N.D.
Dibenzo(a,h)anthracene	4.0	N.D.
Benzo(g,h,i)perylene	8.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50                      150	103

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1197**

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises 1153 Bordeaux Dr. #103 Sunnyvale, CA 94089	Client Proj. ID: Altamont/1053 Sample Descript: B2-16.0/16.5 Matrix: SOLID Analysis Method: EPA 8020 Lab Number: 9510285-03	Sampled: 10/04/95 Received: 10/05/95 Extracted: 10/06/95 Analyzed: 10/06/95 Reported: 10/17/95
--	---	--

QC Batch Number: GC100695BTEXEXA  
Instrument ID: GCHP18

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	79

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Noelle Northey*  
\_\_\_\_\_  
Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B2-21.0/21.5  
Matrix: SOLID  
Analysis Method: EPA 8310  
Lab Number: 9510285-04

Sampled: 10/04/95  
Received: 10/05/95

Analyzed: 10/16/95  
Reported: 10/17/95

Attention: Paul Studemister

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthylene	200	N.D.
Indeno(1,2,3-cd)pyrene	8.0	N.D.
Naphthalene	50	N.D.
Acenaphthene	50	N.D.
Fluorene	12	N.D.
Phenanthrene	4.0	N.D.
Anthracene	4.0	N.D.
Fluoranthene	4.0	N.D.
Pyrene	4.0	N.D.
Benzo(a)anthracene	1.0	N.D.
Chrysene	4.0	N.D.
Benzo(b)fluoranthene	10	N.D.
Benzo(k)fluoranthene	4.0	N.D.
Benzo(a)pyrene	4.0	N.D.
Dibenzo(a,h)anthracene	4.0	N.D.
Benzo(g,h,i)perylene	8.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50 150	95

Analytes reported as N.D. were not present above the stated limit of detection.

**EQUOIA ANALYTICAL - ELAP #1197**

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B2-21.0/21.5  
Matrix: SOLID  
Analysis Method: EPA 8020  
Lab Number: 9510285-04

Sampled: 10/04/95  
Received: 10/05/95  
Extracted: 10/06/95  
Analyzed: 10/06/95  
Reported: 10/17/95

QC Batch Number: GC100695BTEXEXA  
Instrument ID: GCHP18

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	94

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr., #103  
Sunnyvale, CA 94089  
Attention: Paul Studemeister

Client Project ID: Altamont/1053  
Matrix: Solid

Work Order #: 9510285 -01-04

Reported: Nov 9, 1995

**QUALITY CONTROL DATA REPORT**

**Analyte:** Total Recoverable  
Petroleum Hydrocarbons

**QC Batch#:** OP1005955520EXA  
**Analy. Method:** SM 5520EF MOD  
**Prep. Method:** EPA 3550

**Analyst:** C. Garde  
**MS/MSD #:** 951020701  
**Sample Conc.:** N.D.  
**Prepared Date:** 10/5/95  
**Analyzed Date:** 10/5/95  
**Instrument I.D.#:** MANUAL  
**Conc. Spiked:** 500 mg/Kg

**Result:** 500  
**MS % Recovery:** 100

**Dup. Result:** 520  
**MSD % Recov.:** 104

**RPD:** 3.9  
**RPD Limit:** 0-50

**LCS #:** BLK100595

**Prepared Date:** 10/5/95  
**Analyzed Date:** 10/5/95  
**Instrument I.D.#:** MANUAL  
**Conc. Spiked:** 500 mg/Kg

**LCS Result:** 400  
**LCS % Recov.:** 80

**MS/MSD**  
**LCS** 60-140  
**Control Limits** 70-110

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*Noelle Lane*  
Noelle Lane  
Project Manager

\*\* MS= Matrix Spike, MSD= MS Duplicate, RPD= Relative % Difference

9510285.LEE <1>





Lee Engineering Enterprises  
1153 Bordeaux Dr., #103  
Sunnyvale, CA 94089  
Attention: Paul Studemeister

Client Project ID: Altamont/1053  
Matrix: Solid

Work Order #: 9510285- 01- 04

Reported: Nov 9, 1995

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC100695BTEXEXA	GC100695BTEXEXA	GC100695BTEXEXA	GC100695BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	G. Garcia	G. Garcia	G. Garcia	G. Garcia
MS/MSD #:	950910603	950910603	950910603	950910603
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/6/95	10/6/95	10/6/95	10/6/95
Analyzed Date:	10/6/95	10/6/95	10/6/95	10/6/95
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg
Result:	0.16	0.17	0.17	0.51
MS % Recovery:	80	85	85	85
Dup. Result:	0.17	0.17	0.18	0.53
MSD % Recov.:	85	85	90	88
RPD:	6.1	0.0	5.7	3.8
RPD Limit:	0-50	0-50	0-50	0-50

**LCS #:**

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD LCS Control Limits	55-145	47-149	47-155	56-140
---------------------------------	--------	--------	--------	--------

**SEQUOIA ANALYTICAL**

*Noelle Lane*

Noelle Lane  
Project Manager

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9510285.LEE <2>



CHAIN OF CUSTODY RECORD

Page \_\_\_\_\_ of \_\_\_\_\_

LEE ENGINEERING ENTERPRISES: Attn - Paul Studemier  
 1153 Bordeaux Drive, Suite 103, Sunnyvale, CA 94089  
 Phone: 408-734-2556/Fax: 408-734-9020

Sampler (s):  
 Paul Studemier 9510285

Job Name: Altamont Job Number: 1053 Sampling Round Number: \_\_\_\_\_ ANALYSIS REQUEST

Well or Sample Id.	Date	Time	Matrix	Sample Container	Pre serv.	Turn @ Time															
<u>B2</u>																					
<u>02-25/25.0</u>	<u>10/4</u>	<u>9:40</u>	<u>Soil</u>	<u>Sleeve</u>	<u>-</u>	<u>3-d</u>	<u>1</u>	<u>1</u>	<u>1</u>												
<u>6-0/6.5</u>							<u>1</u>	<u>1</u>	<u>1</u>												
<u>02-20/11.5</u>							<u>1</u>	<u>1</u>	<u>1</u>												
<u>02-16-0/16.5</u>							<u>1</u>	<u>1</u>	<u>1</u>												
<u>02-21/21.5</u>		<u>10:40</u>					<u>1</u>	<u>1</u>	<u>1</u>												

TOG with 55' dia  
 BTEX  
 8310  
 (including in-situ  
 at 615-2487700)

Relinquished by: (signature/date/time) [Signature] 10/5/95 11:00am (1) Relinquished by: (signature/date/time) (2) Relinquished by: (signature/date/time) (3)

Received by: (signature) Received by: (signature) Received by: (signature) [Signature] 10/5/95 11:15

**SAMPLE RECEIPT- FLD. TO OFF.**  
 TOTAL NO. OF CONTAINERS \_\_\_\_\_  
 HEAD SPACE \_\_\_\_\_  
 REC'D GOOD CONDITION/COLD \_\_\_\_\_  
 CONFORMS TO RECORD \_\_\_\_\_  
 INITIAL/DATE \_\_\_\_\_

**SAMPLE RECEIPT - LAB.**  
 TOTAL NO. OF CONTAINERS \_\_\_\_\_  
 HEAD SPACE \_\_\_\_\_  
 REC'D GOOD CONDITION/COLD \_\_\_\_\_  
 CONFORMS TO RECORD \_\_\_\_\_  
 INITIAL/DATE \_\_\_\_\_

COMMENTS:  
Please have detaching  
 facility for methylene  
 blue

Save Samples Paul Studemier  
 415-802-8358  
 15... - 9... 07-9

P.51

OCT 12 '95 11:13AM SEQUOIA ANALYTICAL





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053

Lab Proj. ID: 9510326

Sampled: 10/04/95  
Received: 10/05/95  
Analyzed: see below

Attention: Paul Studemeister

Reported: 10/18/95

**LABORATORY ANALYSIS**

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9510326-01 Sample Desc : SOLID,B2-11/11.5				
TRPH (SM 5520 E&F Mod.)	mg/Kg	10/10/95	50	1900

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B2-11/11.5  
Matrix: SOLID  
Analysis Method: EPA 8310  
Lab Number: 9510326-01

Sampled: 10/04/95  
Received: 10/05/95

Analyzed: 10/16/95  
Reported: 10/18/95

Attention: Paul Studemeister

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthylene	4000	N.D.
Indeno(1,2,3-cd)pyrene	80	N.D.
Naphthalene	500	N.D.
Acenaphthene	500	N.D.
Fluorene	120	N.D.
Phenanthrene	40	N.D.
Anthracene	40	N.D.
Fluoranthene	40	N.D.
Pyrene	40	N.D.
Benzo(a)anthracene	10	N.D.
Chrysene	40	N.D.
Benzo(b)fluoranthene	100	N.D.
Benzo(k)fluoranthene	40	N.D.
Benzo(a)pyrene	40	N.D.
Dibenzo(a,h)anthracene	40	N.D.
Benzo(g,h,i)perylene	80	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50                      150	85

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1197

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B2-11/11.5  
Matrix: SOLID  
Analysis Method: EPA 8020  
Lab Number: 9510326-01

Sampled: 10/04/95  
Received: 10/05/95  
Extracted: 10/06/95  
Analyzed: 10/06/95  
Reported: 10/18/95

QC Batch Number: GC100695BTEXEXA  
Instrument ID: GCHP18

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	95

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises      Client Project ID: Altamont/1053  
1153 Bordeaux Dr., #103      Matrix: Solid  
Sunnyvale, CA 94089  
Attention: Paul Studemeister      Work Order #: 9510326 -01      Reported: Nov 10, 1995

**QUALITY CONTROL DATA REPORT**

**Analyte:** Total Recoverable  
Petroleum Hydrocarbons  
**QC Batch#:** OP1009955520EXA  
**Analy. Method:** SM 5520EF MOD  
**Prep. Method:** EPA 3550

**Analyst:** C. Garde  
**MS/MSD #:** 951029001  
**Sample Conc.:** 190  
**Prepared Date:** 10/9/95  
**Analyzed Date:** 10/10/95  
**Instrument I.D.#:** MANUAL  
**Conc. Spiked:** 500 mg/Kg

**Result:** 710  
**MS % Recovery:** 104

**Dup. Result:** 570  
**MSD % Recov.:** 76

**RPD:** 22  
**RPD Limit:** 0-50

**LCS #:** BLK100995  
**Prepared Date:** 10/9/95  
**Analyzed Date:** 10/10/95  
**Instrument I.D.#:** MANUAL  
**Conc. Spiked:** 500 mg/Kg

**LCS Result:** 370  
**LCS % Recov.:** 74

**MS/MSD**  
**LCS** 60-140  
**Control Limits** 70-110

**Please Note:**  
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*Noelle Lane*  
Noelle Lane  
Project Manager

\*\* MS= Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9510326.LEE <1>





Lee Engineering Enterprises  
1153 Bordeaux Dr., #103  
Sunnyvale, CA 94089  
Attention: Paul Studemeister

Client Project ID: Altamont/1053  
Matrix: Solid  
Work Order #: 9510326-01

Reported: Nov 10, 1995

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC100695BTEXEXA	GC100695BTEXEXA	GC100695BTEXEXA	GC100695BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	G. Garcia	G. Garcia	G. Garcia	G. Garcia
MS/MSD #:	950910603	950910603	950910603	950910603
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/6/95	10/6/95	10/6/95	10/6/95
Analyzed Date:	10/6/95	10/6/95	10/6/95	10/6/95
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg
Result:	0.16	0.17	0.17	0.51
MS % Recovery:	80	85	85	85
Dup. Result:	0.17	0.17	0.18	0.53
MSD % Recov.:	85	85	90	88
RPD:	6.1	0.0	5.7	3.8
RPD Limit:	0-50	0-50	0-50	0-50

**LCS #:**

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD LCS Control Limits	55-145	47-149	47-155	56-140
---------------------------------	--------	--------	--------	--------

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*Noelle Lane*  
Noelle Lane  
Project Manager

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9510326.LEE <2>



CHAIN OF CUSTODY RECORD

LEE ENGINEERING ENTERPRISES: Attn - Paul Studemeister  
 1153 Bordeaux Drive, Suite 103, Sunnyvale, CA 94089  
 Phone: 408-734-2556/Fax: 408-734-9020

Sampler (s):  
 Paul Studemeister

Job Name:			Job Number:	Sampling Round Number:	ANALYSIS REQUEST																
Well or Sample Id.	Date	Time	Matrix	Sample Container	Pre serv	Turn @ Time															
Altamont			1053																		
B2-11.01 11.5	10/4	~9:55 ~	Soil	9510326	-	3-dg	✓	✓	BTEX	8310	(including naphthalene/benzopyrene)	✓									

Relinquished by: (signature/date/time) *Paul Studemeister* 10/5/95 6:50pm (1)

Relinquished by: (signature/date/time) (2)

Relinquished by: (signature/date/time) (3)

Received by: (signature)

Received by: (signature)

Received by: (signature) *J. Kim* 10/5/95 18:50

**SAMPLE RECEIPT- FLD. TO OFF.**  
 TOTAL NO. OF CONTAINERS \_\_\_\_\_  
 HEAD SPACE \_\_\_\_\_  
 REC'D GOOD CONDITION/COLD \_\_\_\_\_  
 CONFORMS TO RECORD \_\_\_\_\_  
 INITIAL/DATE \_\_\_\_\_

**SAMPLE RECEIPT - LAB.**  
 TOTAL NO. OF CONTAINERS 1  
 HEAD SPACE no  
 REC'D GOOD CONDITION/COLD yes  
 CONFORMS TO RECORD yes  
 INITIAL/DATE *PK* 10/5

COMMENTS:  
 Save Samples

Paul Studemeister  
 415-802-8358



Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont Project  
Lab Proj. ID: 9510J55

Sampled: 10/04/95  
Received: 10/27/95  
Analyzed: see below

Attention: Paul Studemister

Reported: 11/10/95

**LABORATORY ANALYSIS**

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
---------	-------	---------------	-----------------	----------------

Lab No: 9510J55-01  
Sample Desc : SOLID,B2-21.0/21.5

TRPH (SM 5520 B&F Mod)	mg/L	11/08/95	5.0	N.D.
------------------------	------	----------	-----	------

Lab No: 9510J55-02  
Sample Desc : SOLID,B1-15.5/16.0

TRPH (SM 5520 B&F Mod)	mg/L	11/08/95	5.0	N.D.
------------------------	------	----------	-----	------

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Noelle Lane*

Noelle Lane  
Project Manager





Lee Engineering Enterprises 1153 Bordeaux Dr., #103 Sunnyvale, CA 94089 Attention: Paul Studemeister	Client Project ID: Altamont Project Matrix: Liquid Work Order #: 9510J55 -01-02	Reported: Nov 10, 1995
---	---	------------------------

**QUALITY CONTROL DATA REPORT**

STLC

<b>Analyte:</b> Total Recoverable Petroleum Hydrocarbons
<b>QC Batch#:</b> OP1103955520EXA
<b>Analy. Method:</b> SM 5520BF MOD
<b>Prep. Method:</b> SPE

**Analyst:** C. Garde  
**MS/MSD #:** BLK110395  
**Sample Conc.:** N.A.  
**Prepared Date:** 11/3/95  
**Analyzed Date:** 11/6/95  
**Instrument I.D.#:** MANUAL  
**Conc. Spiked:** 10 mg/L

**Result:** 7.3  
**MS % Recovery:** 73

**Dup. Result:** 7.1  
**MSD % Recov.:** 71

**RPD:** 2.8  
**RPD Limit:** 0-50

**LCS #:**

**Prepared Date:**  
**Analyzed Date:**  
**Instrument I.D.#:**  
**Conc. Spiked:**

**LCS Result:**  
**LCS % Recov.:**

<b>MS/MSD LCS Control Limits</b>	70-110
--	--------

**SEQUOIA ANALYTICAL**

*Noelle Lane*  
Noelle Lane  
Project Manager

**Please Note:**  
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9510J55.LEE <1>







Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont 1009

Lab Proj. ID: 9510A99

Sampled: 10/04/95  
Received: 10/16/95  
Analyzed: see below

Attention: Paul Studemister

Reported: 11/15/95

**LABORATORY ANALYSIS**

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9510A99-01 Sample Desc : SOLID,B2-20.5/21				
TRPH (SM 5520 E&F Mod.)	mg/Kg	10/27/95	50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

*Noelle Lane*

Noelle Lane  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont 1009  
Sample Descript: B2-20.5/21  
Matrix: SOLID  
Analysis Method: EPA 8020  
Lab Number: 9510A99-01

Sampled: 10/04/95  
Received: 10/16/95  
Extracted: 10/17/95  
Analyzed: 10/17/95  
Reported: 11/15/95

QC Batch Number: GC101795BTEXEXA  
Instrument ID: GCHP18

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	87

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

*Noelle Lane*

Noelle Lane  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont 1009

Lab Proj. ID: 9510A99

Sampled: 10/04/95  
Received: 10/16/95  
Analyzed: see below

Attention: Paul Studemister

Reported: 10/27/95

**LABORATORY ANALYSIS**

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9510A99-01				
Sample Desc: SOLID,B2-20.5/21				
TRPH (SM 5520 B&F Mod)	mg/L	10/27/95	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Noelle Lane*

Noelle Lane  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont 1009  
Sample Descript: B2-20.5/21  
Matrix: SOLID  
Analysis Method: EPA 8020  
Lab Number: 9510A99-01

Sampled: 10/04/95  
Received: 10/16/95  
Extracted: 10/17/95  
Analyzed: 10/17/95  
Reported: 10/27/95

QC Batch Number: GC101795BTEXEXA  
Instrument ID: GCHP18

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	87

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Noelle Lane*

Noelle Lane  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr., #103  
Sunnyvale, CA 94089  
Attention: Paul Studemelster

Client Project ID: Altamont 1009  
Matrix: Solid

Work Order #: 9510A99 -01

Reported: Oct 30, 1995

**QUALITY CONTROL DATA REPORT**

**Analyte:** Total Oil & Grease  
**QC Batch#:** OP102695SM5520EXA  
**Analy. Method:** SM5502E&F  
**Prep. Method:** EPA 3550

**Analyst:** M. Minstry  
**MS/MSD #:** 9510A48-01  
**Sample Conc.:** N.D.  
**Prepared Date:** 10/25/95  
**Analyzed Date:** 10/26/95  
**Instrument I.D.#:** MANUAL  
**Conc. Spiked:** 500 mg/kg

**Result:** 600  
**MS % Recovery:** 120

**Dup. Result:** 510  
**MSD % Recov.:** 100

**RPD:** 16  
**RPD Limit:** 60-140

**LCS #:** BLK102595  
**Prepared Date:** 10/25/95  
**Analyzed Date:** 10/26/95  
**Instrument I.D.#:** MANUAL  
**Conc. Spiked:** 500 mg/kg

**LCS Result:** 460  
**LCS % Recov.:** 92

**MS/MSD** 70-110  
**LCS** 60-140  
**Control Limits**

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*Noelle Lane*  
Noelle Lane  
Project Manager

\*\* MS= Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9510A99.LEE <1>





Lee Engineering Enterprises      Client Project ID: Altamont 1009  
1153 Bordeaux Dr., #103      Matrix: Solid  
Sunnyvale, CA 94089  
Attention: Paul Studemeister      Work Order #: 9510A99 -01      Reported: Oct 30, 1995

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC101795BTEXEXA	GC101795BTEXEXA	GC101795BTEXEXA	GC101795BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	E[A 5030	E[A 5030	E[A 5030	E[A 5030

Analyst:	G. Garcia	G. Garcia	G. Garcia	G. Garcia
MS/MSD #:	9509709-21	9509709-21	9509709-21	9509709-21
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/17/95	10/17/95	10/17/95	10/17/95
Analyzed Date:	10/17/95	10/17/95	10/17/95	10/17/95
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked:	0.20 mg/kg	0.20 mg/kg	0.20 mg/kg	0.60 mg/kg
Result:	0.17	0.17	0.17	0.50
MS % Recovery:	85	85	85	0.83
Dup. Result:	0.17	0.17	0.17	0.50
MSD % Recov.:	85	85	85	0.83
RPD:	0.0	0.0	0.0	0.0
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD LCS Control Limits	55-145	47-149	47-155	56-140
---------------------------------	--------	--------	--------	--------

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*Noelle Lane*

Noelle Lane  
Project Manager

\*\* MS= Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9510A99.LEE <2>



CHAIN OF CUSTODY RECORD

Page \_\_\_\_\_ of \_\_\_\_\_

LEE ENGINEERING ENTERPRISES: Attn - Paul Studemeister  
 1153 Bordeaux Drive, Suite 103, Sunnyvale, CA 94089  
 Phone: 408-734-2556/Fax: 408-734-9020

Sampler (s):  
 Paul Studemeister 9510A99

Job Name: Altamont Job Number: 1009 Sampling Round Number: \_\_\_\_\_ ANALYSIS REQUEST \_\_\_\_\_

Well or Sample Id.	Date	Time	Matrix	Sample Container	Pre serv.	Turn @ Time	ANALYSIS REQUEST															
<u>B2-20-5/21</u>	<u>10/4</u>		<u>Soil</u>	<u>Sleeve</u>	<u>-</u>	<u><del>10/4</del></u>	<u>TOG WITH clean-up</u>	<u>BTEX</u>														

OIA

Relinquished by: (signature/date/time) [Signature] 10/16/95 (1) [Signature]

Relinquished by: (signature/date/time) \_\_\_\_\_ (2)

Relinquished by: (signature/date/time) \_\_\_\_\_ (3)

Received by: (signature) \_\_\_\_\_

Received by: (signature) \_\_\_\_\_

Received by: (signature) [Signature] 10-16-95 1700

SAMPLE RECEIPT- FLD. TO OFF.  
 TOTAL NO. OF CONTAINERS \_\_\_\_\_  
 HEAD SPACE 14/215  
 REC'D GOOD CONDITION/COLD \_\_\_\_\_  
 CONFORMS TO RECORD \_\_\_\_\_  
 INITIAL/DATE [Signature]

SAMPLE RECEIPT - LAB.  
 TOTAL NO. OF CONTAINERS \_\_\_\_\_  
 HEAD SPACE \_\_\_\_\_  
 REC'D GOOD CONDITION/COLD \_\_\_\_\_  
 CONFORMS TO RECORD \_\_\_\_\_  
 INITIAL/DATE \_\_\_\_\_

COMMENTS:  
\*- STD TAT BUT  
WATCH HOLD TIME

(SAMPLED 10/4/95)



Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B2-W  
Matrix: LIQUID  
Analysis Method: EPA 8020  
Lab Number: 9510299-01

Sampled: 10/04/95  
Received: 10/05/95  
Analyzed: 10/06/95  
Reported: 10/17/95

QC Batch Number: GC100695BTEX21A  
Instrument ID: GCHP21

**BTEX Distinction**

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	100

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Noelle Northey*

Noelle Northey  
Project Manager







Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B2-W  
Matrix: LIQUID  
Analysis Method: EPA 8310  
Lab Number: 9510299-01

Sampled: 10/04/95  
Received: 10/05/95  
Analyzed: 10/16/95  
Reported: 10/17/95

Attention: Paul Studemister

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/L	Sample Results ug/L
Acenaphthylene	50	N.D.
Indeno(1,2,3-cd)pyrene	2.5	N.D.
Naphthalene	13	N.D.
Acenaphthene	13	N.D.
Fluorene	5.0	N.D.
Phenanthrene	1.3	N.D.
Anthracene	2.5	N.D.
Fluoranthene	2.5	N.D.
Pyrene	1.3	N.D.
Benzo(a)anthracene	1.3	N.D.
Chrysene	1.3	N.D.
Benzo(b)fluoranthene	2.5	N.D.
Benzo(k)fluoranthene	1.3	N.D.
Benzo(a)pyrene	1.3	N.D.
Dibenzo(a,h)anthracene	5.0	N.D.
Benzo(g,h,i)perylene	2.5	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50                      150	90

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1197

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr., #103  
Sunnyvale, CA 94089  
Attention: Paul Studemeister

Client Project ID: Altamont/1053  
Matrix: Liquid

Work Order #: 9510299 01

Reported: Nov 10, 1995

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC100595BTEX21A	GC100595BTEX21A	GC100595BTEX21A	GC100595BTEX21A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	J. Woo	J. Woo	J. Woo	J. Woo
MS/MSD #:	9509J5403	9509J5403	9509J5403	9509J5403
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/6/95	10/6/95	10/6/95	10/6/95
Analyzed Date:	10/6/95	10/6/95	10/6/95	10/6/95
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	9.8	9.8	30
MS % Recovery:	100	98	98	100
Dup. Result:	11	11	12	35
MSD % Recov.:	110	110	120	117
RPD:	9.5	12	20	15
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120
---------------------------	--------	--------	--------	--------

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Noelle Lane  
Project Manager

\*\* MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9510299.LEE <1>



CHAIN OF CUSTODY RECORD

LEE ENGINEERING ENTERPRISES: Attn - Paul Studemeister  
 1153 Bordeaux Drive, Suite 103, Sunnyvale, CA 94089  
 Phone: 408-734-2556/Fax: 408-734-9020

Sampler(s):

Paul Studemeister

9510299

Job Name: <i>Altamont</i>			Job Number: <i>1053</i>		Sampling Round Number:		ANALYSIS REQUEST											
------------------------------	--	--	----------------------------	--	------------------------	--	------------------	--	--	--	--	--	--	--	--	--	--	--

Well or Sample Id.	Date	Time	Matrix	Sample Container	Pre serv	Turn @ Time															
<i>B2-W</i>	<i>10/4</i>	<i>10:30 am</i>	<i>H<sub>2</sub>O</i>	<i>4 Vials</i>	<i>Ø</i>	<i>48-Hr</i>	<i>↓</i>	<i>↓</i>	<i>BTEX</i>	<i>8310</i>	<i>TOG w/ drum 5520</i>										

Relinquished by: (signature/date/time) *Paul Stud 10/5/95 11:15 am* (1)      Relinquished by: (signature/date/time) \_\_\_\_\_ (2)      Relinquished by: (signature/date/time) \_\_\_\_\_ (3)

Received by: (signature) \_\_\_\_\_      Received by: (signature) \_\_\_\_\_      Received by: (signature) *Paul Stud 10/5/95 11:15*

SAMPLE RECEIPT- FLD. TO OFF.  
 TOTAL NO. OF CONTAINERS \_\_\_\_\_  
 HEAD SPACE \_\_\_\_\_  
 REC'D GOOD CONDITION/COLD \_\_\_\_\_  
 CONFORMS TO RECORD \_\_\_\_\_  
 INITIAL/DATE \_\_\_\_\_

SAMPLE RECEIPT - LAB.  
 TOTAL NO. OF CONTAINERS \_\_\_\_\_  
 HEAD SPACE \_\_\_\_\_  
 REC'D GOOD CONDITION/COLD \_\_\_\_\_  
 CONFORMS TO RECORD \_\_\_\_\_  
 INITIAL/DATE \_\_\_\_\_

COMMENTS:  
*\* Order of priority -> BTEX, 8310 + TOG*

*Paul Studet*  
*415-802-6358*  
*including Naphtalene*



**RECEIVED NOV 28 1995**

Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont  
Lab Proj. ID: 9510287

Sampled: 10/04/95  
Received: 10/05/95  
Analyzed: see below

Attention: Paul Studemister

Reported: 11/27/95

**LABORATORY ANALYSIS**

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9510287-01 Sample Desc: SOLID,B5-6.0/6.5				
TRPH (SM 5520 E&F Mod.)	mg/Kg	10/09/95	50	1500
Lab No: 9510287-02 Sample Desc: SOLID,B5-10.5/11.0				
TRPH (SM 5520 E&F Mod.)	mg/Kg	10/09/95	50	5100
Lab No: 9510287-03 Sample Desc: SOLID,B5-16.0/16.5				
TRPH (SM 5520 E&F Mod.)	mg/Kg	10/09/95	50	190
Lab No: 9510287-04 Sample Desc: SOLID,B5-21.0/21.5				
TRPH (SM 5520 E&F Mod.)	mg/Kg	10/09/95	50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Welle Lane*

Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont  
Sample Descript: B5-6.0/6.5  
Matrix: SOLID  
Analysis Method: EPA 8310  
Lab Number: 9510287-01

Sampled: 10/04/95  
Received: 10/05/95

Analyzed: 10/16/95  
Reported: 11/27/95

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthylene	200	N.D.
Indeno(1,2,3-cd)pyrene	8.0	N.D.
Naphthalene	50	N.D.
Acenaphthene	50	N.D.
Fluorene	12	N.D.
Phenanthrene	4.0	N.D.
Anthracene	4.0	N.D.
Fluoranthene	4.0	N.D.
Pyrene	4.0	N.D.
Benzo(a)anthracene	1.0	N.D.
Chrysene	4.0	N.D.
Benzo(b)fluoranthene	10	N.D.
Benzo(k)fluoranthene	4.0	N.D.
Benzo(a)pyrene	4.0	N.D.
Dibenzo(a,h)anthracene	4.0	N.D.
Benzo(g,h,i)perylene	8.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50 150	100

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1197**

*William Lane*

Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont  
Sample Descript: B5-6.0/6.5  
Matrix: SOLID  
Analysis Method: EPA 8020  
Lab Number: 9510287-01

Sampled: 10/04/95  
Received: 10/05/95  
Extracted: 10/06/95  
Analyzed: 10/06/95  
Reported: 11/27/95

QC Batch Number: GC100695BTEXEXA  
Instrument ID: GCHP01

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	0.0083
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	110

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Paul Studemister*

Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont  
Sample Descript: B5-10.5/11.0  
Matrix: SOLID  
Analysis Method: EPA 8310  
Lab Number: 9510287-02

Sampled: 10/04/95  
Received: 10/05/95

Analyzed: 10/16/95  
Reported: 11/27/95

Attention: Paul Studemister

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthylene	10000	N.D.
Indeno(1,2,3-cd)pyrene	400	N.D.
Naphthalene	2500	N.D.
Acenaphthene	2500	N.D.
Fluorene	600	N.D.
Phenanthrene	200	N.D.
Anthracene	200	N.D.
Fluoranthene	200	N.D.
Pyrene	200	N.D.
Benzo(a)anthracene	50	N.D.
Chrysene	200	N.D.
Benzo(b)fluoranthene	500	N.D.
Benzo(k)fluoranthene	200	N.D.
Benzo(a)pyrene	200	N.D.
Dibenzo(a,h)anthracene	200	N.D.
Benzo(g,h,i)perylene	400	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50                      150	71

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1197**

*Will Lane*

Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont  
Sample Descript: B5-10.5/11.0  
Matrix: SOLID  
Analysis Method: EPA 8020  
Lab Number: 9510287-02

Sampled: 10/04/95  
Received: 10/05/95  
Extracted: 10/06/95  
Analyzed: 10/06/95  
Reported: 11/27/95

QC Batch Number: GC100695BTEXEXA  
Instrument ID: GCHP01

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	98

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Michelle Lane*

Project Manager







Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont  
Sample Descript: B5-16.0/16.5  
Matrix: SOLID  
Analysis Method: EPA 8310  
Lab Number: 9510287-03

Sampled: 10/04/95  
Received: 10/05/95

Analyzed: 10/16/95  
Reported: 11/27/95

Attention: Paul Studemister

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthylene	2000	N.D.
Indeno(1,2,3-cd)pyrene	80	N.D.
Naphthalene	500	N.D.
Acenaphthene	500	N.D.
Fluorene	120	N.D.
Phenanthrene	40	N.D.
Anthracene	40	N.D.
Fluoranthene	40	N.D.
Pyrene	40	N.D.
Benzo(a)anthracene	10	N.D.
Chrysene	40	N.D.
Benzo(b)fluoranthene	100	N.D.
Benzo(k)fluoranthene	40	N.D.
Benzo(a)pyrene	40	N.D.
Dibenzo(a,h)anthracene	40	N.D.
Benzo(g,h,i)perylene	80	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50 150	100

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1197

*Paul Studemister*

Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont  
Sample Descript: B5-16.0/16.5  
Matrix: SOLID  
Analysis Method: EPA 8020  
Lab Number: 9510287-03

Sampled: 10/04/95  
Received: 10/05/95  
Extracted: 10/06/95  
Analyzed: 10/06/95  
Reported: 11/27/95

QC Batch Number: GC100695BTEXEXA  
Instrument ID: GCHP01

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	108

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Michelle Lane*

Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont  
Sample Descript: B5-21.0/21.5  
Matrix: SOLID  
Analysis Method: EPA 8310  
Lab Number: 9510287-04

Sampled: 10/04/95  
Received: 10/05/95

Analyzed: 10/16/95  
Reported: 11/27/95

Attention: Paul Studemister

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthylene	200	N.D.
Indeno(1,2,3-cd)pyrene	8.0	N.D.
Naphthalene	50	N.D.
Acenaphthene	50	N.D.
Fluorene	12	N.D.
Phenanthrene	4.0	N.D.
Anthracene	4.0	N.D.
Fluoranthene	4.0	N.D.
Pyrene	4.0	N.D.
Benzo(a)anthracene	1.0	N.D.
Chrysene	4.0	N.D.
Benzo(b)fluoranthene	10	N.D.
Benzo(k)fluoranthene	4.0	N.D.
Benzo(a)pyrene	4.0	N.D.
Dibenzo(a,h)anthracene	4.0	N.D.
Benzo(g,h,i)perylene	8.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50 150	101

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1197

*noel lane*

Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont  
Sample Descript: B5-21.0/21.5  
Matrix: SOLID  
Analysis Method: EPA 8020  
Lab Number: 9510287-04

Sampled: 10/04/95  
Received: 10/05/95  
Extracted: 10/06/95  
Analyzed: 10/06/95  
Reported: 11/27/95

GC Batch Number: GC100695BTEXEXA  
Instrument ID: GCHP18

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	99

Analytes reported as N.D. were not present above the stated limit of detection.

**EQUOIA ANALYTICAL - ELAP #1210**

*Handwritten signature*

Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr., #103  
Sunnyvale, CA 94089  
Attention: Paul Studemeister

Client Project ID: Altamont  
Matrix: Solid

Work Order #: 9510287 -01-04

Reported: Nov 10, 1995

**QUALITY CONTROL DATA REPORT**

**Analyte:** Total Recoverable  
Petroleum Hydrocarbons

**QC Batch#:** OP1005955520EXA  
**Analy. Method:** SM 5520EF MOD  
**Prep. Method:** EPA 3550

**Analyst:** C. Garde  
**MS/MSD #:** 951020701  
**Sample Conc.:** N.D.  
**Prepared Date:** 10/5/95  
**Analyzed Date:** 10/5/95  
**Instrument I.D.#:** MANUAL  
**Conc. Spiked:** 500 mg/Kg

**Result:** 500  
**MS % Recovery:** 100

**Dup. Result:** 520  
**MSD % Recov.:** 104

**RPD:** 3.9  
**RPD Limit:** 0-50

**LCS #:** BLK100595

**Prepared Date:** 10/5/95  
**Analyzed Date:** 10/5/95  
**Instrument I.D.#:** MANUAL  
**Conc. Spiked:** 500 mg/Kg

**LCS Result:** 400  
**LCS % Recov.:** 80

**Control Limits**  
60-140  
70-110

**SEQUOIA ANALYTICAL**

*Noelle Lane*  
Noelle Lane  
Project Manager

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9510287.LEE <1>



CHAIN OF CUSTODY RECORD

Page \_\_\_\_\_ of \_\_\_\_\_

LEE ENGINEERING ENTERPRISES: Attn - Paul Studemeister  
 1153 Bordeaux Drive, Suite 103, Sunnyvale, CA 94089  
 Phone: 408-734-2556/Fax: 408-734-9020

Sampler (s): Paul Studemeister 9510287

Job Name: Altamount Job Number: 1053 Sampling Round Number: \_\_\_\_\_ ANALYSIS REQUEST

Well or Sample Id.	Date	Time	Matrix	Sample Container	Pre serv	Turn @ Time	TOG	BTEX	8310 (including naphthalene & benzofluoranthene)										
B5																			
B5-6.0/65	10/4	1:45 pm	Soil	Sleeve	-	3-d	✓	✓	✓										
B5-10.5/11.0	↓	↓	↓	↓	-	↓	✓	✓	✓										
B5-16.0/165	↓	↓	↓	↓	-	↓	✓	✓	✓										
B5-21/21.5	↓	2:00 pm	↓	↓	-	↓	✓	✓	✓										

1  
2  
3  
4

Relinquished by: (signature/date/time) [Signature] 10/5/95 11:15a (1)

Relinquished by: (signature/date/time) \_\_\_\_\_ (2)

Relinquished by: (signature/date/time) \_\_\_\_\_ (3)

Received by: (signature) \_\_\_\_\_

Received by: (signature) \_\_\_\_\_

Received by: (signature) [Signature] 10/5/95 11:15

**SAMPLE RECEIPT- FLD. TO OFF.**  
 TOTAL NO. OF CONTAINERS \_\_\_\_\_  
 HEAD SPACE \_\_\_\_\_  
 REC'D GOOD CONDITION/COLD \_\_\_\_\_  
 CONFORMS TO RECORD \_\_\_\_\_  
 INITIAL/DATE \_\_\_\_\_

**SAMPLE RECEIPT - LAB.**  
 TOTAL NO. OF CONTAINERS \_\_\_\_\_  
 HEAD SPACE \_\_\_\_\_  
 REC'D GOOD CONDITION/COLD \_\_\_\_\_  
 CONFORMS TO RECORD \_\_\_\_\_  
 INITIAL/DATE \_\_\_\_\_

COMMENTS:  
SAVE SAMPLES

Paul Studt  
 415-802-8358  
 FA. 0.11 - 8359



Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053

Lab Proj. ID: 9510290

Sampled: 10/04/95  
Received: 10/05/95  
Analyzed: see below

Attention: Paul Studemister

Reported: 10/17/95

**LABORATORY ANALYSIS**

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9510290-01 Sample Desc: SOLID,B6-5.5/6.0				
TRPH (SM 5520 E&F Mod.)	mg/Kg	10/10/95	50	190
Lab No: 9510290-02 Sample Desc: SOLID,B6-11.0/11.5				
TRPH (SM 5520 E&F Mod.)	mg/Kg	10/10/95	50	5900
Lab No: 9510290-03 Sample Desc: SOLID,B6-15.5/16.0				
TRPH (SM 5520 E&F Mod.)	mg/Kg	10/10/95	50	N.D.
Lab No: 9510290-04 Sample Desc: SOLID,B6-26.0/26.5				
TRPH (SM 5520 E&F Mod.)	mg/Kg	10/10/95	50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B6-5.5/6.0  
Matrix: SOLID  
Analysis Method: EPA 8310  
Lab Number: 9510290-01

Sampled: 10/04/95  
Received: 10/05/95  
Analyzed: 10/16/95  
Reported: 10/17/95

Attention: Paul Studemister

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthylene	2000	N.D.
Indeno(1,2,3-cd)pyrene	80	N.D.
Naphthalene	500	N.D.
Acenaphthene	500	N.D.
Fluorene	120	N.D.
Phenanthrene	40	N.D.
Anthracene	40	N.D.
Fluoranthene	40	N.D.
Pyrene	40	55
Benzo(a)anthracene	10	N.D.
Chrysene	40	N.D.
Benzo(b)fluoranthene	100	N.D.
Benzo(k)fluoranthene	40	N.D.
Benzo(a)pyrene	40	N.D.
Dibenzo(a,h)anthracene	40	N.D.
Benzo(g,h,i)perylene	80	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50                      150	83

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1197

*Noelle Northey*

Noelle Northey  
Project Manager







Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B6-5.5/6.0  
Matrix: SOLID  
Analysis Method: EPA 8020  
Lab Number: 9510290-01

Sampled: 10/04/95  
Received: 10/05/95  
Extracted: 10/06/95  
Analyzed: 10/06/95  
Reported: 10/17/95

QC Batch Number: GC100695BTEXEXA  
Instrument ID: GCHP01

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	0.0070
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	107

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

*Noelle Northey*

Noelle Northey  
Project Manager

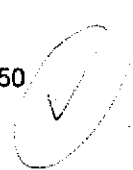




Lee Engineering Enterprises 1153 Bordeaux Dr. #103 Sunnyvale, CA 94089	Client Proj. ID: Altamont/1053 Sample Descript: B6-11.0/11.5 Matrix: SOLID Analysis Method: EPA 8310 Lab Number: 9510290-02	Sampled: 10/04/95 Received: 10/05/95 Analyzed: 10/16/95 Reported: 10/17/95
Attention: Paul Studemister		

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthylene	20000	N.D.
Indeno(1,2,3-cd)pyrene	800	N.D.
Naphthalene	5000	N.D.
Acenaphthene	5000	N.D.
Fluorene	1200	N.D.
Phenanthrene	400	N.D.
Anthracene	400	N.D.
Fluoranthene	400	N.D.
Pyrene	400	N.D.
Benzo(a)anthracene	100	N.D.
Chrysene	400	N.D.
Benzo(b)fluoranthene	1000	N.D.
Benzo(k)fluoranthene	400	N.D.
Benzo(a)pyrene	400	N.D.
Dibenzo(a,h)anthracene	400	N.D.
Benzo(g,h,i)perylene	800	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50                      150	48 Q



Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1197

Noelle Northey  
Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B6-11.0/11.5  
Matrix: SOLID  
Analysis Method: EPA 8020  
Lab Number: 9510290-02

Sampled: 10/04/95  
Received: 10/05/95  
Extracted: 10/06/95  
Analyzed: 10/06/95  
Reported: 10/17/95

QC Batch Number: GC100695BTEXEXA  
Instrument ID: GCHP01

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	105

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

*Noelle Northey*  
\_\_\_\_\_  
Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B6-15.5/16.0  
Matrix: SOLID  
Analysis Method: EPA 8310  
Lab Number: 9510290-03

Sampled: 10/04/95  
Received: 10/05/95  
Analyzed: 10/16/95  
Reported: 10/17/95

Attention: Paul Studemister

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthylene	200	N.D.
Indeno(1,2,3-cd)pyrene	8.0	N.D.
Naphthalene	50	N.D.
Acenaphthene	50	N.D.
Fluorene	12	N.D.
Phenanthrene	4.0	N.D.
Anthracene	4.0	N.D.
Fluoranthene	4.0	N.D.
Pyrene	4.0	N.D.
Benzo(a)anthracene	1.0	N.D.
Chrysene	4.0	N.D.
Benzo(b)fluoranthene	10	N.D.
Benzo(k)fluoranthene	4.0	N.D.
Benzo(a)pyrene	4.0	N.D.
Dibenzo(a,h)anthracene	4.0	N.D.
Benzo(g,h,i)perylene	8.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50 150	95

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1197

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B6-15.5/16.0  
Matrix: SOLID  
Analysis Method: EPA 8020  
Lab Number: 9510290-03

Sampled: 10/04/95  
Received: 10/05/95  
Extracted: 10/06/95  
Analyzed: 10/06/95  
Reported: 10/17/95

QC Batch Number: GC100695BTEXEXA  
Instrument ID: GCHP01

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	99

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises 1153 Bordeaux Dr. #103 Sunnyvale, CA 94089	Client Proj. ID: Altamont/1053 Sample Descript: B6-26.0/26.5 Matrix: SOLID Analysis Method: EPA 8310 Lab Number: 9510290-04	Sampled: 10/04/95 Received: 10/05/95  Analyzed: 10/16/95 Reported: 10/17/95
Attention: Paul Studemister		

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthylene	200	N.D.
Indeno(1,2,3-cd)pyrene	8.0	N.D.
Naphthalene	50	N.D.
Acenaphthene	50	N.D.
Fluorene	12	N.D.
Phenanthrene	4.0	N.D.
Anthracene	4.0	N.D.
Fluoranthene	4.0	N.D.
Pyrene	4.0	N.D.
Benzo(a)anthracene	1.0	N.D.
Chrysene	4.0	N.D.
Benzo(b)fluoranthene	10	N.D.
Benzo(k)fluoranthene	4.0	N.D.
Benzo(a)pyrene	4.0	N.D.
Dibenzo(a,h)anthracene	4.0	N.D.
Benzo(g,h,i)perylene	8.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50                      150	95

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1197**

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B6-26.0/26.5  
Matrix: SOLID  
Analysis Method: EPA 8020  
Lab Number: 9510290-04

Sampled: 10/04/95  
Received: 10/05/95  
Extracted: 10/06/95  
Analyzed: 10/06/95  
Reported: 10/17/95

QC Batch Number: GC100695BTEXEXA  
Instrument ID: GCHP01

**BTEX Distinction**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	104

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Noelle Northey*

Noelle Northey  
Project Manager





Lee Engineering Enterprises 1153 Bordeaux Dr., #103 Sunnyvale, CA 94089 Attention: Paul Studemeister	Client Project ID: Altamont/1053 Matrix: Solid Work Order #: 9510290 -01-04	Reported: Nov 9, 1995
---	---	-----------------------

**QUALITY CONTROL DATA REPORT**

<b>Analyte:</b> Total Recoverable Petroleum Hydrocarbons
<b>QC Batch#:</b> OP1009955520EXA
<b>Analy. Method:</b> SM 5520EF MOD
<b>Prep. Method:</b> EPA 3550

**Analyst:** C. Garde  
**MS/MSD #:** 951029001  
**Sample Conc.:** 190  
**Prepared Date:** 10/9/95  
**Analyzed Date:** 10/10/95  
**Instrument I.D.#:** MANUAL  
**Conc. Spiked:** 500 mg/Kg

**Result:** 710  
**MS % Recovery:** 104

**Dup. Result:** 570  
**MSD % Recov.:** 76

**RPD:** 22  
**RPD Limit:** 0-50



**LCS #:** BLK100995  
**Prepared Date:** 10/9/95  
**Analyzed Date:** 10/10/95  
**Instrument I.D.#:** MANUAL  
**Conc. Spiked:** 500 mg/Kg  
**LCS Result:** 370  
**LCS % Recov.:** 74

<b>MS/MSD</b>	
<b>LCS</b>	60-140
<b>Control Limits</b>	70-110

**SEQUOIA ANALYTICAL**

*Noelle Lane*  
Noelle Lane  
Project Manager

**Please Note:**  
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS= Matrix Spike, MSD=MS Duplicate, RPD= Relative % Difference

9510290.LEE <1>







Lee Engineering Enterprises 1153 Bordeaux Dr., #103 Sunnyvale, CA 94089 Attention: Paul Studemeister	Client Project ID: Altamont/1053 Matrix: Solid  Work Order #: 9510290-01-04	Reported: Nov 9, 1995
---	--	-----------------------

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC100695BTEXEXA	GC100695BTEXEXA	GC100695BTEXEXA	GC100695BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	G. Garcia	G. Garcia	G. Garcia	G. Garcia
MS/MSD #:	950910603	950910603	950910603	950910603
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/6/95	10/6/95	10/6/95	10/6/95
Analyzed Date:	10/6/95	10/6/95	10/6/95	10/6/95
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg
Result:	0.16	0.17	0.17	0.51
MS % Recovery:	80	85	85	85
Dup. Result:	0.17	0.17	0.18	0.53
MSD % Recov.:	85	85	90	88
RPD:	6.1	0.0	5.7	3.8
RPD Limit:	0-50	0-50	0-50	0-50

**LCS #:**

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD LCS Control Limits	55-145	47-149	47-155	56-140
---------------------------------	--------	--------	--------	--------

**SEQUOIA ANALYTICAL**

*Noelle Lane*  
Noelle Lane  
Project Manager

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS= Matrix Spike, MSD=MS Duplicate, RPD= Relative % Difference

9510290.LEE <2>



CHAIN OF CUSTODY RECORD

LEE ENGINEERING ENTERPRISES: Attn - Paul Studemeister  
 1153 Bordeaux Drive, Suite 103, Sunnyvale, CA 94089  
 Phone: 408-734-2556/Fax: 408-734-9020

Sampler(s): Paul Studest  
9510290

Job Name: <u>A15 amount</u>	Job Number: <u>1053</u>	Sampling Round Number:	ANALYSIS REQUEST											
--------------------------------	----------------------------	------------------------	------------------	--	--	--	--	--	--	--	--	--	--	--

Well or Sample Id.	Date	Time	Matrix	Sample Container	Pre serv	Turn @ Time																
<u>B6</u>							<u>TOB with clean-up</u>	<u>BTEX</u>	<u>8310 (including non-halocarbon organics)</u>													
<u>B6-5.5/6.0</u>	<u>10/4</u>	<u>2:40 PM</u>	<u>Soil</u>	<u>Sleeve</u>	<u>-</u>	<u>3-d</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>													
<u>B6-11/11.5</u>					<u>-</u>		<u>✓</u>	<u>✓</u>	<u>✓</u>													
<u>B6-15.5/16.0</u>					<u>-</u>		<u>✓</u>	<u>✓</u>	<u>✓</u>													
<u>B6-20/20.5</u>					<u>-</u>		<u>✓</u>	<u>✓</u>	<u>✓</u>													
<u>B6-20/31</u>					<u>-</u>		<u>Hold</u>															

Relinquished by: (signature/date/time) <u>[Signature] 10/5/95 11:15</u> (1)	Relinquished by: (signature/date/time) (2)	Relinquished by: (signature/date/time) (3)
--	--	--

Received by: (signature) <u>[Signature]</u>	Received by: (signature) <u>[Signature]</u>	Received by: (signature) <u>[Signature] 10/5/95 11:15</u>
--	--	--

**SAMPLE RECEIPT- FLD. TO OFF.**

TOTAL NO. OF CONTAINERS \_\_\_\_\_

HEAD SPACE \_\_\_\_\_

REC'D GOOD CONDITION/COLD \_\_\_\_\_

CONFORMS TO RECORD \_\_\_\_\_

INITIAL/DATE \_\_\_\_\_

**SAMPLE RECEIPT - LAB.**

TOTAL NO. OF CONTAINERS \_\_\_\_\_

HEAD SPACE \_\_\_\_\_

REC'D GOOD CONDITION/COLD \_\_\_\_\_

CONFORMS TO RECORD \_\_\_\_\_

INITIAL/DATE \_\_\_\_\_

COMMENTS:  
SAVE SAMPLES

415-802-8358  
FAX 802-8359



Sequoia  
Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834

(415) 364-9600  
(510) 988-9600  
(916) 921-9600

FAX (415) 364-9233  
FAX (510) 988-9673  
FAX (916) 921-0100

Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089  
Attention: Paul Studemeister

Client Proj. ID: Altamont/1053

Received: 10/05/95

Lab Proj. ID: 9510958

Reported: 10/27/95

## LABORATORY NARRATIVE

Please note: At the client's request, we compared the TPH Diesel chromatograms to an asphalt chromatogram provided by the client. Sequoia's Diesel chromatograms for both samples resemble the asphalt pattern provided. The Interpretation of chromatograms from one laboratory using a standard run by another laboratory must be undertaken with caution, since chromatographic conditions vary from one laboratory to another.

We also compared the TPH Diesel chromatograms of the samples to an in-house asphalt chromatogram and again found a close resemblance in the chromatogram patterns.

SEQUOIA ANALYTICAL

Noelle Lane  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053

Lab Proj. ID: 9510958

Sampled: 10/04/95  
Received: 10/05/95  
Analyzed: see below

Attention: Paul Studemeister

Reported: 10/27/95

**LABORATORY ANALYSIS**

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9510958-01				
Sample Desc : SOLID,B6-11,B5-10.5,B2-11 Comp.				
Flash Point	Celsius	10/17/95	25	> 100
pH	pH Units	10/16/95	N/A	9.3

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Noelle Lane*

Noelle Lane  
Project Manager





Lee Engineering Enterprises 1153 Bordeaux Dr. #103 Sunnyvale, CA 94089	Client Proj. ID: Altamont/1053 Sample Descript: B6-11,B5-10.5,B2-11 Comp. Matrix: SOLID Analysis Method: EPA 8310 Lab Number: 9510958-01	Sampled: 10/04/95 Received: 10/05/95 Extracted: 10/18/95 Analyzed: 10/19/95 Reported: 10/27/95
--	--	--

GC Batch Number: GC1016958310EXA  
Instrument ID: GCW1

**Polynuclear Aromatic Hydrocarbons (EPA 8310)**

Analyte	Detection Limit ug/L	Sample Results ug/L
Acenaphthylene	100	N.D.
Indeno(1,2,3-cd)pyrene	1.0	N.D.
Naphthalene	20	N.D.
Acenaphthene	2.5	N.D.
Fluorene	25	N.D.
Phenanthrene	1.2	N.D.
Anthracene	5.0	N.D.
<b>Fluoranthene</b>	<b>20</b>	<b>39</b>
Pyrene	0.20	N.D.
Benzo(a)anthracene	0.10	N.D.
Chrysene	0.20	N.D.
Benzo(b)fluoranthene	2.5	N.D.
Benzo(k)fluoranthene	0.50	N.D.
Benzo(a)pyrene	0.10	N.D.
Dibenzo(a,h)anthracene	0.10	N.D.
Benzo(g,h,i)perylene	0.25	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
2-Fluorobiphenyl	50                      150	69

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

*Noelle Lane*

Noelle Lane  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B6-11,B5-10.5,B2-11 Comp.  
Matrix: SOLID  
Analysis Method: EPA 8020  
Lab Number: 9510958-01

Sampled: 10/04/95  
Received: 10/05/95  
Analyzed: 10/18/95  
Reported: 10/27/95

QC Batch Number: GC101895BTEX02A  
Instrument ID: GCHP02

**BTEX Distinction**

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	85

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Noelle Lane*

Noelle Lane  
Project Manager





Lee Engineering Enterprises 1153 Bordeaux Dr. #103 Sunnyvale, CA 94089	Client Proj. ID: Altamont/1053 Sample Descript: B6-11,B5-10.5,B2-11 Comp. Matrix: SOLID Analysis Method: Title 22 Lab Number: 9510958-01	Sampled: 10/04/95 Received: 10/05/95  Analyzed: Reported: 10/27/95
Attention: Paul Studemeister		

**Inorganic Persistent and Bioaccumulative Toxic Substances : STLC**

Analyte	Max. Limit mg/L	Detection Limit mg/L	Sample Results mg/L
Antimony, Sb	15	0.10	N.D.
Arsenic, As	5.0	0.10	N.D.
Barium, Ba	100	0.10	3.5
Beryllium, Be	0.75	0.010	N.D.
Cadmium, Cd	1.0	0.010	N.D.
Chromium, Cr	560	0.010	0.086
Chromium, Cr (VI)	5.0	0.0050	-
Cobalt, Co	80	0.050	0.12
Copper, Cu	25	0.010	1.0
Lead, Pb	5.0	0.10	1.1
Mercury, Hg	0.2	0.0010	N.D.
Molybdenum, Mo	350	0.050	N.D.
Nickel, Ni	20	0.050	0.27
Selenium, Se	1.0	0.020	N.D.
Silver, Ag	5.0	0.010	N.D.
Thallium, Tl	7.0	0.10	N.D.
Vanadium, V	24	0.050	0.16
Zinc, Zn	250	0.010	2.0
Asbestos	--		--
Fluoride salts	180	1.0	--

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

*Noelle Lane*

Noelle Lane  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B6-11,B5-10.5,B2-11 Comp.  
Matrix: SOLID  
Analysis Method: Comb  
Lab Number: 9510958-01

Sampled: 10/04/95  
Received: 10/05/95  
Analyzed: 10/16/95  
Reported: 10/27/95

Attention: Paul Studemeister

QC Batch Number: IN101695084600A

**Reactivity**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Reactivity:		
Sulfide	13	N.D.
Cyanide	0.50	N.D.
Reaction with Water		N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Noelle Lane*

Noelle Lane  
Project Manager







Lee Engineering Enterprises 1153 Bordeaux Dr. #103 Sunnyvale, CA 94089	Client Proj. ID: Altamont/1053 Sample Descript: B6-11,B5-10.5,B2-11 Comp. Matrix: SOLID Analysis Method: EPA 8015 Mod Lab Number: 9510958-01	Sampled: 10/04/95 Received: 10/05/95 Extracted: 10/16/95 Analyzed: 10/18/95 Reported: 10/27/95
--	--	--

QC Batch Number: GC1014950HBPEXA  
Instrument ID: GCHP4B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern: Unidentified HC	40	370
		C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50                      150	Q

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

*Noelle Lane*  
 \_\_\_\_\_  
 Noelle Lane  
 Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr. #103  
Sunnyvale, CA 94089

Client Proj. ID: Altamont/1053  
Sample Descript: B6-11.0/11.5  
Matrix: SOLID  
Analysis Method: EPA 8015 Mod  
Lab Number: 9510958-02

Sampled: 10/04/95  
Received: 10/05/95  
Extracted: 10/18/95  
Analyzed: 10/19/95  
Reported: 10/27/95

QC Batch Number: GC1006950HBPEXA  
Instrument ID: GCHP4A

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern: Unidentified HC	200	230
		C16-C36
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	Q

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Noelle Lane*

Noelle Lane  
Project Manager





Lee Engineering Enterprises  
1153 Bordeaux Dr., #103  
Sunnyvale, CA 94089  
Attention: Paul Studemeister

Client Project ID: Altamont/1053  
Matrix: Solid

Work Order #: 9510958 01

Reported: Oct 30, 1995

**QUALITY CONTROL DATA REPORT**

Analyte: Diesel

QC Batch#: GC1014950HBPEXA  
Analy. Method: EPA 8015 Mod.  
Prep. Method: EPA 3550

Analyst: B. Ali  
MS/MSD #: 951085401  
Sample Conc.: 1.5  
Prepared Date: 10/14/95  
Analyzed Date: 10/15/95  
Instrument I.D.#: GCHP4A  
Conc. Spiked: 25 mg/Kg

Result: 23  
MS % Recovery: 86

Dup. Result: 24  
MSD % Recov.: 90

RPD: 1.1  
RPD Limit: 0-50

LCS #: BLK101495

Prepared Date: 10/14/95  
Analyzed Date: 10/15/95  
Instrument I.D.#: GCHP4A  
Conc. Spiked: 25 mg/Kg

LCS Result: 24  
LCS % Recov.: 96

MS/MSD  
LCS 38-122  
Control Limits

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*Noelle Lane*  
Noelle Lane  
Project Manager

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9510958.LEE <1>





Lee Engineering Enterprises 1153 Bordeaux Dr., #103 Sunnyvale, CA 94089 Attention: Paul Studemeister	Client Project ID: Altamont/1053 Matrix: Solid Work Order #: 9510958 02	Reported: Oct 30, 1995
---	---	------------------------

**QUALITY CONTROL DATA REPORT**

<b>Analyte:</b> Diesel
<b>QC Batch#:</b> GC1006950HBPEXA
<b>Analy. Method:</b> EPA 8015 Mod.
<b>Prep. Method:</b> EPA 3550

**Analyst:** T. Olive  
**MS/MSD #:**  
**Sample Conc.:**  
**Prepared Date:**  
**Analyzed Date:**  
**Instrument I.D.#:**  
**Conc. Spiked:**

**Result:**  
**MS % Recovery:**

**Dup. Result:**  
**MSD % Recov.:**

**RPD:**  
**RPD Limit:**



**LCS #:** BLK100695

**Prepared Date:** 10/6/95  
**Analyzed Date:** 10/6/95  
**Instrument I.D.#:** GCHP4A  
**Conc. Spiked:** 25 mg/Kg

**LCS Result:** 25  
**LCS % Recov.:** 100

<b>MS/MSD LCS Control Limits</b>	38-122
--	--------

**Please Note:**  
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*Noelle Lane*  
Noelle Lane  
Project Manager

\*\* MS= Matrix Spike, MSD= MS Duplicate, RPD= Relative % Difference

9510958.LEE <2>





Lee Engineering Enterprises 1153 Bordeaux Dr., #103 Sunnyvale, CA 94089 Attention: Paul Studemeister	Client Project ID: Altamont/1053 Matrix: Solid Work Order #: 9510958 01	Reported: Oct 30, 1995
---	---	------------------------

**QUALITY CONTROL DATA REPORT**

<b>Analyte:</b>	Reactive Sulfide	Reactive Cyanide
<b>QC Batch#:</b>	IN101695084600A	IN101695084600A
<b>Analy. Method:</b>	SW-846	SW-846
<b>Prep. Method:</b>	N.A.	N.A.

<b>Analyst:</b>	K. Newberry	A. Pina
<b>MS/MSD #:</b>		
<b>Sample Conc.:</b>		
<b>Prepared Date:</b>		
<b>Analyzed Date:</b>		
<b>Instrument I.D.#:</b>		
<b>Conc. Spiked:</b>		

**Result:**  
**MS % Recovery:**

**Dup. Result:**  
**MSD % Recov.:**

**RPD:**  
**RPD Limit:**

<b>LCS #:</b>	LCS101695	LCS101695
<b>Prepared Date:</b>	10/16/95	10/16/95
<b>Analyzed Date:</b>	10/16/95	10/16/95
<b>Instrument I.D.#:</b>	MANUAL	MANUAL
<b>Conc. Spiked:</b>	10 mg/Kg	0.20 mg/Kg
<b>LCS Result:</b>	10.4	0.050
<b>LCS % Recov.:</b>	104	25

<b>MS/MSD LCS Control Limits</b>	80-120	6.5-40
--	--------	--------

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*Noelle Lane*  
Noelle Lane  
Project Manager

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9510958.LEE <3>





Lee Engineering Enterprises  
1153 Bordeaux Dr., #103  
Sunnyvale, CA 94089  
Attention: Paul Studemeister

Client Project ID: Altamont/1053  
Matrix: Liquid

Work Order #: 9510958 01

Reported: Oct 30, 1995

**QUALITY CONTROL DATA REPORT - STLC**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC101895BTEX02A	GC101895BTEX02A	GC101895BTEX02A	GC101895BTEX02A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa
MS/MSD #:	951053002	951053002	951053002	951053002
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/18/95	10/18/95	10/18/95	10/18/95
Analyzed Date:	10/18/95	10/18/95	10/18/95	10/18/95
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.1	9.0	9.1	27
MS % Recovery:	91	90	91	90
Dup. Result:	9.7	9.6	9.6	29
MSD % Recov.:	97	96	96	97
RPD:	6.4	6.5	5.3	7.1
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120
---------------------------------	--------	--------	--------	--------

**SEQUOIA ANALYTICAL**

*Noelle Lane*  
Noelle Lane  
Project Manager

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9510958.LEE <4>





Lee Engineering Enterprises 1153 Bordeaux Dr., #103 Sunnyvale, CA 94089 Attention: Paul Studemeister	Client Project ID: Altamont/1053 Matrix: Liquid Work Order #: 9510958 01	Reported: Oct 30, 1995
---	--	------------------------

**QUALITY CONTROL DATA REPORT - STLC**

Analyte:	Acenaphthene	Phenanthrene	Pyrene
QC Batch#:	GC1016958310EXA	GC1016958310EXA	GC1016958310EXA
Analy. Method:	EPA 8310	EPA 8310	EPA 8310
Prep. Method:	EPA 3510	EPA 3510	EPA 3510

Analyst:	L. Haar	L. Haar	L. Haar
MS/MSD #:	BLK101695	BLK101695	BLK101695
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	10/16/95	10/16/95	10/16/95
Analyzed Date:	10/17/95	10/17/95	10/17/95
Instrument I.D.#:	GCW1	GCW1	GCW1
Conc. Spiked:	5.0 µg/L	1.3	0.50 µg/L
Result:	5.0	1.3	0.50
MS % Recovery:	100	100	100
Dup. Result:	6.5	1.3	0.50
MSD % Recov.:	110	100	100
RPD:	9.5	0.0	0.0
RPD Limit:	0-50	0-50	0-50

**LCS #:**

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD LCS Control Limits	50-150	50-150	50-150
---------------------------------	--------	--------	--------

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*Noelle Lane*  
Noelle Lane  
Project Manager

\*\* MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9510958.LEE <5>





Lee Engineering Enterprises 1153 Bordeaux Dr., #103 Sunnyvale, CA 94089 Attention: Paul Studemeister	Client Project ID: Altamont/1053 Matrix: Liquid Work Order #: 9510958 01	Reported: Oct 30, 1995
---	--	------------------------

**QUALITY CONTROL DATA REPORT - STLC**

Analyte:	Beryllium	Cadmium	Chromium	Nickel	Mercury
QC Batch#:	ME1018956010MDA	ME1018956010MDA	ME1018956010MDA	ME1018956010MDA	ME1017957470M4D
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010	EPA 245.1
Prep. Method:	EPA 3010	EPA 3010	EPA 3010	EPA 3010	EPA 7470

Analyst:	S. O'Donnell	S. O'Donnell	S. O'Donnell	S. O'Donnell	T. Hua
MS/MSD #:	9510B5203	9510B5203	9510B5203	9510B5203	951084501
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/18/95	10/18/95	10/18/95	10/18/95	10/17/95
Analyzed Date:	10/18/95	10/18/95	10/18/95	10/18/95	10/18/95
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2	MPE4
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L	0.0040 mg/L
Result:	1.0	1.0	1.0	0.99	0.0035
MS % Recovery:	100	100	100	99	88
Dup. Result:	1.0	0.99	0.99	0.99	0.0035
MSD % Recov.:	100	99	99	99	88
RPD:	0.0	1.0	1.0	0.0	0.0
RPD Limit:	0-30	0-30	0-30	0-30	0-30

LCS #:	BLK101895	BLK101895	BLK101895	BLK101895	BLK101795
Prepared Date:	10/18/95	10/18/95	10/18/95	10/18/95	10/17/95
Analyzed Date:	10/18/95	10/18/95	10/18/95	10/18/95	10/18/95
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2	MPE4
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L	0.0040 mg/L
LCS Result:	1.1	1.0	1.0	1.0	0.0035
LCS % Recov.:	110	100	100	100	88

MS/MSD LCS Control Limits	75-125	75-125	75-125	75-125	75-125
---------------------------------	--------	--------	--------	--------	--------

**SEQUOIA ANALYTICAL**

*Noelle Lane*  
Noelle Lane  
Project Manager

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9510958.LEE <6>







Lee Engineering Enterprises  
1153 Bordeaux Dr., #103  
Sunnyvale, CA 94089  
Attention: Paul Studemeister

Client Project ID: Altamont/1053  
Matrix: Solid

Work Order #: 9510958 01

Reported: Oct 30, 1995

**QUALITY CONTROL DATA REPORT**

<b>Analyte:</b>	Flashpoint	pH
<b>QC Batch:</b>	IN101795101000A	IN101695904500A
<b>Analy. Method:</b>	EPA 1010	EPA 9045
<b>Prep Method:</b>	N.A.	N.A.

**Analyst:** K. Newberry S. Lee

**Duplicate Sample #:** 9510B0001 951095601

**Prepared Date:** 10/17/95 10/16/95  
**Analyzed Date:** 10/17/95 10/16/95  
**Instrument I.D.#:** MANUAL MANUAL

**Sample Concentration:** > 100°C 9.0

**Dup. Sample Concentration:** > 100°C 9.0

**RPD:** 0.0 0.0  
**RPD Limit:** 0-40 0-30

SEQUOIA ANALYTICAL

*Noelle Lane*  
Noelle Lane  
Project Manager

\*\* RPD = Relative % Difference

9510958.LEE <7>



File w/ 9503461 - Lee Inc

# CHROMALAB, INC.

# FAX TRANSMISSION

Environmental Services (SDB)

containing \_\_\_\_\_ pages

From: Gary Cook

Date: April 10, 1995

To: Paul Studameister -- Lee Engineering

Fax #: 415-802-8358

If you have trouble receiving this message, please call (510) 484-1919 or fax (510) 484-1096.

Message: Paul -

We tested your samples 4A&4B, received in late February, our submission number 9502357, and found that heavy hydrocarbons were present. In late March, you submitted another sample SAM-1 in our submission number 9503461.

We find that the hydrocarbon material found in both of the samples responds in very similar ways. The chromatograms (attached) are very much alike.

We find that the hydrocarbon in sample 4A&4B is similar to the hydrocarbon, presumably from asphalt, in sample SAM-1.

Please call if you have questions.

ChromaLab, Inc.



Eric Tam  
Laboratory Director

cc

JUL 26 1995

9503401

50326

diesel analysis

Lee Energy

Sample Name : 03461/SAM-1 (20X)10ML

Sample #: 83330

Page 1 of 1

File Name : D:\6000DIES\S405016.RAW

Date : 4/6/95 11:19 AM

Method : SDIESELB.ins

Time of Injection: 4/5/95 08:53 PM

Start Time : 0.00 min

End Time : 35.00 min

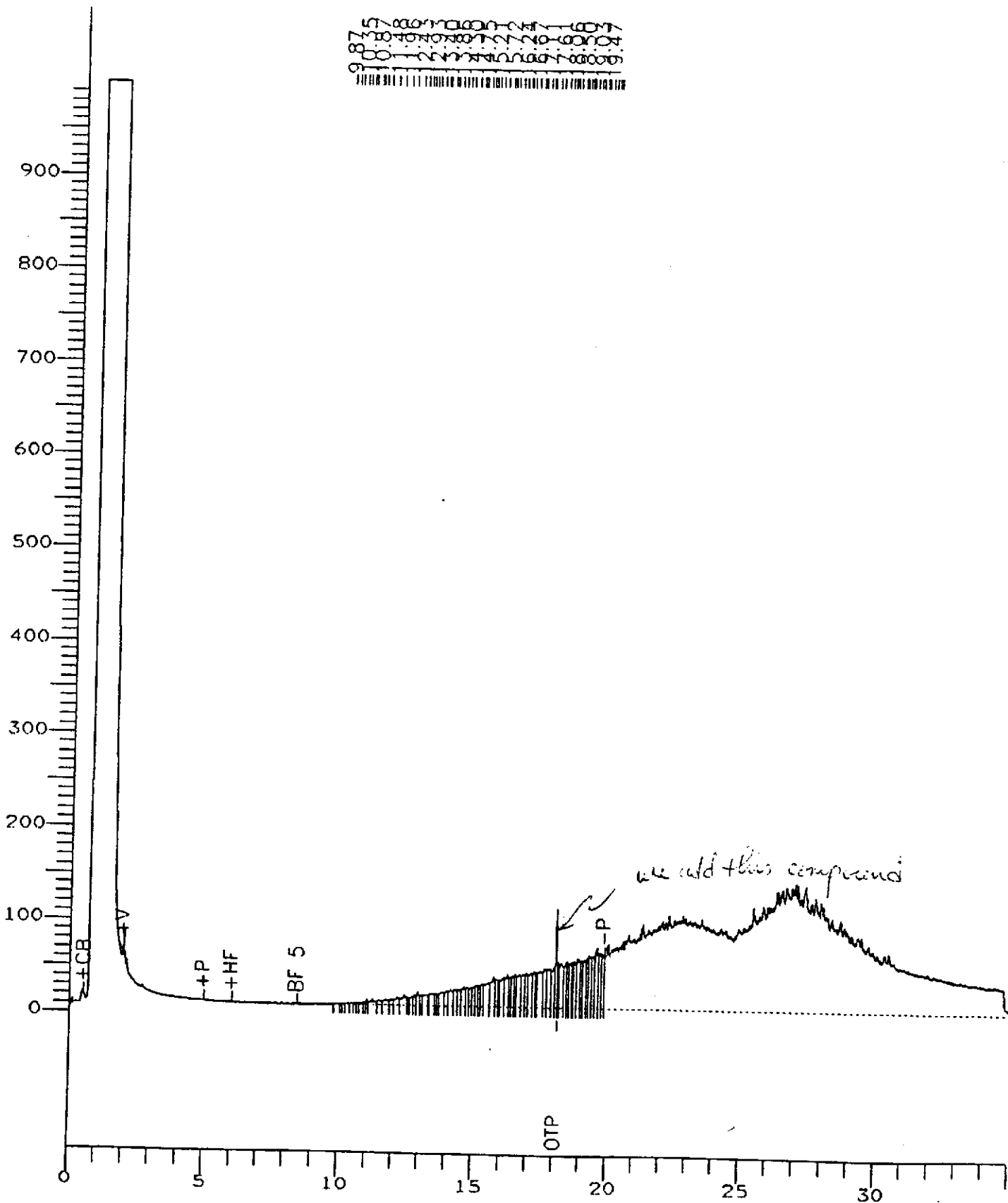
Low Point : 0.00 mV

High Point : 1000.00 mV

Gain Factor : 0

Plot Offset: 0 mV

Plot Scale: 1000 mV



Paul - Lee Engro

9502357

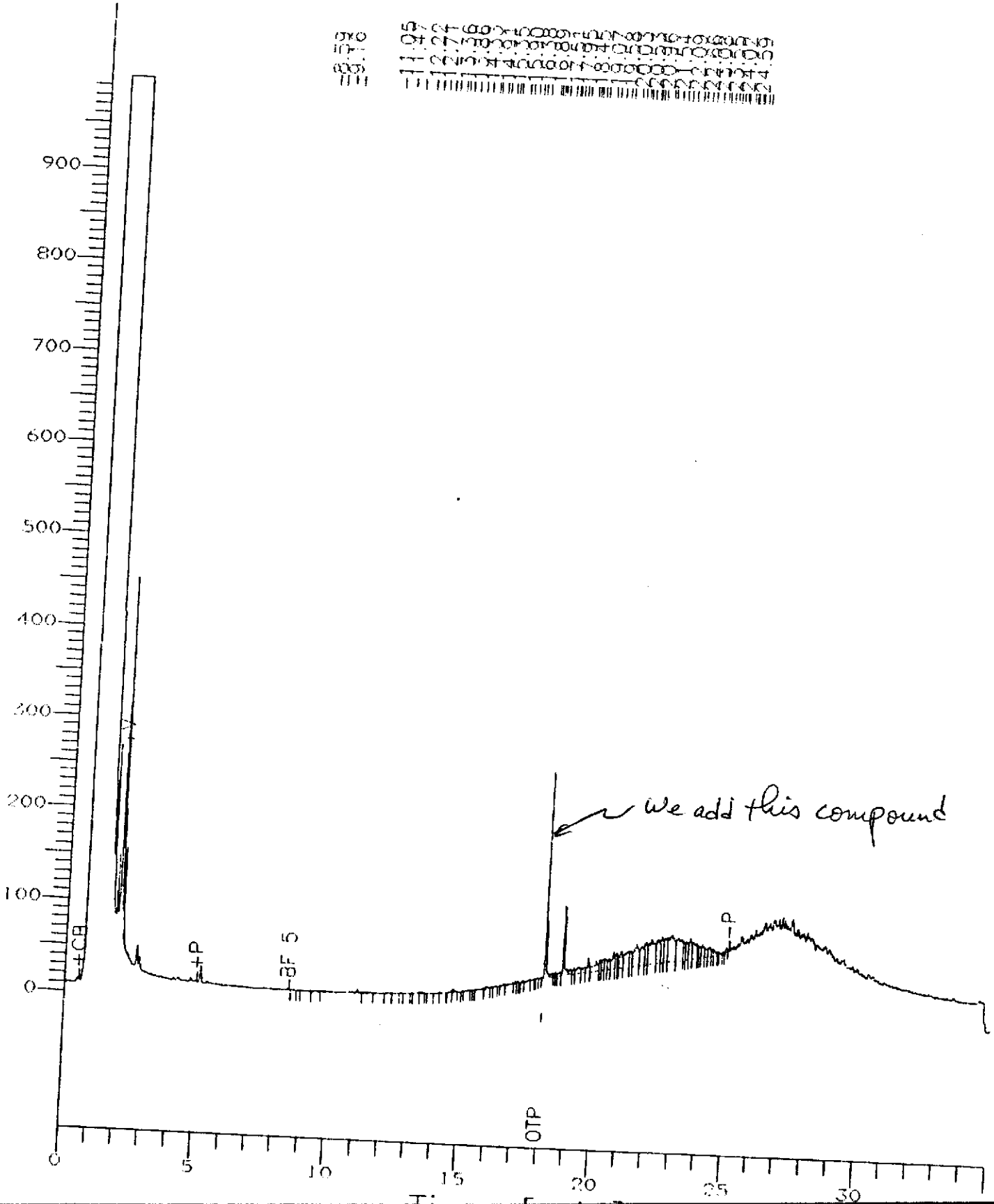
diesel analysis

Sample Name : 02357/4AB(2XX) 10X SC  
Sample Name : d:\6000dies\3306040.raw 3/7/95  
Method : sdieselb.ins  
Start Time : 0.00 min  
Scale Factor : 0

End Time : 35.00 min  
Plot Offset: 0 mV

Sample #: 79206  
Date : 3/7/95 03:16 PM  
Time of Injection: 3/7/95 02:41 PM  
Low Point : 0.00 mV  
Plot Scale: 1000 mV  
High Point : 1000.00 mV

0X0  
100  
200  
300  
400  
500  
600  
700  
800  
900  
1000



Lee Engineering Enterprises  
 1153 Bordeaux Drive, Suite 103, Sunnyvale, CA 94089  
 Fax (408) 734-9020 Tel (408) 734-2556

Sampler(s):

*Paul Studenisher*

SUBM #: 9503461  
 CLIENT: LEE  
 DUE: 04/07/95  
 REF #: 21263

Job Name:			Job Number:	Sampling Round Number:		ANALYSIS REQUEST												NUMBER OF CONTAINERS	
<i>Altamont Speedway</i>			<i>1053</i>	<i>2</i>		TPHE WBTEX	TPHE	HALO/HYDRO-C's 601/6010	VOL. ORGANICS 625/8270	TOTAL O & G <i>5520</i> <i>CRF</i>	EPA 625/8270	CAN METALS (17)	LUFT METALS (5)	ORGANIC LEAD	TOTAL LEAD	EXTRACTION (ICLP, SILC)	PRIORITY POLLUTANT METALS (13)		DISSOLVED O2
Well or Sample Id.	Date	Time	Matrix	Sample Container	Pre serv	Turn @ Time													
<i>SAM-1</i>	<i>3/31/95</i>	<i>1:45 pm</i>	<i>Solid</i>	<i>Amber Jar</i>	<i>Ø</i>	<i>5-d</i>		<input checked="" type="checkbox"/>											

Relinquished by: (signature/date/time) (1) *Paul Studenisher 5:30 3/31/95* (2) Relinquished by: (signature/date/time) (3)

Received by: (signature) *Paul Studenisher 17:30 3/31/95* Received by: (signature)

SAMPLE RECEIPT- FLD. TO OFF.  
 TOTAL NO. OF CONTAINERS \_\_\_\_\_  
 HEAD SPACE \_\_\_\_\_  
 REC'D GOOD CONDITION/COLD \_\_\_\_\_  
 CONFORMS TO RECORD \_\_\_\_\_  
 INITIAL/DATE \_\_\_\_\_

SAMPLE RECEIPT - LAB.  
 TOTAL NO. OF CONTAINERS 1  
 HEAD SPACE N/A  
 REC'D GOOD CONDITION/COLD Y  
 CONFORMS TO RECORD Y  
 INITIAL/DATE Rn 3/31

COMMENTS:  
*\* Sample consists of asphalt/ bituminous concrete. Testing to compare with Chromalab 9502357, # 79203-79206*



# Soil and Plant Laboratory, Inc.

P.O. Box 6566, Orange, California 92613-6566/(714) 282-8777/FAX (714) 282-8575  
P.O. Box 153, Santa Clara, California 95052-0153/(408) 727-0330/FAX (408) 727-5125  
P.O. Box 1648, Bellevue, Washington 98008-1648/(206) 746-6665/FAX (206) 562-9531

PAUL STUDEMEISTER  
1153 Bordeaux Drive Suite 103  
Sunnyvale, CA 94089

SOIL APPRAISAL ANALYSIS  
(AO3)

Santa Clara Laboratory  
Lab No. 77904

Samples Taken:

Samples Rec'd: 4/ 7/95

These data are supplied without recommendation or comment by ~~\_\_\_\_\_~~ Lori Littleford, Analytical Laboratory Director

Sam ple #	Half Sat. %	pH	ECe	Org %	Percent of Sample Passing 2 mm Screen						USDA Soil Classification	Sample Description & Log Number		
					Gravel		Sand			Silt			Clay	
					Coarse 5-12	Fine 2-5	Very Coarse 1-2	Coarse 0.5-1	Med. to V. Fine 0.05-.5					
1					0.0	0.1	0.6	0.4	8.8	34.8	55.4	clay	T7-B	
2					0.0	0.2	0.2	0.4	21.2	25.8	52.4	clay	T7-TSC	95-A10021 77
3					0.4	0.8	0.6	0.8	32.8	36.4	29.4	clay loam	T7-MSC	95-A10022 77 95-A10023 77

Sample T7-B: silty clay at 9 ft. below ground surface

Sample T7-TSC: silty clay with fine sand at 0.5 to 3 ft. depth (below ground surface)

Sample T7-MSC: fine sandy clayey silt at 4.5 to 7.5 ft. depth (below ground surface)

T7: Trench 7, March 1995 sampling event

RECEIVED APR 13 1995

4/11/95

Half Saturation %=approximate field moisture capacity. Salinity = ECe(dS/m at 25 degree C). Gravel fraction expressed as percent by weight of oven-dried sample passing a 12mm (1/2 inch) sieve. Particle sizes in millimeters.