

ENGEO INCORPORATED

GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS

In Reply
Please Refer to:
3614-F5

May 13, 1994

Mr. Richard Smooke
Smooke and Sons Investment Company
P.O. Box 1311
Los Angeles, CA 90053-1311

STIP 3506

Subject: 3925 Alameda Avenue
Oakland, California

REPORT ON SOIL AND GROUND-WATER SAMPLING WITH LABORATORY TESTING

- References:
1. ENGEO Inc.; Phase One Environmental Site Assessment, 3925 Alameda Avenue, Oakland, California; December 18, 1992.
 2. ENGEO Inc.; Work Plan For Subsurface Investigation, 3925 Alameda Avenue, Oakland, California; August 26, 1993.

ALCO
HAZMA
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Dear Mr. Smooke:

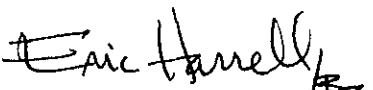
Enclosed please find our report on the soil and ground-water sampling with laboratory testing to study the possible hydrocarbon contamination at 3925 Alameda Avenue in Oakland. This study was undertaken after reviewing the laboratory test results from the sampling of soil and ground water collected during the removal of two underground fuel storage tanks by Blaine Tech Services Inc. (Reference 1) in March 1988.

The report includes the soil sampling and laboratory testing methodologies with a summary of the work performed and the findings from the study. Recommendations for the installation of ground-water monitoring wells are included.

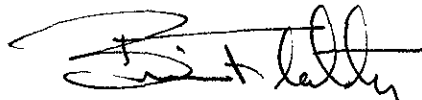
If you have any questions regarding our scope of work or the findings from the study, please do not hesitate to contact our office.

Very truly yours,

ENGEO INCORPORATED


Eric Harrell
Environmental Geologist

Reviewed by:


Brian Flaherty
CEG 1256

REPORT ON SOIL AND GROUND-WATER SAMPLING
WITH LABORATORY TESTING

for

3925 ALAMEDA AVENUE

OAKLAND, CALIFORNIA

Submitted

to

Smooke and Sons Investment Company

Los Angeles, California

Prepared

by

ENGEO Incorporated

Project 3614-F5

May 13, 1994

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APPENDIX

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- Chain-of-Custody
- Drilling Permit, Zone 7, Alameda County

INTRODUCTION

This subsurface exploration was undertaken to address potential soil and ground-water impacts resulting from the on-site storage of diesel and gasoline in 10,000-gallon and 1,000-gallon underground storage tanks, respectively. Petroleum hydrocarbon impact of the soil and ground water had been documented during the UST removal. It was unknown if additional remediation efforts had been undertaken after the tank removal.

Scope of Work

The scope of services included:

1. Preparation and obtainment of appropriate permits, identify exploratory borehole locations and notify USA to locate underground utilities.
2. Logging of exploratory test borings soil and ground-water samples collected at the time of drilling for submittal to an analytical laboratory. An Organic Vapor Meter (PID) was used during drilling to monitor for potentially volatile vapors.
3. Submittal of four soil samples and two ground-water samples to a certified analytical testing laboratory. Samples were analyzed for Total Petroleum Hydrocarbons (TPH) as gasoline, Total Extractable Petroleum Hydrocarbons (TEPH) reported as diesel and kerosene and for volatile aromatic compounds (BTEX).
4. Review and analysis of the exploratory soil boring logs, soil vapor readings and the laboratory test results. The test data was studied to evaluate the potential for possible soil or ground-water impacts caused by the former underground storage tanks.
5. Preparation of this report documenting the work performed with findings and recommendations including potential locations for ground-water monitoring wells.

Background

Two underground fuel storage tanks (USTs) were removed from the site on March 10, 1988, by Blaine Tech Services Incorporated. The USTs were described as a 10,000-gallon diesel

and a 1,000-gallon gasoline tank(s). The diesel tank had no visible holes or perforations while holes were apparent in the gasoline tank at the time of removal. The results of the laboratory analyses for four soil and one ground-water sample collected at the time of the tank removal are included in Table I.

<p style="text-align: center;">TABLE I Soil and Ground-Water Laboratory Analyses Blaine Tech Services (Concentrations Reported in Parts Per Million)</p>							
Sample No./Depth	Location	Medium	TPHG	TPHD	Benzene	Toluene	Xylenes
No. 1/10.5'	West wall diesel tank excavation	Soil	--	210	0.42	0.33	0.84
No. 2/10.5'	Southeast wall diesel tank excavation	Soil	--	450	ND	3.3	79
No. 3/9.0'	East wall gas tank excavation	Soil	720	--	6.6	110	150
No. 4/9.0'	West wall gas tank excavation	Soil	190	--	0.24	9.6	32
No. 5	Water from diesel tank excavation	Water Aqueous	150*	--	--	--	--

*Contained a lighter boiling point compound other than diesel

SOIL AND GROUND-WATER INVESTIGATION

Soil Samples

The current subsurface investigation included one day of exploratory test drilling. The exploratory test borings were drilled within the limits of the former underground tank excavations. The purpose was to determine the condition of the backfill material and to evaluate the condition of the soil within the saturated zone beneath the former underground storage tanks.

Four exploratory borings were drilled on March 7, 1994, in the approximate locations shown on Figure 3. Soil samples were obtained from the backfill material and from the saturated zone of soil above the ground-water table. The samples and auger cuttings were screened in the field using a photoionization detector (PID), a device that provides a field determination of the presence of certain volatile organic compounds. A soil sampling information form is included in the appendix of this report.

The exploratory test borings were advanced using a 6-inch-diameter hollow stem auger. The soil samples were collected using a 2.5-inch-diameter split spoon barrel sampler retaining 6-inch-long stainless steel tubes. Sampling equipment was washed with a trisodium phosphate (TSP) and water solution and rinsed with distilled water between each sampling event.

Drilling was performed under the direction of an ENGEO Environmental Geologist who logged the borings in accordance with the Unified Soil Classification System. The exploratory borings logs are included in the appendix of this report.

Soil samples from within the backfill and from the top of the saturated zone were collected from each borehole for laboratory testing. These samples were preserved for testing by

sealing the sample tube with teflon sheets, plastic end caps and tape. The soil samples were selected for laboratory testing on the basis of the PID screenings and visual observations.

Ground-Water Samples

A ground-water sample was collected from exploratory Borings 2 and 3. In both boreholes an attempt was made to collect a ground-water sample with the Hydropunch™ collection apparatus. In Boring B2 a ground-water sample could not be collected with the Hydropunch so the borehole was extended to a depth of 15 feet and a 2-inch-diameter slotted well screen was placed in the borehole to allow for the collection of a ground-water sample. Approximately 4 boring volumes, totalling about 36 gallons of water was removed with a bailer prior to the collection of a ground-water sample for laboratory analysis.

The ground-water sample from Boring B3 was recovered by advancing the borehole to a depth of approximately one foot above the ground-water surface. At that point, the Hydropunch™ unit was pushed approximately four feet into the saturated zone. After placement, the screen cover of the Hydropunch™ unit was retracted allowing the 0.020 inch screened vessel to fill with ground water. The sample was then retrieved from the unit using a stainless steel bailer. Following collection, the ground-water samples were transferred into clean 40-milliliter vials or one-liter amber bottles depending on the anticipated laboratory analysis. Soil and ground-water samples were preserved in a cooled ice chest and transported under documented chain-of-custody to Chromalab Inc., in San Ramon, California.

Laboratory Testing

The laboratory testing was performed in accordance with the recommended analyses specified by Mr. Barney Chan, a Hazardous Materials Specialist with the Alameda County Department of Environmental Health (Reference 2). The selected soil and ground-water

samples were analyzed for total petroleum hydrocarbons, as gasoline/diesel and kerosene; for benzene, toluene, ethylbenzene and xylene (BTEX) according to EPA Method 8015/8020.

Due to potential impacts to the subject property from the Ecotek Lube site, the Alameda County Department of Environmental Health requested that the laboratory analysis include testing for the kerosene.

Table II provides a summary of the laboratory test results from this soil and ground-water investigation.

<p style="text-align: center;">TABLE II Soil and Ground-Water Laboratory Analysis (Concentrations in Parts per Million)</p>								
Sample Number	Matrix	TPH as Gasoline	TPH as Diesel	TPH as Kerosene	Benzene	Toluene	Ethyl Benzene	Xylenes
B1-2	Soil	22	26	N.D.	.034	N.D.	0.680	0.110
B2-3	Soil	150	19	N.D.	N.D.	N.D.	0.970	1.400
B3-1	Soil	N.D.	N.D.	N.D.	0.029	N.D.	N.D.	0.007
B4-2	Soil	370	150	150	0.180	N.D.	0.800	2.500
B2-W	Aqueous	52	2.30	0.410	2.30	2.10	0.710	3.00
B3-W	Aqueous	9.8	2.40	3.20	2.40	0.045	0.100	0.082

ANALYSIS OF DATA

We have reviewed the data from the exploratory boring logs, PID readings and the laboratory test results. It appears that the upper level of the ground-water table is at or above the bottom of the former underground storage tank excavations. Laboratory testing of soil samples collected from the saturated zone and within the backfill found TPH as gasoline, TPH as diesel and BTEX (Figure 4).

Soil samples collected within the saturated zone found detectable levels of TPH as gasoline, TPH as diesel, TPH as kerosene and BTEX. Kerosene was detected in a soil sample B4-2 collected from the top of the saturated zone beneath the diesel tank, at a concentration of 150 ppm.

Gasoline, diesel, kerosene, and BTEX were detected in both ground-water samples. Gasoline and BTEX were found at higher concentrations beneath the former gasoline underground storage tank. Concentrations of diesel and kerosene were higher within the former diesel tank excavation (Figure 4).

DISCUSSION

It appears that the two former underground fuel storage tanks may have contributed to the petroleum hydrocarbon impacts on the subject property. Concentrations of gasoline, diesel and BTEX compounds which had been stored within the USTs, were found in laboratory testing of soil and ground water within the former UST excavations. Kerosene was found in a saturated zone soil sample (B4-2) and in the two ground-water samples. Based on the lack of documentation of kerosene storage on the subject property, it appears that an off-site source may also be contributing to the petroleum hydrocarbon impacts on the subject property. Mr. Barney Chan of the Alameda County Environmental Health Department had requested that analysis for kerosene be included to determine potential impacts from the Ecotek Lube facility.

The concentrations of petroleum hydrocarbons found during this subsurface investigation were lower than those exposed in the soil and ground-water sampling conducted at the time of the underground storage tank removal. Low levels of petroleum hydrocarbons were exposed within the material used to backfill the underground storage tank excavations. At this time we do not recommend excavation of the backfill material and suggest that monitoring of the ground water would be an appropriate method to help determine the on-site and off-site contribution of the petroleum hydrocarbon impacts.

RECOMMENDATIONS

The next phase of subsurface exploration should include the installation, development and sampling of three ground-water monitoring wells. The tentative proposed locations for the monitoring wells are shown in Figure 3. The final location of the monitoring wells would be determined based on an updated review of the information from the American National Can and Ecotek Lube facilities and after consultation with Mr. Barney Chan of the Alameda County Department of Environmental Health. Mr. Chan is providing local oversight for the subject property and for the American National Can Company Facility.

The purpose of the wells is to help evaluate the lateral extent of the dissolved gasoline, diesel, and BTEX in the ground water. A monitoring well placed upgradient of the former UST excavation would be used to evaluate the potential off-site contribution to the petroleum hydrocarbons found on the subject property. A determination of the local ground-water gradient would also be undertaken. Ground-water samples should be collected and submitted for laboratory testing to analyze for Total Petroleum Hydrocarbons as gasoline, diesel, and for BTEX (EPA Test Method 8015/8020).

Recommend TDS & EC

LIMITATIONS

The professional staff at ENGEO Incorporated strives to perform its services in a proper and professional manner with reasonable care and competence but are not infallible. It should be recognized that the conclusions and recommendations in this report were based on specific soil and ground-water conditions at the points of collection with these findings developed solely from the contracted services. The scope of work was limited to the logging and collection of four soil samples and two "grab" ground-water samples, submittal of the soil and ground-water samples to an analytical laboratory, review of the exploratory data and the laboratory test results and preparation of this report documenting the work performed.

Conclusions regarding quality of site soil, ground water and contaminant concentrations were based on reported laboratory test results. ENGEO Incorporated assumes no liability for the validity of the laboratory test results relied upon in the preparation of this report.

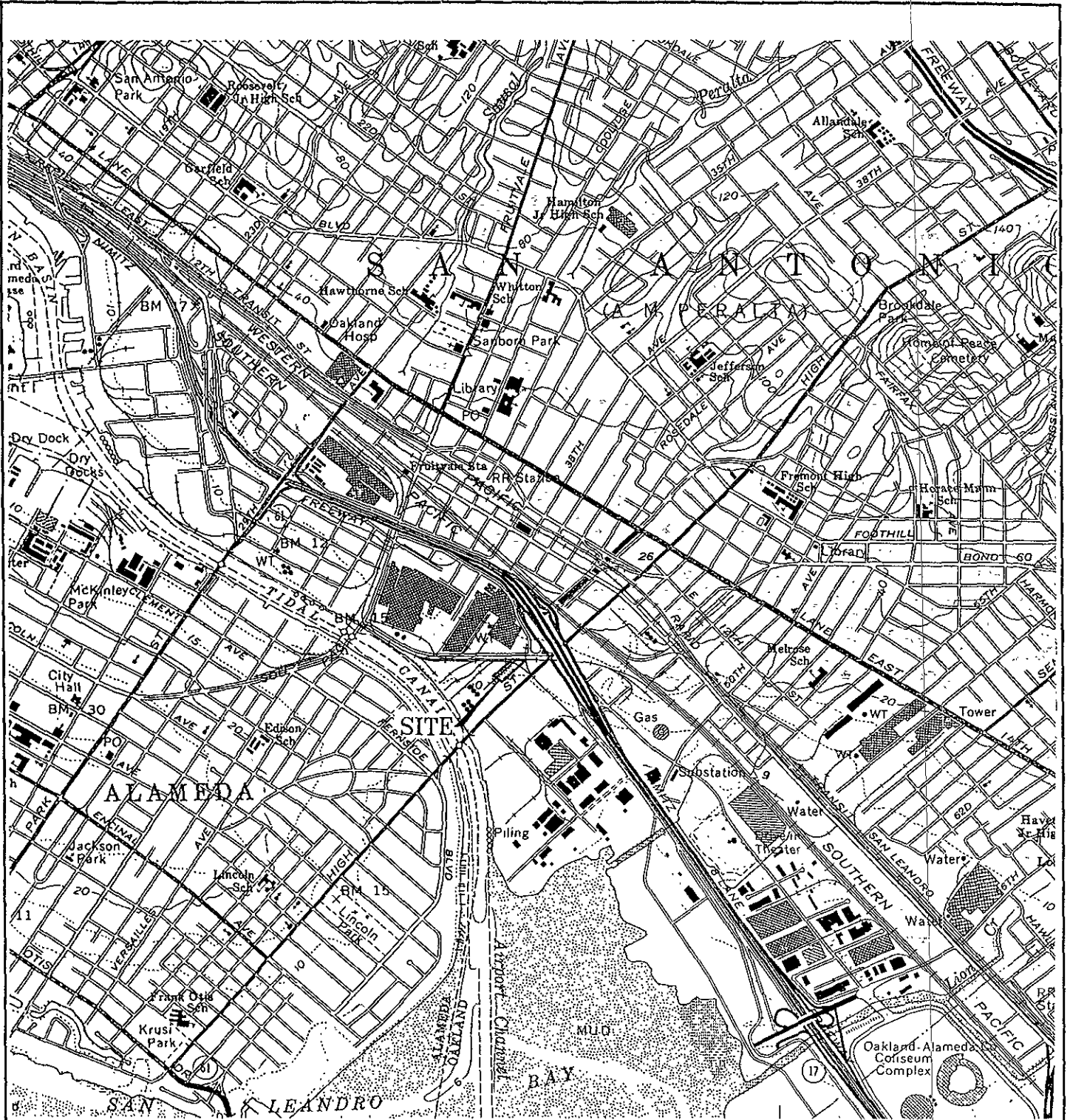
This report is based upon field and other conditions discovered at the time of preparation of ENGEO's work. Visual observations referenced in this report are intended only to represent conditions at the time of the study. ENGEO would not be aware of site contamination, such as dumping and/or accidental spillage which occurred subsequent to the sampling conducted by ENGEO personnel.

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This study is not intended to represent a complete soil or ground-water characterization. This assessment does not completely define the depth or areal extent of soil or ground-water contamination. It is intended to provide a preliminary evaluation of the potential soil and

ground-water impacts from the former underground storage tanks. A more extensive investigation that would include the installation of ground-water monitoring wells with laboratory testing of soil and ground-water samples could provide more definitive information concerning site-specific conditions. If a subsurface investigation is considered for the property and if other entities are retained to provide such services, ENGEO cannot be held responsible for any and all claims arising from or resulting from the performance of such services by other persons or entities, and from any and all claims arising or resulting from clarifications, adjustments, modifications, discrepancies or other changes necessary to reflect changed field or other conditions.

ENGEO Incorporated has prepared this report for the exclusive use of our client, Smooke and Sons. It is recognized and agreed that ENGEO has assumed responsibility only to present our findings to the Client. The responsibility for disclosures or reports to third parties and for remedial or mitigative action, shall be solely that of the Client.

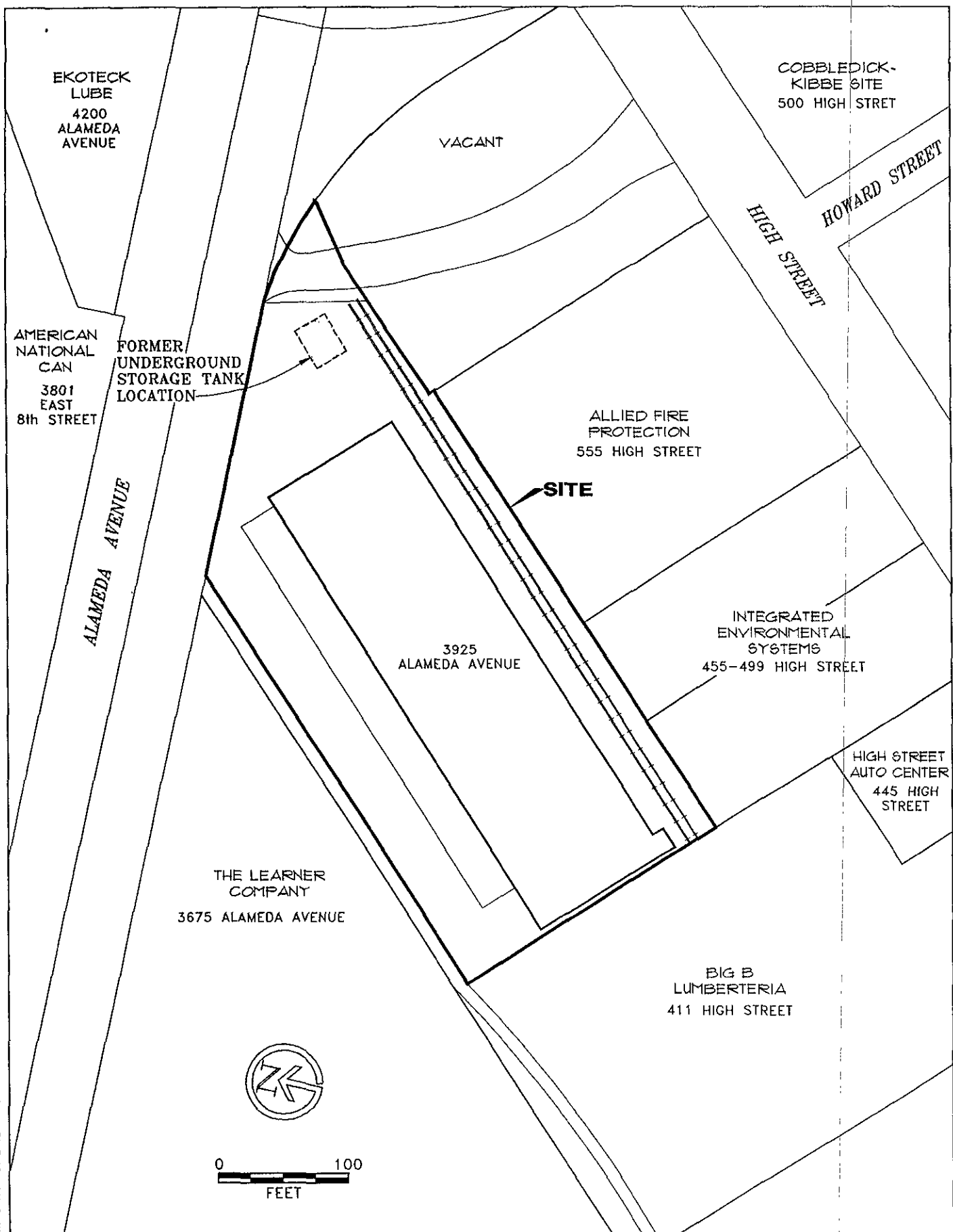


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SITE VICINITY MAP
3925 ALAMEDA AVENUE
OAKLAND, CALIFORNIA

JOB NO.: 3614-F5	FIGURE NO.
DATE: MARCH 1994	1
DRAWN BY: DS	CHECKED BY: EF

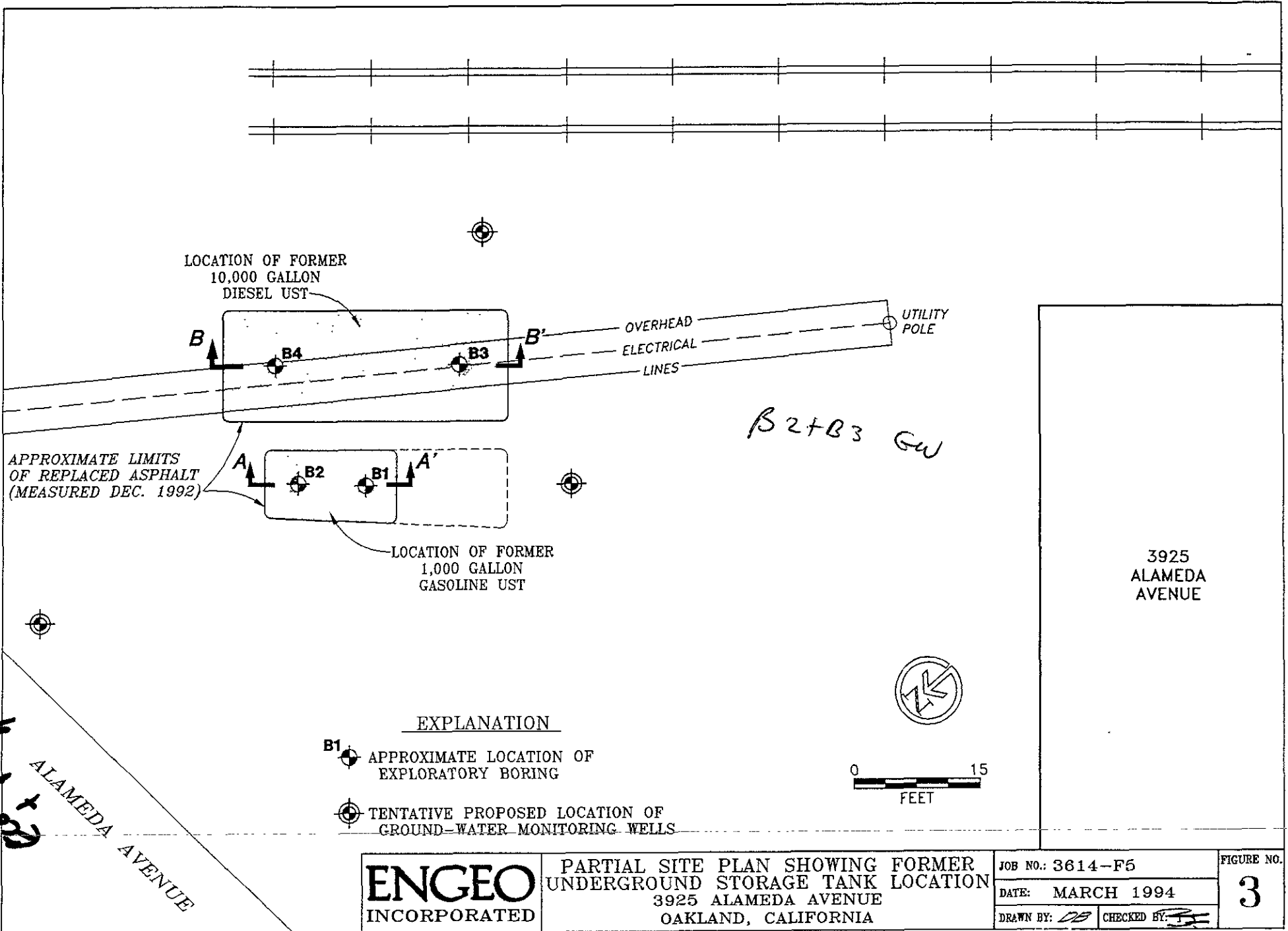
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SITE LOCATION MAP
3925 ALAMEDA AVENUE
OAKLAND, CALIFORNIA

JOB NO.: 3614-F5	FIGURE NO.
DATE: MARCH 1994	2
DRAWN BY: <i>DS</i>	CHECKED BY: <i>RF</i>



Part of 3925
ALAMEDA AVENUE

APPROXIMATE LIMITS OF REPLACED ASPHALT (MEASURED DEC. 1992)

LOCATION OF FORMER 10,000 GALLON DIESEL UST

LOCATION OF FORMER 1,000 GALLON GASOLINE UST

OVERHEAD ELECTRICAL LINES
UTILITY POLE

B2+B3 GW

3925 ALAMEDA AVENUE

EXPLANATION

- B1 APPROXIMATE LOCATION OF EXPLORATORY BORING
- TENTATIVE PROPOSED LOCATION OF GROUND-WATER MONITORING WELLS



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PARTIAL SITE PLAN SHOWING FORMER UNDERGROUND STORAGE TANK LOCATION
3925 ALAMEDA AVENUE
OAKLAND, CALIFORNIA

JOB NO.: 3614-F5
DATE: MARCH 1994
DRAWN BY:
CHECKED BY:

FIGURE NO.
3

KEY TO BORING LOGS

MAJOR TYPES		DESCRIPTION		
COARSE-GRAINED SOILS MORE THAN HALF OF MAT'L LARGER THAN #200 SIEVE	GRAVELS	CLEAN GRAVELS WITH LITTLE OR NO FINES	Well graded gravels, little or no fines	
	MORE THAN HALF COARSE FRACTION IS LARGER THAN NO 4 SIEVE SIZE		Poorly graded gravels or gravel-sand mixture	
		GRAVELS WITH OVER 12 % FINES	Silty gravels, gravel and silt mixtures	
	SANDS	CLEAN SANDS WITH LITTLE OR NO FINES	Well graded sands, little or no fines	
		SANDS WITH OVER 12 % FINES	Silty sand, sand-silt mixtures	
	FINE-GRAINED SOILS MORE THAN HALF OF MAT'L SMALLER THAN #200 SIEVE	SILTS AND CLAYS LIQUID LIMIT 50% OR LESS		Silt
		Clay		
		Clayey silt, silt-clay mixtures		
		Silty clay, clay-silt mixtures		
SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50%		Gravelly clay, clay-gravel mixtures		
		Sandy silty clay, clay-silt-sand mixtures		
		Gravelly silt, silt-gravel mixtures		
HIGHLY ORGANIC SOILS		Peat and other highly organic soils		
BEDROCK		SEDIMENTARY BEDROCK		Sandstone
		OTHER BEDROCK TYPES		Siltstone
	DESCRIBED ON LOGS		Claystone	

RELATIVE DENSITY

SANDS AND GRAVELS	BLOWS/FOOT (S.P.T.)
VERY LOOSE	0-4
LOOSE	4-10
MEDIUM DENSE	10-30
DENSE	30-50
VERY DENSE	OVER 50

CONSISTENCY

SILTS AND CLAYS	STRENGTH*	BLOWS/FOOT (S.P.T.)
VERY SOFT	0-1/4	0-2
SOFT	1/4-1/2	2-4
MEDIUM STIFF	1/2-1	4-8
STIFF	1-2	8-15
VERY STIFF	2-4	15-30
HARD	OVER 4	OVER 30

SAMPLER SYMBOLS

- Modified California (3" O.D.) sampler
- S.P.T. - Split Spoon sampler
- Bulk - Bag sample
- Lost - Sample attempted, no recovery
- Shelby tube

LINE TYPES








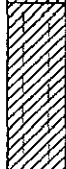
- Solid - Layer Break
- Angled - Approximate Layer Break
- Dashed - Gradational Layer Break

(S.P.T.) Number of blows of 140 lb. hammer falling 30" to drive a 2-inch O.D. (1-3/8 inch I.D.) Sampler.

ENGEO

* Unconfined compressive strength in tons/sq. ft., asterisk on log means determined by Pocket Penetrometer.

DEPTH (FEET)	SAMPLE NUMBER	LOG, LOCATION AND TYPE OF SAMPLE	DATE OF BORING: March 7, 1994	N S.P.T. BLOW/FT	OVM READING P.I.D. (10.0eV)	IN PLACE		
			SURFACE ELEVATION: Approx. feet msl			*MODIFIED FOR 3" O.D. SAMPLER	(parts per million)	DRY UNIT WEIGHT (PCF)
DESCRIPTION								
0			ASPHALT					
			10YR 3/1 Very dark gray sandy lean CLAY, moist. (CL)		80.9			
5	1-1				413			
	1-2							
	1-3		2.5Y 4/2 Very dark silty CLAY, trace fine sand, very moist.		207			
					112			
10	1-4		2.5Y 4/ Dark gray silty SAND, damp, fine to medium sand, lens within 5Y 5/2 olive-gray lean		326			
	1-5		clay with medium to coarse sand and gravel.		468			
			Water level at time of drilling.					
15			Bottom of boring at approximately 13 feet.					
20								
25								
30								
ENGEO INCORPORATED			3925 Alameda Avenue Oakland, California	BORING NO.: 1 DATE: April 1994 JOB NO.: 3614-F5	FIGURE NO.			

DEPTH (FEET)	SAMPLE NUMBER	LOG, LOCATION AND TYPE OF SAMPLE	DATE OF BORING: March 7, 1994	N S.P.T. BLOW/FT	OVM READING P.I.D. (10.0eV)	IN PLACE	
			SURFACE ELEVATION: Approx. feet msl			DRY UNIT WEIGHT (PCF)	MOIST. CONTENT % DRY WEIGHT
DESCRIPTION			*MODIFIED FOR 3" O.D. SAMPLER	(parts per million)			
0			ASPHALT/AGGREGATE BASE				
			10 YR 3/1 Very dark gray silty CLAY with fine sand, moist. (CL)		150		
5	2-1				24		
	2-2				112		
	2-3		5Y 4/1 Dark gray silty CLAY, very moist, with wet W.5Y N/4 dark gray silty sand lens with		553		
			▼ gravel. (CL/SM)				
10	2-4		≡ Water level 1 hour after drilling.		637		
			Attempted hydropunch - Refusal at 12.5'. No water in hydropunch. Placed slotted screen in hole to recover water sample.				
15							
20							
25							
30							

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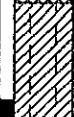


3925 Alameda Avenue
Oakland, California

BORING NO.: 2

DATE: April 1994

JOB NO.: 3614-F5

FIGURE
NO.

DEPTH (FEET)	SAMPLE NUMBER	LOG, LOCATION AND TYPE OF SAMPLE	DATE OF BORING: March 7, 1994	N S.P.T. BLOW/FT	OVM READING P.I.D. (10.0ev)	IN PLACE	
			SURFACE ELEVATION: Approx. feet msl			DRY UNIT WEIGHT (PCF)	MOIST. CONTENT % DRY WEIGHT
DESCRIPTION			*MODIFIED FOR 3" O.D. SAMPLER	(parts per million)			
0			ASPHALT/AGGREGATE BASE				
3-1			10YR 3/1 Very dark gray silty CLAY, trace fine sand, moist. (CL) With very dark gray silty sand lens.		81.9		
5			2.5Y 3/1 Very dark gray silty SAND, slightly moist. (SM)		452		
10	3-2		2.5Y 3/2 Very dark gray silty SAND and 10YR 2/1 black silty CLAY with gravels, moist to wet at 10 feet. Water level 3 hours after drilling.		172		
15			Bottom of boring at approximately 11.5 feet. Hydropunch 11.5 to 14.5 feet.				
20							
25							
30							
ENGEO INCORPORATED			3925 Alameda Avenue Oakland, California	BORING NO.: 3	FIGURE NO.		
				DATE: April 1994			
				JOB NO.: 3614-F5			

DEPTH (FEET)	SAMPLE NUMBER	LOG, LOCATION AND TYPE OF SAMPLE	DATE OF BORING: March 7, 1994	N S.P.T. BLOW/FT	OVM READING P.I.D. (10.0eV)	IN PLACE	
			SURFACE ELEVATION: Approx. feet msl			DRY UNIT WEIGHT (PCF)	MOIST. CONTENT % DRY WEIGHT
			DESCRIPTION	*MODIFIED FOR 3" O.D. SAMPLER	(parts per million)		
0			ASPHALT AGGREGATE BASE				
			10YR 3/1 Very dark gray silty CLAY, moist. (CL)				
4-1			2.5 Y N5/ Gray silty SAND, damp. (SM)		7.4		
			Mixture of 2.5Y N5/ Gray silty SAND and 10YR 3/1 Very dark gray silty CLAY with sand and gravel, damp to very moist. (CL/SM)		104		
4-2			Water level at 1/2 hour after drilling.		316		
4-3			Water level at time of drilling.		201		
			2.5Y N5/ Gray silty SAND, moist. (SM)		565		→ 370 ppm G
			Mixture of 2.5Y N5/ Gray silty SAND and 10YR 3/1 very dark gray sandy lean CLAY with gray, very moist to wet at 10.5 feet.				
			Bottom of boring at approximately 12.5 feet.				

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3925 Alameda Avenue
Oakland, California

BORING NO.: 4
DATE: April 1994
JOB NO.: 3614-F5

FIGURE
NO.

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EXPLANATION

- SAMPLE LOCATION (ENGEO 3/7/94)
- ▲ SAMPLE LOCATION (BLAINE TECH SERVIC
- TPHG TOTAL PETROLEUM HYDROCARBONS AS G
- TPHD TOTAL PETROLEUM HYDROCARBONS AS D
- TPHK TOTAL PETROLEUM HYDROCARBONS AS K
- BENZ BENZENE

(CONCENTRATIONS IN PARTS PER MILLION

ROUGH FORMER
TANK EXCAVATIONS
AVENUE
IFORNIA

JOB NO.: 3614-F5	
DATE: MARCH 1994	
DRAWN BY: <i>DS</i>	CHECKED BY: <i>PA</i>

1"=5'
FIGURE NO.
4

ENGEO INCORPORATED
SOIL SAMPLING INFORMATION

Date: March 7, 1994
 Job Number: 3614-F5
 Location: Oakland, CA

By: Eric Harrell
 Job Name: 3925 Alameda Avenue
 Client: Smooke and Sons

DRILLING INFORMATION

Drilling Contractor: WestHazmat
 Auger Type: Hollow Stem Auger
 Hole Diameter: 7 inches

License # C57-554979
 Sampler Type: 2.0 inch California
 Modified

SAMPLE INFORMATION

Decon Procedure: TSP X
 Solvent _____

Dist. H₂O X
 Acid _____

<u>Sample</u>	<u>Time</u>	<u>Size</u>	<u>Test</u>	<u>Comments</u>
B1-1	9:08			No Recovery
B1-2	9:15	2"x6"	TPHg, TEPH, BTEX	6.5'
B1-3	9:24	2"x6"		8.0'
B1-4	9:36	2"x6"		9.5'
B1-5	9:43	2"x6"		11.0'
B2-1	10:21			No Recovery
B2-2	10:26			No Recovery
B2-3	10:35	2"x6"	TPHg, TEPH, BTEX	8.0'
B2-4	10:42	2"x6"		10.5'
B3-1	12:28	2"x6"	TPHg, TEPH, BTEX	3.0'
B3-2	12:37	2"x6"		10.0'
B4-1	14:45	2"x6"		5.0'
B4-2	14:55	2"x6"	TPHg, TEPH, BTEX	10.0'
B4-3	15:05	2"x6"		12.0'
<u>Water Samples.</u>				
B2-W	13:56	(3)-40ml (2)-1 liter	TPHg, TEPH, BTEX	
B3-W	14:17	(3)-40 ml (2)-1 liter	TPHg,	

CHROMALAB, INC.

Environmental Services (SDB)

March 16, 1994

ChromaLab File#: 9403146

ENGEO, INC.

Atten: Eric Harrell

Project: 3925 ALAMEDA AVENUE

Project#: 3614-^{F5}PS

Received: March 9, 1994

re: 4 samples for Gasoline and BTEX analysis.

Matrix: SOIL

Sampled on: March 7, 1994

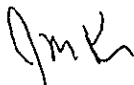
Analyzed on: March 15, 1994

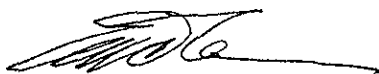
Method: EPA 5030/8015/8020

Run#: 2459

Lab #	SAMPLE ID	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
45961	B1-2	22	34	N.D.	680	110
45962	B2-3	150	N.D.	N.D.	970	1400
Note: DETECTION LIMIT FOR BENZENE & TOLUENE IS 50ppb						
45963	B3-1	N.D.	29	N.D.	N.D.	7.0
45964	B4-2	370	180	N.D.	800	2500
Note: DETECTION LIMIT FOR TOLUENE IS 35ppb						
DETECTION LIMITS		1.0	5.0	5.0	5.0	5.0
BLANK		N.D.	N.D.	N.D.	N.D.	N.D.
BLANK SPIKE RECOVERY (%)		93	82	84	87	86

ChromaLab, Inc.


Jack Kelly
Chemist


Eric Tam
Laboratory Director

CHROMALAB, INC.

Environmental Services (SDB)

March 16, 1994

ChromaLab File#: 9403146

ENGE0, INC.

Atten: Eric Harrell

Project: 3925 ALAMEDA AVENUE

Project#: 3614-FS

Received: March 9, 1994

re: 2 samples for Gasoline and BTEX analysis.

Matrix: WATER

Sampled on: March 7, 1994

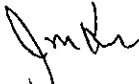
Analyzed on: March 15, 1994

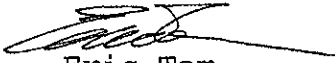
Method: EPA 5030/8015/602

Run#: 2458

Lab #	SAMPLE ID	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
45965	B2-W	52000	2300	2100	710	3000
45966	B3-W	9800	2400	45	100	82
DETECTION LIMITS		50	0.5	0.5	0.5	0.5
BLANK		N.D.	N.D.	N.D.	N.D.	N.D.
BLANK SPIKE RECOVERY(%)		80	95	102	98	100

ChromaLab, Inc.


Jack Kelly
Chemist


Eric Tam
Laboratory Director

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

March 16, 1994

ChromaLab File No.: 9403146

ENGEO, INC.

Attn: Eric Harrell

RE: Two water samples for Kerosene and Diesel analysis

Project Name: 3925 ALAMEDA AVENUE

Project Number: 3614-FS

Date Sampled: March 7, 1994

Date Submitted: March 9, 1994

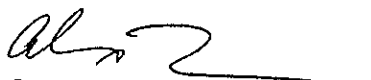
Date Extracted: March 15, 1994


Date Analyzed: March 15, 1994

RESULTS:

<u>Sample</u> <u>I.D.</u>	<u>Kerosene</u> <u>(μg/L)</u>	<u>Diesel</u> <u>(μg/L)</u>
B2-W	410	220
B3-W	3200	1700
BLANK	N.D.	N.D.
SPIKE RECOVERY	---	105%
DUP SPIKE RECOVERY	---	114%
DETECTION LIMIT	50	50
METHOD OF ANALYSIS	3510/8015	3510/8015

ChromaLab, Inc.


Alex Tam
Analytical Chemist


Eric Tam
Laboratory Director

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

March 16, 1994

ChromaLab File No.: 9403146

ENGEO, INC.

Attn: Eric Harrell

RE: Four soil samples for Kerosene and Diesel analysis

Project Name: 3925 ALAMEDA AVENUE

Project Number: 3614-FS

Date Sampled: March 7, 1994

Date Submitted: March 9, 1994

Date Extracted: March 15, 1994

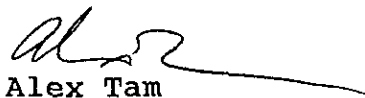
Date Analyzed: March 15, 1994

RESULTS:

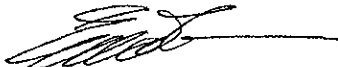
<u>Sample</u> <u>I.D.</u>	<u>Kerosene</u> <u>(mg/Kg)</u>	<u>Diesel</u> <u>(mg/Kg)</u>
B1-2	N.D.	26
B2-3	N.D.	19
B3-1	N.D.	N.D.
B4-2	150	150

BLANK	N.D.	N.D.
SPIKE RECOVERY	---	101%
DUP SPIKE RECOVERY	---	104%
DETECTION LIMIT	1.0	1.0
METHOD OF ANALYSIS	3550/8015	3550/8015

ChromaLab, Inc.



Alex Tam
Analytical Chemist



Eric Tam
Laboratory Director

BM 9401
 CLIENT: ENGEO
 DUE: 03/16/94
 REF: 15501

Order # 15501

ENGEO
 INCORPORATED

2401 CROW CANYON ROAD, SUITE 200
 SAN RAMON, CALIFORNIA 94583
 PHONE (510) 838-1600

CHAIN OF CUSTODY RECORD

KEROSENE

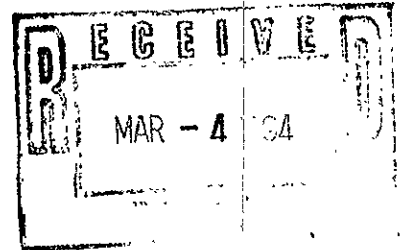
PROJECT NUMBER		PROJECT NAME					TPH - GASOLINE (EPA 8015/5030)	TPH - DIESEL (EPA 8015/3550/3510)	PURGEABLE AROMATICS BTED (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240)	BASE/NEUTRALS, ACIDS (EPA 625, 8270)	TOTAL OIL & GREASE (SHW 5520(f))	OC PESTICIDES/PCB (EPA 608, 8080)	OP PESTICIDES (EPA 614/8140)	TITLE 26 METALS (17)	PRIORITY METALS (13)	REMARKS REQUIRED DETECTION LIMITS
SAMPLED BY: (SIGNATURE) <i>Eric Hamell</i>																		
SAMPLE NUMBER	DATE	TIME	MATRIX	NUMBER OF CONTAINERS	CONTAINER SIZE	PRESERVATIVE												
B1-2	3-7-94	9:15	soil	1	2"x6"	ice	X	X										
B2-3	3-7-94	10:35	soil	1	2"x6"	ice	X	X										
B3-1	3-7-94	12:28	soil	1	2"x6"	ice	X	X										
B4-2	3-7-94	14:55	soil	1	2"x6"	ice	X	X										
B2-W	3-7-94	13:56	water	3-40ml 2-11liter	2"x6"	ice	X	X										
B3-W	3-7-94	14:17	water	3-40ml 2-11liter	2"x6"	ice	X	X										
RELINQUISHED BY: (SIGNATURE) <i>Eric Hamell</i>							DATE/TIME 3-9-94 1307	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>				RELINQUISHED BY: (SIGNATURE)		DATE/TIME	RECEIVED BY: (SIGNATURE)			
RELINQUISHED BY: (SIGNATURE)							DATE/TIME	RECEIVED BY: (SIGNATURE)				RELINQUISHED BY: (SIGNATURE)		DATE/TIME	RECEIVED BY: (SIGNATURE)			
RELINQUISHED BY: (SIGNATURE)							DATE/TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)				DATE/TIME	REMARKS 5 day TAT					



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 (510) 484-2600

3 March 1994



Engeo Incorporated
2401 Crow Canyon Road, Suite 200
San Ramon, CA 94583

Gentlemen:

Enclosed is drilling permit 94131 for a contamination investigation at 3925 Alameda Avenue in Oakland for Smooke and Sons Investment Company.

If you have any questions, please contact Wyman Hong at extension 235 or me at extension 233.

Very truly yours,

A handwritten signature in cursive script that reads 'Craig A. Mayfield'.

Craig A. Mayfield
Water Resources Engineer III

WH:mm
Enc.



ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588

VOICE (510) 484-2600

FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 3925 Alameda Avenue
Oakland, CA

PERMIT NUMBER 94131

LOCATION NUMBER _____

CLIENT
Name Smooke and Sons Investment Company
Address P.O. Box 1311 Phone (213) 624-8361
Los Angeles, CA Zip 90053-1311

PERMIT CONDITIONS

Circled Permit Requirements Apply

APPLICANT
Name Engco Incorporated
Address 2401 Crow Canyon Phone (510) 838-1600
San Ramon, CA Zip 94583

A. GENERAL

1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

TYPE OF PROJECT
Well Construction _____ Geotechnical Investigation _____
Cathodic Protection _____ General _____
Water Supply _____ Contamination _____
Monitoring _____ Well Destruction _____

B. WATER WELLS, INCLUDING PIEZOMETERS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

PROPOSED WATER SUPPLY WELL USE
Domestic _____ Industrial _____ Other _____
Municipal _____ Irrigation _____

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

DRILLING METHOD:
Mud Rotary _____ Air Rotary _____ Auger _____
Cable _____ Other _____

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

DRILLER'S LICENSE NO. West-Hazmat
C57-554979

E. WELL DESTRUCTION. See attached.

WELL PROJECTS
Drill Hole Diameter _____ in. Maximum _____
Casing Diameter _____ in. Depth _____ ft.
Surface Seal Depth _____ ft. Number _____

GEOTECHNICAL PROJECTS
Number of Borings 4 Maximum _____
Hole Diameter 6 in. Depth 10 ft.

Borings to be backfilled with Cement Grout.
ESTIMATED STARTING DATE March 7, 1994
ESTIMATED COMPLETION DATE March 7, 1994

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

Approved

Wyman Hong
Wyman Hong

Date 2 Mar 94

APPLICANT'S SIGNATURE Eric Knull Date 2-28-94