10700 MacArthur Blvd
94605

PRELIMINARY SOIL AND GROUNDWATER QUALITY TESTING PROGRAM

[redacted], CALIFORNIA

10-7-88

Kaldveer Associates
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October 7, 1988
KE812-3A, 12302

Hopkins Development Company
#13 Corporate Plaza, Suite 200
Newport Beach, California 92660

Attention: Mr. Garrett O'Doherty

RE: PRELIMINARY SOIL AND GROUNDWATER QUALITY TESTING PROGRAM
FOOTHILL SQUARE
OAKLAND, CALIFORNIA

Gentlemen:

In this letter report, we present the results of our preliminary soil and groundwater quality testing program for the Foothill Square Shopping Center in Oakland, California. The property is located in northeastern Oakland, at 10700 MacArthur Boulevard, as shown on the Site Vicinity Map, Figure 1. The site is bound southerly by 108th Avenue and easterly by Foothill Boulevard as shown on the Site Plan, Figure 2. Kaldveer Associates previously performed a preliminary environmental assessment (PEA) for this site and the results were presented in our letter report titled, "Preliminary Environmental Assessment - Foothill Square, Oakland, California", dated October 3, 1988. Based on past and present uses of the site, our firm recommended soil and groundwater testing to determine the presence, if any, of potentially hazardous materials in the subsurface soil or groundwater.

SUMMARY OF RESULTS

Our preliminary soil and groundwater quality testing program indicates contaminated soil and groundwater are present in the northwest corner of the site. Analytical results indicated presence of various chemical compounds, primarily gasoline. Details of our preliminary soil and groundwater quality testing program are presented below.

SCOPE OF WORK

The scope of work performed for this investigation included the following:

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1. A subsurface investigation consisting of 1) soil testing of selected soil samples from twelve borings located throughout the site, and 2) groundwater testing from the borings located down-gradient from the existing service station.

2. Analytical testing consisting of 1) low to medium boiling point hydrocarbons as "gasoline", with benzene, toluene, xylene and ethylbenzene distinction, 2) high boiling point hydrocarbons as "diesel", 3) semi volatile organics, 4) volatile organics, 5) metals, 6) pesticides and 7) polychlorinated biphenyls (PCB's).

3. This report summarizing the field investigation and laboratory analytical data with a discussion of the results.

The field investigation was conducted by Robert Busby, Staff Geologist. This report was prepared by Robert Busby and Polly L. Worrell, Senior Geologist/Environmental Specialist.

BACKGROUND

Our firm's preliminary environmental assessment revealed the former existence of Fageol Motors Company located at the same location as Foothill Square. Fagoel Motors manufactured tractors, trucks, and motor buses for 44 years prior to development of the property as a shopping center in 1960. At this type of facility, use of hydrocarbons, paints, solvents, PCB's and metals could have resulted in soil or groundwater contamination. A review of aerial photographs show areas of drum storage, tanks and possible waste disposal.

Presently, the USA/Olympic service station is operating at the site as well as an Arco service station located just northwest of the property. Older service stations commonly contain leaking underground storage tanks, although there is no definite evidence of this at the subject site. Finally, a dry cleaning facility has operated at this shopping center since 1961. Various chemicals used in the dry cleaning business have commonly been spilled or washed into the soil. Again, we have no evidence that such an occurrence has occurred at this site.

SITE DESCRIPTION

The site is roughly rectangular in shape and encompasses approximately 13.5 acres. Presently the uses of the site are primarily retail. Many of these retail businesses are identified on Figure 2. The retail structure is surrounded on all sides by an asphalt parking lot which includes three

additional retail structures. One of these structures is the USA/Olympic service station. Plant and tree islands bounded by concrete curbing occur throughout the parking lot.

The site is bordered northwesterly and southerly by residences. Toward the northeast, Foothill Boulevard bounds the site and subsequently the MacArthur Freeway. Toward the southwest, MacArthur Boulevard bounds the site where various retail and residential buildings exist. The site slopes gradually to the west, excepting the northeast parking lot which slopes up towards Foothill Boulevard.

Surface waters were not observed at the site. We are not aware of any studies indicating the groundwater flow direction in the near-site vicinity. However, the regional flow direction is generally towards San Francisco Bay to the west.

SITE INVESTIGATION

Our subsurface investigation consisted of drilling twelve exploratory borings. Three borings were placed roughly down-gradient to the existing USA/Olympic service station as a check for possible fuel leaks, while the remaining borings were spread throughout the site. Please note, however, that we were not able to drill within the existing main building footprint. The exploratory borings were drilled to depths ranging from 11½ to 36½ feet deep. The approximate location of the borings are shown on the Site Plan, Figure 2. Logs of the borings and details regarding the field investigation are included in Appendix A.

Beneath the asphaltic concrete the surface soils and underlying materials encountered in these borings consisted of silty clays to depths of approximately 18 to 21 feet. Below the silty clays were found gravelly clays which extended to approximately 31½ feet. Sandy gravels lie beneath the gravelly clays and extend to at least 36½ feet. However, in the northern portion of the site, 9 to 10 feet of silty clays overlie at least 16½ feet of sandy gravels.

Two borings, EB-1 and EB-10 were drilled to depths of 4½ feet below the groundwater table in order to obtain grab water samples. Both boring locations were down gradient from the USA/Olympic Service Station. EB-1 was located at the opposite corner of the site from the USA/Olympic service station near the operating Arco service station northwest of the site. During drilling of EB-1, very strong gasoline-like odors and discolored soils were encountered. Grab water samples obtained from this boring had very strong gasoline-like odors and contained a black, free-floating product. The water levels measured were 27 to 29½ feet

below existing ground surface two to three hours after drilling. Soil and water samples obtained were stored, refrigerated and delivered to the analytical laboratory under chain-of-custody control.

ANALYTICAL TESTING

An analytical testing program was conducted on the soil and water samples obtained from the investigation. Analytical testing of the soil and water samples was conducted in accordance with the following EPA Test Methods.

Test Name	EPA Test Method
Low to Medium Boiling Point Hydrocarbon as "gasoline"	8015 (modified)
Benzene, Toluene, Xylene and Ethylbenzene (BTXE)	8020
High Boiling Point Hydrocarbon as "diesel"	8015 (modified)
Semi-Volatile Organics	8270/625
Volatile Organics	8240/624
Metals	6010
Pesticides	8080/608
PCB's	8080/608

Soil samples were randomly selected for compositing before analysis. Representative soil samples from varying depths in each exploratory boring (EB) were selected and composited into four samples for analytical testing. Grab water samples were obtained and individually analyzed to determine the presence, if any, of chemical compounds. Unique laboratory identification sample numbers were assigned to each composite soil and grab water sample submitted for analysis. Table 1 lists assigned laboratory identification sample numbers, boring location and depths of soil samples composited.

ANALYTICAL TEST RESULTS

The compounds detected in the soil and grab water samples above the detection limit, are presented in Tables 2 and 3. The complete analytical test results and chain-of-custody records are presented in Appendix B.

In summary, one boring indicated the presence of chemical compounds in both soil and groundwater. Various metals and hydrocarbons were detected in soils from Exploratory Boring One (EB-1). Detected compounds found in the grab water samples from the boring are as follows: hydrocarbons, pesticides, PCB's and volatile organic compounds (benzene, toluene, xylene, ethylbenzene). Values reported by laboratory personnel

for the pesticides and PCB's may be erroneously identified due to the high concentration of gasoline in the sample. To our knowledge, eighty percent of the sample was gasoline. The remaining twenty percent of the sample was extracted and analyzed for volatile and semi-organic compounds, pesticides and PCB's. The laboratory reported the sample was "too dirty" to obtain accurate results due to high gasoline content. Explanation of laboratory observations and procedures are presented in the analytical test results (Appendix B).

DISCUSSION AND CONCLUSIONS

The analytical results indicate contaminated soil and groundwater is present in the northwest corner of this site. The analytical results reported for EB-1 are in excess of various clean-up levels set by Federal and State agencies. Field observations detected the presence of gasoline in the subsurface soils and groundwater. Values reported by the laboratory confirm the presence of gasoline.

Although pesticides and PCB's were detected, laboratory personnel are not confident that these data are valid and in our opinion, should not be considered unless a representative groundwater sample is obtained from a properly constructed monitoring well.

The analytical results of the CAM metals testing indicated the presence of numerous metals. These values can be compared to the Total Threshold Limit Concentration (TTLC), as found in the California Administrative Code, Titled 22, Section 66699. The values of all detected metals were significantly below the TTLC, and in our opinion, can only be viewed as background or naturally occurring levels which pose no contamination threat to the groundwater. Applicable standards and guideline values are presented in Tables 1 and 2.

However, CAM metals testing was not performed on EB-1 where chemical compounds have been detected for this preliminary soil testing. Metals may possibly exist at this location, and in our opinion, should be tested for in future testing.

After review of the analytical results, several contacts to agency representatives were made to assess the potential source of the contamination in the northwest area of the site. To our knowledge, no fuel leaks have been reported by the adjacent Arco service station to-date.

We reviewed the San Francisco Bay Regional Quality Control Board's fuel leak files and reviewed the file on the Seven-Eleven convenience store reported previously in our PEA. This Seven-Eleven Store is located within

one quarter mile of Foothill Square and is shown on Figure 1, Site Vicinity Map as a "reported fuel leak". Contaminated sites are also shown in this figure as reported in our PEA. An additional Phase III report was included in the file; reported groundwater samples collected were analyzed for total petroleum hydrocarbons (TPH) as gasoline and benzene, toluene, xylene and ethylbenzene. The groundwater samples contained TPH concentrations ranging from 1.1 to 80 parts per million (ppm), and benzene concentrations ranging from 160 to 17,000 parts per billion (ppb). All samples were above detection limits for all compounds from four monitoring wells tested. Quarterly monitoring of the four on-site wells was recommended to monitor attenuation in hydrocarbon concentrations at the site. We contacted Mr. Lowell Miller of the Alameda County Department of Health Services regarding the Arco service station and the Seven-Eleven store. He was familiar with activities at the Seven-Eleven store, but does not know the extent of the subsurface contamination and has received no fuel leak reports from the Arco service station.

RECOMMENDATIONS

Based on the results of our field investigation and the laboratory test results three issues are of primary concern from the soil and groundwater standpoint: 1) groundwater quality, 2) vertical and lateral extent of soil contamination, and 3) source of the contamination. In our opinion, an additional soil and groundwater testing program is appropriate for this site.

We recommend installing and testing of at least three monitoring wells in the northwest area of this site to determine the quality of the underlying groundwater and groundwater flow gradient. Monitoring parameters should include heavy metals, volatile and semi-volatile organic compounds, PCB's and petroleum hydrocarbons.

A soil testing program would include approximately eight exploratory borings to determine vertical and lateral extent of contamination. Soil testing parameters should include those recommended for groundwater quality testing.

LIMITATIONS

Our services are performed in accordance with generally accepted soil and environmental principles and practices. Soil deposits and rock formations may vary in thickness, lithology, saturation, strength, and other properties across any site. Our studies assume that the field and laboratory data are reasonably representative of actual field conditions. The analytical results of our soil testing program are only specific to the

locations shown on the Site Plan and the dates of sampling. Our services were performed in accordance with generally accepted geologic and environmental engineering principles and practices. We make no warranty, expressed or implied, except that our services have been performed in accordance with those techniques and principles generally accepted at this time and location. If the information or data presented in this report change, we should be advised so that we can review our report in light of these changes.

If you have any questions, please feel free to call.

Very truly yours,

KALDVEER ASSOCIATES, INC.

Polly L. Worrell

prepared by: Polly L. Worrell
Senior Geologist/Environmental Specialist

David F. Hoexter

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Manager, Environmental/Geological Services

Richard Short

reviewed by: Richard Short, P.E.
Executive Vice President

PLW/DFH:jb
Copies: Addressee (4)

TABLE 1
SAMPLE IDENTIFICATION

Lab Identification Sample Number	Sample Type	Boring/ Depth
63797	Composite Soil	EB-1/16', 21'
63798	Composite Soil	EB-2/9.5' EB-4/3.5' EB-13/2.0' EB-14/15.5' EB-15/11.0'
63799	Composite Soil	EB-3/2.0' EB-5/3.5' EB-6/11.0' EB-7/1.5' EB-8/5.0' EB-9/16.0'
63800	Composite Soil	EB-10/3.5' EB-11/4.5'
63801	Grab Water	EB-1
63802	Grab Water	EB-10

TABLE 2
SUMMARY OF ANALYTICAL TEST RESULTS FOR SOIL
ABOVE THE DETECTION LIMITS
in parts per million (ppm)

Metals	Sample Identification Number 63798	63799	CA TTLC
BA	175	146	10,000
BE	Trace	Trace	75
CD	3.69	3.53	100
CO	13.4	14.7	8,000
CR	45.1	51.0	2,500
CV	22.4	21.5	2,500
NI	41.4	44.2	2,000
PB	9.65	ND	2,400
V	44.2	45.5	2,400
ZN	60.3	35.0	5,000

CHEMICAL
COMPOUNDS

Hydrocarbons with BTXE Distinction	Sample Identification Numbers 63797	63798	Miscellaneous Standards
Diesel	ND	Trace	
Gasoline	Trace	ND	
Benzene	0.11	ND	.0028 (1)
Toulene	ND	ND	
Xylene	Trace	ND	
Ethyl Benzene	Trace	ND	

Notes:
Trace = Results are below method quantitation limit
ND = Not Detected
CA TTLC = Total Threshold Limit Concentration, California Administrative Code, Title 22
(1) = Example of designated levels for "hypothetical average" site to protect groundwater (Marshack)

See Table 3 for further explanation of notes.

TABLE 3

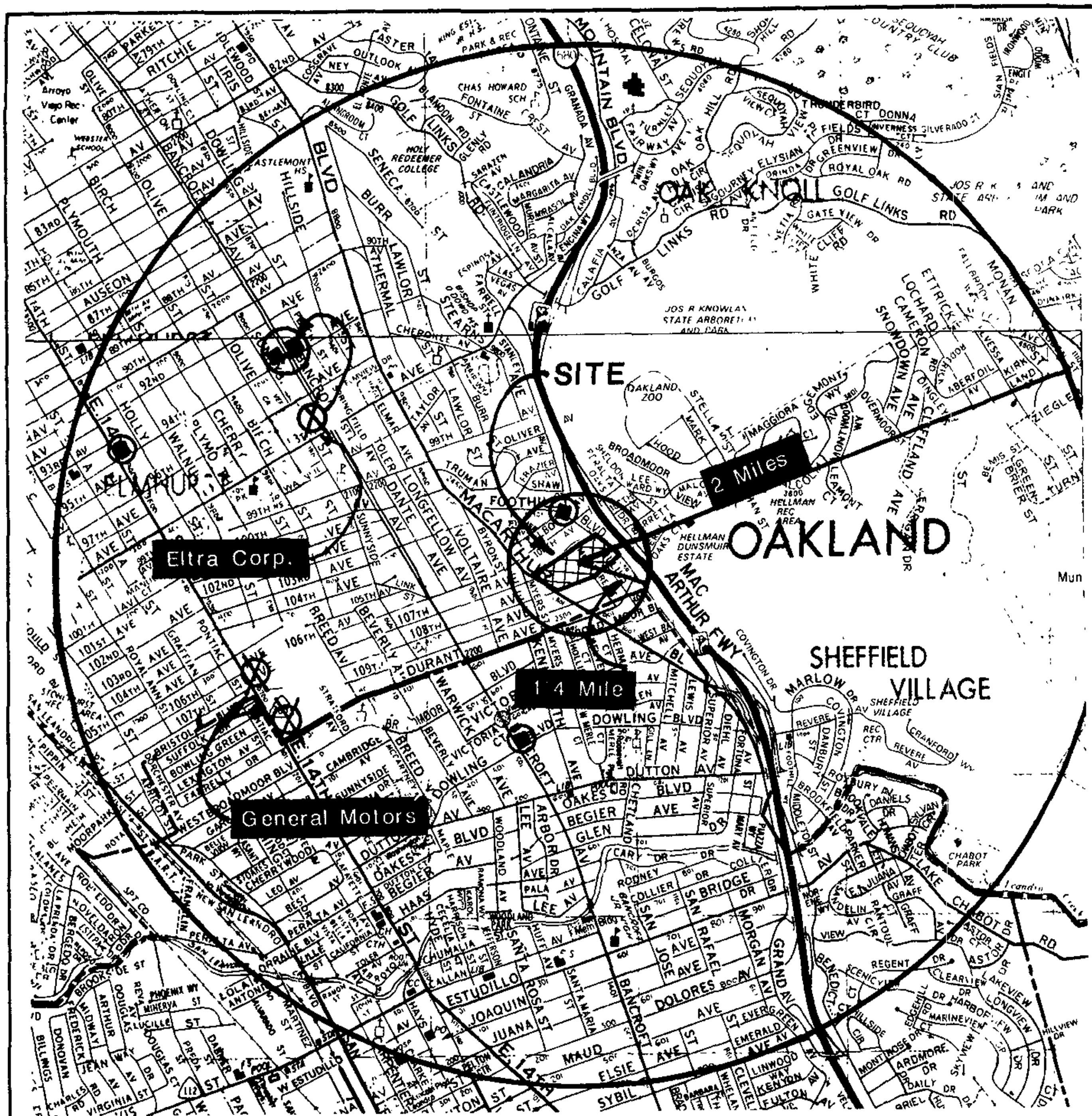
SUMMARY OF ANALYTICAL TEST RESULTS FOR GROUNDWATER
ABOVE THE DETECTION LIMITS
in parts per billion (ppb)

Chemical Compounds	Sample Identification Numbers (Grab Water Sample From EB-1) 63801	Department of Health Services Drinking Water Standards	Miscellaneous Standards
Hydrocarbons with BTXE Distinction			
Gasoline	8360	*	
Benzene	191	1.0	
Toluene	534	100.0	
Xylene	877	1750.0	
Ethylbenzene	150	680.0	
Pesticides and PCB's			
BHC-alpha	7.89	0.70	
Chlordane	24.5	0.055	
DDE	2.26	*	
Endosulfan 2	1.56		74(4)
PCB's	158.0(1)		0(5)
Semi-volatiles			
Benzidine	9700(2)		120(6)
Fluoranthene	2800(2)		42(4)
Napthalene	67,000(2)		
Phenanthrene	3500(2)		2800(6)
Volatiles			
Ethyl Benzene	1600(3)	680	
Toluene	410(3)	100	
Xylene	1800(3)	1750	

Notes:

* = Not established
BHC = Benzene hexachloride
DDE = Dichlorodiphenyldichoroethylene
(1) = Sample too dirty to allow reliable confirmation by 2nd column GC/ECD or GC/MS at the detection limit for this test.
(2) = Refer to laboratory results in Appendix B for explanation of extractions procedures for this sample.
(3) = Refer to laboratory results in Appendix B for explanation of required dilution procedures for this sample.

(4) = EPA no-adverse effect level (Marshack)
(5) = Drinking water standards (Marshack)
(6) = EPA value to protect beneficial uses (Marshack)
(Marshack) = Reference, Marshack, Jon B., October 27, 1986, "Designated Level Methodology for Waste Classification and Clean-up Level Determination", California Regional Water Quality Control Board, Central Valley Region.



Approximate Scale (miles)

LEGEND

Contaminated Site

Reported Fuel Leak

N

Base: Thomas Bros. Maps, Alameda/Contra Costa Counties, 1988 Ed. pp 15, 25

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SITE VICINITY MAP

FOOTHILL SQUARE
Oakland, California

PROJECT NO.	DATE	Figure 1
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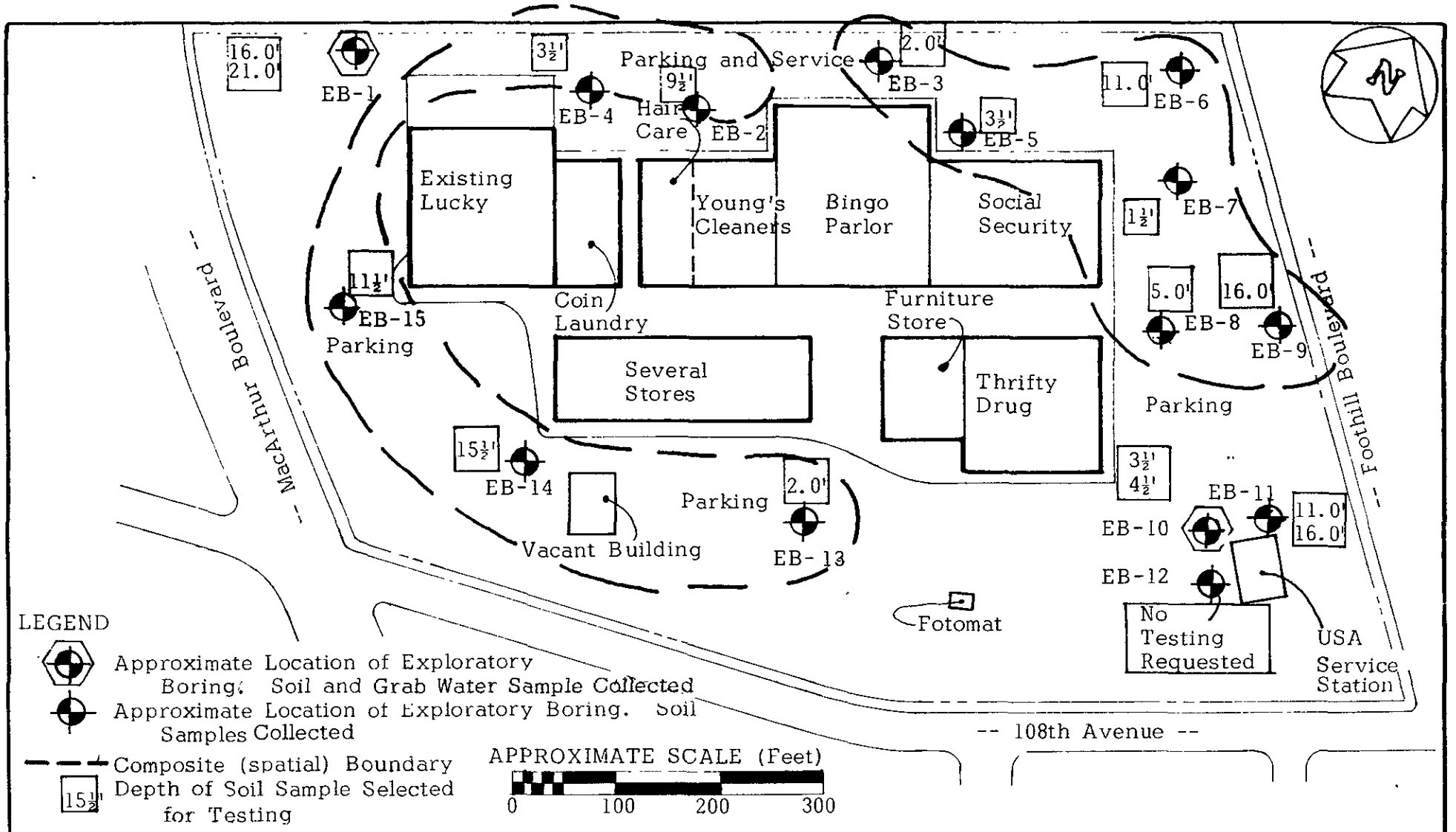

Base: Foothill Square "Drake Builders", Welton Becket & Associates, undated

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SITE PLAN

FOOTHILL SQUARE
Oakland, California

PROJECT NO	DATE	Figure
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APPENDIX A

ENVIRONMENTAL FIELD INVESTIGATION

APPENDIX A -
ENVIRONMENTAL FIELD INVESTIGATION

SUBSURFACE SOIL SAMPLING

The subsurface investigation was performed using a truck-mounted, 6-inch diameter, continuous flight solid stem augers to investigate and sample the subsurface soils. Fifteen exploratory borings were drilled on August 29, 1988, to depths of 11.5 to 36.5 feet below existing grade. The approximate locations of the borings are shown on the Site Plan, Figure 2. The augers and equipment were steam-cleaned prior to the drilling operations.

The soils encountered in the borings were continuously logged in the field by our geologist. The soils were described in accordance with the Unified Soil Classification System (ASTM D-2487). The logs of the borings as well as a key for the classification of the soil (Figure A-1) are included as part of this appendix.

Representative soils samples were obtained from the exploratory borings at selected depths based on our field observations at the time of drilling. The soil samples were obtained with the 2½-inch O.D. California sampler. The locations where each soil sample was obtained is indicated in the "Sample" column of the logs as designated below. In addition, the depth of the selected soil sample to be utilized for possible analytical testing is designated by the cross-hatched area within the "sampler" column.


California Sampler


Soil Sample Stored for Possible Analytical Testing

Each sample was contained in 2-inch diameter, 6-inch long, brass liners. The sampler and brass liners were decontaminated with a trisodium phosphate (TSP) solution, rinsed with fresh water, and then a final rinse of deionized water prior to each sampling. The ends of the soil samples were covered with aluminum foil, rubber capped, sealed with tape, and placed in zip-lock, plastic bags. Each sample was labeled in such a manner as to maintain client confidentiality and immediately placed in refrigerated storage. A chain-of-custody form was completed by the sampler and accompanied the samples to Fireman's Fund Laboratory, in Petaluma, California for testing.

Resistance blow counts were obtained with the samplers by dropping a 140-pound hammer through a 30-inch free fall. The sampler was driven 18

inches and the number of blows were recorded for each 6 inches of penetration. The blows per foot recorded on the boring logs represent the accumulated number of blows that were required to drive the last 12 inches. Due to the larger diameter of the California Sampler, the blow counts recorded with this sampler are not standard penetration resistance values. In order to convert these values to standard penetration resistance values, the indicated blow count should be multiplied by a factor of 0.8.

The attached boring logs and related information show our interpretation of the subsurface conditions at the dates and locations indicated, and it is not warranted that they are representative of subsurface conditions at other locations and times.

GRAB WATER SAMPLE OF THE GROUNDWATER

A grab water sample of the groundwater was obtained from Borings EB-1 and EB-10 approximately four hours after drilling. The water sample was obtained using a teflon bailer which had been rinsed with a trisodium phosphate (TSP) solution, rinsed with clear water, and then a final rinse with deionized water. It should be noted that samples of the groundwater not obtained from a developed monitoring well may not be representative of the actual conditions.

The grab water samples were stored in sterilized 1-liter glass bottles and/or 40-ml VOA vials, as appropriate of the type of analysis required. The glass containers were treated with any preservatives required per EPA approved sampling protocol and were supplied by the laboratory. The samples were labeled and immediately placed in refrigerated storage until delivery, under chain-of-custody control, to Fireman's Fund Environmental Laboratories in Petaluma, California for testing.

PRIMARY DIVISIONS			GROUP SYMBOL	SECONDARY DIVISIONS
COARSE GRAINED SOILS — MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVELS — 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
			GP	Poorly graded gravels or gravel-sand mixtures, little or no fines.
		GRAVEL WITH FINES	GM	Silty gravels, gravel-sand-silt mixtures non-plastic fines
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines
	SANDS — MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO 4 SIEVE	CLEAN SANDS (LESS THAN 5% FINES)	SW	Well graded sands, gravelly sands, little or no fines
			SP	Poorly graded sands or gravelly sands, little or no fines
		SANDS WITH FINES	SM	Silty sands, sand-silt mixtures, non-plastic fines
			SC	Clayey sands, sand-clay mixtures, plastic fines
FINE GRAINED SOILS — MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS — LIQUID LIMIT IS LESS THAN 50%		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS — LIQUID LIMIT IS GREATER THAN 50%		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils

DEFINITION OF TERMS

	U.S STANDARD SERIES SIEVE				CLEAR SQUARE SIEVE OPENINGS			
	200	40	10	4	3/4"	3"	12"	
SILTS AND CLAYS	SAND			GRAVEL		COBBLES	BOULDERS	
	FINE	MEDIUM	COARSE	FINE	COARSE			

GRAIN SIZES

SANDS AND GRAVELS	BLOWS/FOOT†
VERY LOOSE	0 - 4
LOOSE	4 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	OVER 50

RELATIVE DENSITY

SILTS AND CLAYS	STRENGTH‡	BLOWS/FOOT†
VERY SOFT	0 - 1/4	0 - 2
SOFT	1/4 - 1/2	2 - 4
FIRM	1/2 - 1	4 - 8
STIFF	1 - 2	8 - 16
VERY STIFF	2 - 4	16 - 32
HARD	OVER 4	OVER 32

CONSISTENCY

†Number of blows of 140 pound hammer falling 30 inches to drive a 2 inch O.D (1-3/8 inch I D) split spoon (ASTM D-1586).

‡Unconfined compressive strength in tons/sq ft. as determined by laboratory testing or approximated by the standard penetration test (ASTM D-1586), pocket penetrometer, torvane, or visual observation.

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KEY TO EXPLORATORY BORING LOGS
Unified Soil Classification System (ASTM D-2487)

FOOTHILL SQUARE
Oakland, California

PROJECT NO	DATE	Figure
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DRILL RIG Continuous Flight Auger	SURFACE ELEVATION -	LOGGED BY RB
DEPTH TO GROUNDWATER 27 Feet	BORING DIAMETER 6 inches	DATE DRILLED 8/29/88

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
1" asphalt over 8" baserock CLAY, silty with gravels, no odor, dry	brown	very stiff	CL	1					
				2		23			
(grading to no gravels)				3					
				4		28			
				5		41			
		hard		6					
				7					
(grading to some white specks)				8					
				9					
				10					
(grading to no white specks)				11		24			
		very stiff		12					
(grading with some gravels)				13					
(grading with slight odor)				14					
				15					
				16		26			
				17					
				18					
CLAY, gravelly, very moist	brown-green	very stiff	CL	19					
(strong odor)				20					

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EXPLORATORY BORING LOG

FOOTHILL SQUARE
Oakland, California

PROJECT NO.	DATE	BORING NO
KE812-3A	October 1988	1

DRILL RIG Continuous Flight Auger	SURFACE ELEVATION -	LOGGED BY RB
DEPTH TO GROUNDWATER 27 Feet	BORING DIAMETER 6 inches	DATE DRILLED 8/29/88

DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
CLAY, gravelly, very moist, strong odor	brown-green	very stiff	CL	21		30			
				22					
				23					
				24					
				25					
				26		34			
				27			▽		
				28					
				29					
(saturated)				30					
				31		21			
Bottom of Boring = 31½ Feet				32					
				33					
				34					
				35					
				36					
				37					
				38					
				39					
				40					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. These samplers were driven with a fully manual hammer and the penetration resistance values should be converted as explained in Appendix A.
3. Groundwater level was measured at 27 feet at time of drilling.

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EXPLORATORY BORING LOG

FOOTHILL SQUARE
Oakland, California

PROJECT NO.	DATE	BORING NO
KE812-3A	October 1988	1

DRILL RIG Continuous Flight Auger	SURFACE ELEVATION -	LOGGED BY RB
DEPTH TO GROUNDWATER Not Encountered	BORING DIAMETER 6 inches	DATE DRILLED 8/29/88

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
2" asphalt over 5" baserock				1					
CLAY, silty, few gravels, slight odor, dry	black	very stiff	CL	2		32			
		stiff		3					
				4		16			
(grading to slightly moist)				5					
				6					
				7					
CLAY, silty, no gravels, slight odor, dry	light-brown	hard	CL	8					
				9					
				10		64			
Notes: 1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual. 2. These samplers were driven with a fully manual hammer and the penetration resistance values should be converted as explained in Appendix A.				11					
				12					
				13					
				14					
				15					
				16					
Bottom of Boring = 16½ Feet				17					
				18					
				19					
				20					

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EXPLORATORY BORING LOG

FOOTHILL SQUARE
Oakland, California

PROJECT NO	DATE	BORING NO
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DRILL RIG	Continuous Flight Auger	SURFACE ELEVATION	-	LOGGED BY	RB
DEPTH TO GROUNDWATER	14 Feet	BORING DIAMETER	6 inches	DATE DRILLED	8/29/88

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE						
2" Asphalt 6" baserock				1					
CLAY, silty with few gravels, dry, no odor	brown	very stiff	CL	2	▨	36			
		hard		3					
				4	▨	52			
(grading to no gravels)				5					
				6					
				7					
				8					
(grading to slightly moist)				9					
				10	▨	26			
				11					
				12					
(grading to very moist)				13					
				14			▽		
				15					
				16	▨	34			
Bottom of Boring = 16½ Feet				17					
				18					
				19					
				20					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. These samplers were driven with a fully manual hammer and the penetration resistance values should be converted as explained in Appendix A.
3. Groundwater level was measured at 14 feet at time of drilling.

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EXPLORATORY BORING LOG

FOOTHILL SQUARE
Oakland, California

PROJECT NO	DATE	BORING NO
KE812-3A	October 1988	3

DRILL RIG	Continuous Flight Auger	SURFACE ELEVATION	-	LOGGED BY	RB
DEPTH TO GROUNDWATER	Not Encountered	BORING DIAMETER	6 inches	DATE DRILLED	

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
1" asphalt over 6½" abserock				1					
CLAY, silty, dry, slight odor	black-brown	very stiff	CL	2		35			
		stiff		3					
				4		19			
				5					
(grades to light brown)	light-brown			6					
				7					
				8					
				9					
		hard		10		55			
Notes: 1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual. 2. These samplers were driven with a fully manual hammer and the penetration resistance values should be converted as explained in Appendix A.				11					
				12					
				13					
				14					
				15					
				16		45			
Bottom of Boring = 16½ Feet				17					
				18					
				19					
				20					

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EXPLORATORY BORING LOG

FOOTHILL SQUARE
Oakland, California

PROJECT NO.	DATE	BORING NO
KE812-3A	October 1988	4

DRILL RIG	Continuous Flight Auger	SURFACE ELEVATION	-	LOGGED BY	RB
DEPTH TO GROUNDWATER	Not Encountered	BORING DIAMETER	6 inches	DATE DRILLED	8/29/88

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE						
1" asphalt over 7½" baserock				1					
CLAY, silty, some gravels, slight odor, dry	brown	very stiff	CL	2		21			
				3					
(grading to no gravels)				4		22			
				5					
				6		64			
(grading to slightly moist)				7					
				8					
				9					
				10					
Notes: 1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual. 2. These samplers were driven with a fully manual hammer and the penetration resistance values should be converted as explained in Appendix A.				11					
				12					
				13					
				14					
				15					
				16					
Bottom of Boring = 16½ Feet				17					
				18					
				19					
				20					

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EXPLORATORY BORING LOG

FOOTHILL SQUARE
Oakland, California

PROJECT NO.	DATE	BORING NO
KE812-3A	October 1988	5

DRILL RIG	Continuous Flight Auger	SURFACE ELEVATION	-	LOGGED BY	RB
DEPTH TO GROUNDWATER	14 Feet	BORING DIAMETER	6 inches	DATE DRILLED	8/29/88

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
2" asphalt over 5" baserock				1					
CLAY, silty, some gravels -roots (small) -dry -no odor	brown	firm	CL	2		9			
		very stiff		3					
				4		36			
(grading to no gravels) (grading to no roots)		hard		5		45			
Notes: 1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual. 2. These samplers were driven with a fully manual hammer and the penetration resistance values should be converted as explained in Appendix A. 3. Groundwater level was measured at 14 feet at time of drilling.				6					
				7					
				8					
				9					
GRAVEL, sand (fine-coarse grained), some clay, no odor, grades with less clay, moderately moist	grey	medium-dense	GP	10					
				11		27			
				12					
				13					
(grades to saturated)				14			▽		
				15					
				16		27			
Bottom of Boring = 16½ Feet				17					
				18					
				19					
				20					

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EXPLORATORY BORING LOG

FOOTHILL SQUARE
Oakland, California

PROJECT NO.	DATE	BORING NO
KE812-3A	October 1988	6

DRILL RIG	Continuous Flight Auger	SURFACE ELEVATION	-	LOGGED BY	RB
DEPTH TO GROUNDWATER	Not Encountered	BORING DIAMETER	6 inches	DATE DRILLED	8/29/88

DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
2" asphalt over 6" baserock									
CLAY, silty, no gravels, dry, no odor	brown	hard	CL	1					
				2		50			
Notes: 1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual. 2. These samplers were driven with a fully manual hammer and the penetration resistance values should be converted as explained in Appendix A.		very stiff		3					
				4		44			
				5		34			
				6					
				7					
				8					
				9					
GRAVEL, sandy (fine-coarse grained), some clay, no odor, moderately moist (grades with less clay)	grey	medium-dense	GP	10					
				11		34			
(grades to very moist)				12					
				13					
				14					
				15					
		dense		16		42			
Bottom of Boring = 16½ Feet				17					
				18					
				19					
				20					

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EXPLORATORY BORING LOG

FOOTHILL SQUARE
Oakland, California

PROJECT NO.	DATE	BORING NO
KE812-3A	October 1988	7

DRILL RIG	Continuous Flight Auger	SURFACE ELEVATION	-	LOGGED BY	RB
DEPTH TO GROUNDWATER	13 Feet	BORING DIAMETER	6 inches	DATE DRILLED	8/29/88

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
2" asphalt over 5" baserock				1					
CLAY, sand(fine-coarse grained), few gravels, dry, no odor	brown	very stiff	CL	2		40			
				3					
SAND(fine-coarse grained), silty, no gravels, dry, no odor	brown	dense	SM	4		38			
				5		20			
(grading to coarse sand with some gravels)				6					
				7					
(grading to moderately moist)				8					
				9					
				10					
GRAVEL, sandy(fine-coarse grained), very moist, no odor	brown	medium-dense	GP	11		25			
				12					
				13			▽		
				14					
				15					
				16		30			
Bottom of Boring = 16½ Feet				17					
				18					
				19					
				20					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. These samplers were driven with a fully manual hammer and the penetration resistance values should be converted as explained in Appendix A.
3. Groundwater level was measured at 13 feet at time of drilling.

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EXPLORATORY BORING LOG

FOOTHILL SQUARE
Oakland, California

PROJECT NO.	DATE	BORING NO
KE812-3A	October 1988	8

DRILL RIG	Continuous Flight Auger	SURFACE ELEVATION	-	LOGGED BY	RB
DEPTH TO GROUNDWATER	13½ Feet	BORING DIAMETER	6 inches	DATE DRILLED	8/29/88

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
2" asphalt over 5" baserock									
CLAY, silty, few gravels, dry, no odor	brown	hard	CL	1					
				2		49			
				3		46			
(grading to no gravels)				4					
				5		45			
				6					
				7					
(grading to slightly moist)				8					
				9					
				10					
(grading to very moist)		very stiff		11		24			
				12					
				13			▽		
				14					
				15					
		firm		16		10			
Bottom of Boring = 16½ Feet				17					
				18					
				19					
				20					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. These samplers were driven with a fully manual hammer and the penetration resistance values should be converted as explained in Appendix A.
3. Groundwater level was measured at 13½ feet at time of drilling.

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EXPLORATORY BORING LOG

FOOTHILL SQUARE
Oakland, California

PROJECT NO	DATE	BORING NO
KE812-3A	October 1988	9

DRILL RIG	Continuous Flight Auger	SURFACE ELEVATION	-	LOGGED BY	RB
DEPTH TO GROUNDWATER	29½ Feet	BORING DIAMETER	6 inches	DATE DRILLED	8/30/88

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
2" asphalt over 5" baserock				1					
CLAY, silty, few gravels, dry, no odor	brown	very stiff	CL	2		33			
				3					
CLAY, sandy (fine-coarse grained) with gravels, slightly moist, slight odor, mottled color	brown-olive-green white	hard	CL	4		60			
				5		26			
CLAY, silty, no gravels, slightly moist, no odor	brown	very stiff	CL	6					
				7					
				8					
				9					
				10					
				11		41			
		hard		12					
				13					
				14					
				15					
				16		50			
				17					
(grading to mottled color), no odor	brown-olive-green orange			18					
				19					
				20					

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EXPLORATORY BORING LOG

FOOTHILL SQUARE
Oakland, California

PROJECT NO	DATE	BORING NO
KE812-3A	October 1988	10

DRILL RIG Continuous Flight Auger	SURFACE ELEVATION –	LOGGED BY RB
DEPTH TO GROUNDWATER 29½ Feet	BORING DIAMETER 6 inches	DATE DRILLED 8/30/88

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
CLAY, silty, no gravels, slightly moist, no odor	brown	hard	CL	21		57			
(grading with some gravels)				22					
				23					
				24					
(grading to moderately moist)				25					
				26		75			
(grading with many gravels)				27					
				28					
				29			▽		
				30					
				31		50			
				32					
GRAVEL, sandy(fine-coarse grained), with clay, saturated, no odor	grey	very dense	GP	33					
				34					
				35					
				36					
Bottom of Boring = 36½ Feet				37					
				38					
				39					
				40					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. These samplers were driven with a fully manual hammer and the penetration resistance values should be converted as explained in Appendix A.
3. Groundwater level was measured at 29½ feet at time of drilling.

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EXPLORATORY BORING LOG

FOOTHILL SQUARE
Oakland, California

PROJECT NO.	DATE	BORING NO
KE812-3A	October 1988	10

DRILL RIG Continuous Flight Auger	SURFACE ELEVATION -	LOGGED BY RB
DEPTH TO GROUNDWATER Not Encountered	BORING DIAMETER 6 inches	DATE DRILLED 8/28/88

DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
1" asphalt over 4" baserock									
CLAY, silty with few gravels, dry no odor	brown	very stiff	CL	2		36			
				3		32			
(grading with less gravels)				4					
				5		36			
				11		35			
		hard		16		49			

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EXPLORATORY BORING LOG

FOOTHILL SQUARE
Oakland, California

PROJECT NO.	DATE	BORING NO
KE812-3A	October 1988	11

DRILL RIG Continuous Flight Auger	SURFACE ELEVATION -	LOGGED BY RB
DEPTH TO GROUNDWATER Not Encountered	BORING DIAMETER 6 inches	DATE DRILLED 8/30/88

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE						
CLAY, silty with few gravels	brown	hard	CL	21		60			
Bottom of Boring = 21½ Feet				22					
				23					
				24					
				25					
				26					
				27					
				28					
				29					
				30					
				31					
				32					
				33					
				34					
				35					
				36					
				37					
				38					
				39					
				40					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. These samplers were driven with a fully manual hammer and the penetration resistance values should be converted as explained in Appendix A.

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EXPLORATORY BORING LOG

FOOTHILL SQUARE
Oakland, California

PROJECT NO	DATE	BORING NO
KE812-3A	October 1988	11

DRILL RIG Continuous Flight Auger	SURFACE ELEVATION -	LOGGED BY RB
DEPTH TO GROUNDWATER Not Encountered	BORING DIAMETER 6 inches	DATE DRILLED 8/30/88

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE						
CLAY, silty with gravels, dry, no odor	brown	very stiff	CL	1					
				2	▨	43			
(grading with less gravels)				3					
				4	▨	30			
				5	▨	34			
Notes: 1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual. 2. These samplers were driven with a fully manual hammer and the penetration resistance values should be converted as explained in Appendix A.				6					
				7					
				8					
				9					
				10					
				11	▨	36			
				12					
(grading to mottled)	brown-red-yellow			13					
				14					
				15					
		hard		16	▨	64			
Bottom of Boring = 16½ Feet				17					
				18					
				19					
				20					

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EXPLORATORY BORING LOG

FOOTHILL SQUARE
Oakland, California

PROJECT NO	DATE	BORING NO
KE812-3A	October 1988	12

DRILL RIG	Continuous Flight Auger	SURFACE ELEVATION	-	LOGGED BY	RB
DEPTH TO GROUNDWATER	Not Encountered	BORING DIAMETER	6 inches	DATE DRILLED	8/30/88

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
1½" asphalt over 5½" baserock				1					
CLAY, silty, few gravels, slight odor, dry	black	stiff	CL	2		15			
				3					
				4		17			
				5					
				6		18			
(grades to brown)				7					
(grades to slightly moist)				8					
				9					
				10					
		very stiff		11		36			
				12					
(grades to slightly moist)				13					
				14					
				15					
				16		16			
Bottom of Boring = 16½ Feet				17					
				18					
				19					
				20					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. These samplers were driven with a fully manual hammer and the penetration resistance values should be converted as explained in Appendix A.

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EXPLORATORY BORING LOG

FOOTHILL SQUARE
Oakland, California

PROJECT NO	DATE	BORING NO
KE812-3A	October 1988	13

DRILL RIG Continuous Flight Auger	SURFACE ELEVATION -	LOGGED BY RB
DEPTH TO GROUNDWATER Not Encountered	BORING DIAMETER 6 inches	DATE DRILLED 8/30/88

DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
CLAY, silty, few gravels, no odor, dry	brown	very stiff	CL	1–2		28			
CLAY, silty with many gravels, no odor, dry	black	very stiff	CL	3–4		35			
(grading with less gravels)				5		27			
(grades to brown)				6–10					
				11		26			
				12–15					
		hard		16		41			
Bottom of Boring = 16½ Feet				17–20					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. These samplers were driven with a fully manual hammer and the penetration resistance values should be converted as explained in Appendix A.

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EXPLORATORY BORING LOG

FOOTHILL SQUARE
Oakland, California

PROJECT NO	DATE	BORING NO
KE812-3A	October 1988	14

DRILL RIG	Continuous Flight Auger	SURFACE ELEVATION	-	LOGGED BY	RB
DEPTH TO GROUNDWATER	Not Encountered	BORING DIAMETER	6 inches	DATE DRILLED	8/30/88

DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
2" asphalt over 5" baserock									
CLAY, silty with gravels, dry, no odor, mottled	brown-orange-green	very stiff	CL	1					
				2		30			
(grading to brown)				3					
				4		22			
(grading with less gravels)	brown			5		20			
				6					
				7					
				8					
				9					
				10					
				11		22			
Bottom of Boring = 11½ Feet				12					
				13					
				14					
				15					
				16					
				17					
				18					
				19					
				20					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. These samplers were driven with a fully manual hammer and the penetration resistance values should be converted as explained in Appendix A.

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EXPLORATORY BORING LOG

FOOTHILL SQUARE
Oakland, California

PROJECT NO	DATE	BORING NO
KE812-3A	October 1988	15

APPENDIX B

CHAIN-OF-CUSTODY AND ANALYTICAL LABORATORY RESULTS

PAGE 1 OF 7

CHAIN-OF-CUSTODY RECORD

Project Number: KE 812-3A

Project Name: FOOTHILL SQUARE

Sampler's Name (printed): Rob Busby / Polly Worrell

Analytical Tests: Archive; TPH as gasoline + BTXE; TPH as diesel; Semi-Volatile Organics 8270; Volatile Organics 8240; Metals and Pesticides & PCBs 8080

Boring Number	Date	Time	Soil	Water	Sample Location or Depth	Sample Number	Number/Type of Containers	Archive	TPH as gasoline + BTXE	TPH as diesel	Semi-Volatile Organics 8270	Volatile Organics 8240	Metals and Pesticides & PCBs 8080	Remarks
EB-1	8/29/88	a.m.	x		2.0'	EB-1	Brass Tubes 2"x6"	x						"Hold" pending notice to proceed with analytical testing
↓	↓	↓	↓		3.5'	↓	↓	x						
					5.0'			x						
					10.5'			x						
					16.0'			x	X	X				composite before analysis
					21.0'			x						
					26.0			x						
					31.0'			x						
EB-2	8/29/88	a.m.	x		2.0'	EB-2	2"x6"	x						
↓	↓	↓	↓		3.5'	↓	↓	x						
					9.5			x	X	X	X	X	X	composite EB-2, EB-4, EB-13, EB 14, EB 15 Before analysis
					16.0'			x						

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Polly L. Worrell	9/2/88 1400	David Law
David Law	9/2/88 1401	Fon NCS
		Received for Laboratory by: (Signature)

Ship To: Friedman Fund Lab, 3700 Lakeville Hwy, Petaluma CA 94952

Attention: Steve Wilbur

Phone No: 800- FF IC LAB

Requested Turnaround Time: archive

Kaldveer Assoc. Contact: P Worrell

Remarks:

Please address correspondence to:

Kaldveer Associates, Inc.
425 Roland Way
Oakland, California 94621
(415) 568-4001

Kaldveer Associates
Geoscience Consultants
A California Corporation

[redacted] CUSTODY RECORD

Project Number: KE 812-3A

Project Name: FOOTHILL SQUARE

Sampler's Name (printed): Rob Busby / Polly Worrell

Boring Number	Date	Time	Soil	Water	Sample Location or Depth	Sample Number	Number/Type of Containers (Brass Tube)	Analytical Tests: Archive	TPH as gasoline + BTXE	TPH as diesel	Semi-Volatiles 8270	Volatile Organics 8240	CAM Metals and Pesticides + PCBs 8080	Remarks
EB-3	8/29/88	a.m.	x		2.0'	EB-3	2"x6"	x	X	X	X	X	X	COMPOSITE EB-3, EB-5, EB-6, EB-7, EB-8, EB-9 Before analysis; "Hold" pending notice to proceed with analytical testing
↓	↓	↓	↓		3.5'	↓	↓	x						
					9.5'			x						
					15.5'			x						
EB-4	8/29/88	a.m.	X		2.5'	EB-4	2"x6"	x						
↓	↓	↓	↓		3.5'	↓	↓	x	X	X	X	X	X	COMPOSITE EB-2, EB-4, EB-13, EB-14, EB-15 Before analysis
					9.5'			x						
					16.0			x						
EB-5	8/29/88	a.m.	x		3.5'	EB-5	2"x6"	x	X	X	X	X	X	Composite EB-3, EB-5, EB-6, EB-7, EB-8, EB-9 Before analysis
↓	↓	↓	↓		6.0'	↓	↓	x						
					11.0'			x						
					16.0'			x						

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[redacted]	9/2/88 14:00	David [illegible]
[redacted]	9/2/88 14:01	Com NCS
		Received for Laboratory by: (Signature)

Ship To: [redacted] Fund Lab, [redacted]ille Hwy, CA 94952

Attention: Steve Wilbur

Phone No: 800- FFIC LAB

Requested Turnaround Time: archive

Kaldveer Assoc. Contact: P. Worrell

Remarks:

Please address correspondence to:
Kaldveer Associates, Inc.
425 Roland Way
Oakland, California 94621
(415) 568-4001

Kaldveer Associates
Geoscience Consultants
A California Corporation

White - Kaldveer Associates   Yellow - Analytical Laboratory

CHAIN-OF-CUSTODY RECORD

Project Number	Project Name
KE812-3A	FOOTHILL SQUARE

Sampler's Name (printed): Rob Busby / Polly Worrell

Boring Number	Date	Time	Soil	Water	Sample Location or Depth	Sample Number	Number/Type of Containers	Analytical Tests: Archive	TPH as gasoline + BTXE	TPH as diesel	Semi-Volatile Organics 8270	Volatile Organics 8240	Chlor. Hydrocarbons and Pesticides 8080	Remarks
EB-6	8/29/88	PM	X		2.0'	EB-6	2"x6"	X						"Hold" pending notice to proceed with analytical testing
↓	↓	↓	X		3.5	↓	↓	X						
			X		5.0'			X						
			X		11.0'			X	X	X	X	X	X	Composite EB-3, EB-5, EB-6,
↓	↓	↓	X		16.0'	↓	↓	X						EB-7, EB-8, EB-9 Before analysis
EB-7	8/29/88	PM	X		1.5'	EB-7	2"x6"	X	X	X	X	X	X	composite EB-3, EB-5, EB-6,
↓	↓	↓	X		3.5'	↓	↓	X						EB-7, EB-8, EB-9 Before analysis
			X		5.0'			X						
			X		11.0'			X						
↓	↓	↓	X		16.0'	↓	↓	X						
EB-8	8/29/88	PM	X		2.0'	EB-8	2"x6"	X						
↓	↓	↓	X		3.5'	↓	↓	X						composite EB-3, EB-5, EB-6,
			X		5.0'			X	X	X	X	X	X	EB-7, EB-8, EB-9 Before analysis

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Polly T. Worrell	9/2/88 1400	David Law
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
David Law	9/2/88 14:01	TOM NCS
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)

Ship To: Fireman's Fund Lab
3700 Lakeville Hwy
Petaluma, CA 94952

Attention: Steve Wilbur

Phone No: 800-FEIC-LAS

Requested Turnaround Time: archive

Kaldveer Assoc. Contact: P Worrell

Remarks:

Please address correspondence to:

Kaldveer Associates, Inc.
425 Roland Way
Oakland, California 94621
(415) 568-4001

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CHAIN-OF-CUSTODY RECORD

Project Number: KE 812-3A

Project Name: Foothill SQUARE

Sampler's Name (printed): Rob Busby / Polly Worrell

Boring Number	Date	Time	Soil	Water	Sample Location or Depth	Sample Number	Number/Type of Containers	Archive	TPH as gasoline + BTXE	TPH as diesel	Semi Volatiles 8270	Volatile organics 8240 + PCBs 8080	CAM Metals and Pesticides	Remarks
EB-8	8/29/88	PM	X		11.0′	EB-8	Brass Tubes 2″x6″	X						"Hold" pending
↓	↓	↓	X		16.0′	↓	↓	X						notice to proceed
														w/ analysis
EB-9	8/29/88	PM	X		2.0′	EB-9	2″x6″	X						
			X		3.0′			X						
			X		5.0′			X						
			X		11.0′			X						
↓	↓	↓	X		16.0′	↓	↓	X	X	X	X	X	X	Composite EB-3, EB-5, EB-6, EB-7,
														EB-8, EB-9 Before analysis
EB-10	8/30/88	AM	X		2.0′	EB-10	2″x6″	X						
					3.5′			X						Composite EB-10 and EB-11
					4.5′			X						Before analysis
					11.0′			X						
↓	↓	↓	↓		16.0′	↓	↓	X						

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Polly L. Worrell	9/2/88 1400	David Yaw
David Yaw	9/2/88 14:01	NCS Tom
		Received for Laboratory by: (Signature)

Ship To: Fireman's Fund Lab, 3700 Lakeville Hwy, Petaluma CA 94952

Attention: Steve Wilbur

Phone No: 800-FFIC-LAB

Requested Turnaround Time: Archive

Kaldveer Assoc. Contact: P. Worrell

Remarks:

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Oakland, California 94621
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CHAIN-OF-CUSTODY RECORD

Project Number	Project Name
KE812-3A	Foothill Square

Sampler's Name (printed): Rob Busby / Polly Worrell

Boring Number	Date	Time	Soil	Water	Sample Location or Depth	Sample Number	Number/Type of Containers: Brass Tubes	Analytical Tests: Archive	TPH as gasoline + BTXE	TPH as diesel				Remarks
EB-10	8/30/88	AM	X		21.0'	EB-10	2"x6"	X						Archive pending notice to proceed w/ analysis
					26.0'			X						
					31.0'			X						
					36.0'			X						
EB-11	8/30/88	AM	X		2.0'	EB-11	2"x6"	X						
					3.0'			X						
					5.0'			X						
					11.0'			X	X	X				Composite EB-10 and EB-11 Before analysis
					16.0'			X						
					21.0'			X						
EB-12	8/30/88	AM	X		2.0'	EB-12	2"x6"	X						
					3.5'			X						
					5.0'			X						

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Polly Worrell	9/2/88 | 1100	David Lau
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
David Lau	9/2/88 | 14:01	TOM MCS
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)

Ship To: Exxon Fuel Lab
3700 Lakeville Hwy
Petaluma CA 94952

Attention: Steve Wilbur

Phone No: 800-FTC-LAB

Requested Turnaround Time: Archive

Kaldveer Assoc. Contact: Polly Worrell

Remarks:

Please address correspondence to:

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CHAIN-OF-CUSTODY RECORD

Project Number	Project Name
KCS.12-2.1	FOOTHILL SQUARE

Sampler's Name (printed): Rob Busby / Polly Worrell

Boring Number	Date	Time	Soil	Water	Sample Location or Depth	Sample Number	Number/Type of Containers: Brass Tubes	Analytical Tests: Archive	TPH-gasoline +BTXE	TPH as diesel	Semi-Volatiles 8270	Volatile Organics 8240	CAM Metals + Pesticides + PCBs 8080	Remarks
EB-12	8/24/88	AM	X		10.5'	EB-12	X	X						Archive pending notice to analyze
↓	↓	↓	↓		16.0'	↓	X	X						
EB-13	8/24/88	PM	X		3.0'	EB-13	2"x6"	X	X	X	X	X	X	Composite EB 2, EB-4, EB-13, EB-14 EB-15 Before analysis
					3.5'		X	X						
					6.0'		X	X						
					11.0'		X	X						
					15.5'		X							
EB-14	8/24/88	PM	X		2.0'	EB-14	2"x6"	X						
					3.5'			X						
					5.0'			X						
					11.0'			X						
↓	↓	↓	↓		15.5'	↓	↓	X	X	X	X	X	X	Composite EB-2, EB-4, EB-14, EB-15 and EB-15 Before Analysis

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Polly L. Worrell	9/2/88 1400	David Jones
David Jones	9/2/88 1411	TOM NCS
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)

Ship To: Firemans Fund Lab
3700 Lakeville Hwy
Petaluma, CA 94952

Attention: Steve Wilbur
Phone No: 800-FFIC LAB

Requested Turnaround Time: Archive

Kaldveer Assoc. Contact: P Worrell

Remarks:

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Kaldveer Associates, Inc.
425 Roland Way
Oakland, California 94621
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CHAIN-OF-CUSTODY RECORD

Project Number	Project Name
KE812-3A	FOOTHILL SQUARE

Sampler's Name (printed): Rob Busby / Polly Worrell

Boring Number	Date	Time	Soil	Water	Sample Location or Depth	Sample Number	Bags / Tubes Number/Type of Containers	Analytical Tests: Archive	Volatiles - 624/8240	624 - Volatiles - 625	Pesticides + PCB's - 625/8270	TPH as Gasoline + BTXE 8015/8020	TPH as Diesel	Cam Wet Tals	Remarks
EB-15	8/30/88	PM	X		2.0'	EB-15	2" x 6"	X							Archive pending notice to analyze
					3.5'			X							
					5.0'			X							
					11.0'			X	X	X	X	X	X	X	Composite EB-2, EB-4, EB-13, EB-14, EB-15 Before analysis
EB-1	8/29/88	am		X	grab water	EB-1	2x40ml	X	X						NO preservative please preserve in lab
9/2/88 PW							1x1L	X		X					NO preservative please preserve in lab
							1x250ml	X			✓				field filtered please lab preserve
							1x1L	X			X	✓			NO preservative - please preserve in lab
							2x40ml	X				X			preserved in field w/ HCl
							1x1L	X						X	NO preservative - please preserve in lab
EB-10	8/30/88	am		X	grab water	EB-10	2x40ml	X				X		✓	preserved in field w/ HCl
				X			1x1L	X						X	NO preservative - please preserve in lab

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	9/2/88 1400	[signature]
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	9/2/88 14:07	for UCS
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)

Ship To: Firemans Fund Lab
3700 Lakeville HWY
Petaluma, CA 94952

Attention: Steve Wilbur

Phone No: 600FFIC LAB

Requested Turnaround Time: Archive

Kaldveer Assoc. Contact: Polly Worrell

Remarks:

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425 Roland Way
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Petaluma, CA 94952
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ENVIRONMENTAL LABORATORY

Polly Worrell
Kaldveer Associates, Inc.
425 Roland Way
Oakland, CA 94621

Client Code: KALD3
Survey # KE812-3A

L A B O R A T O R Y R E S U L T S

Date Collected: 08/30/88
Date Extracted: 09/15/88
Date Analyzed: 09/15/88

Laboratory Job No.: 884278
Date Received: 09/08/88
Date Reported: 09/26/88

ASSAY:METAL SCAN BY ICP(EPA 6010)

LABNO	SMPLNO-ID	RESULTS			DET. LIM.	
63798	EB-2,4,13,14,15	SOIL		CA TTLC		
	AG	ND		500	0.39	mg/kg
	AS	ND		500	3.9	mg/kg
	BA	175	mg/kg	10,000	1.9	mg/kg
	BE	TRACE		75	0.19	mg/kg
	CD	3.69	mg/kg	100	0.097	mg/kg
	CO	13.4	mg/kg	8,000	0.39	mg/kg
	CR	45.1	mg/kg	2,500	0.39	mg/kg
	CU	22.4	mg/kg	2,500	0.19	mg/kg
	HG	ND		20	0.97	mg/kg
	MO	ND		3,500	0.97	mg/kg
	NI	41.4	mg/kg	2,000	0.97	mg/kg
	PB	9.65	mg/kg	1,000	0.97	mg/kg
	SB	ND		500	9.7	mg/kg
	SE	ND		100	3.9	mg/kg
	TL	ND		700	9.7	mg/kg
	V	44.2	mg/kg	2,400	0.97	mg/kg
	ZN	60.3	mg/kg	5,000	0.97	mg/kg

THIS REPORT HAS BEEN REVIEWED
AND APPROVED FOR RELEASE.

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Environmental Laboratory
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ENVIRONMENTAL LABORATORY

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 884278

LABNO	SMPLNO-ID	RESULTS			DET. LIM.	
63799	EB-3,5,6,7,8,9 SOIL			CA TTLC		
	AG	ND		500	0.40	mg/kg
	AS	ND		500	4.0	mg/kg
	BA	146	mg/kg	10,000	2.0	mg/kg
	BE	TRACE		75	0.20	mg/kg
	CD	3.53	mg/kg	100	0.10	mg/kg
	CO	14.7	mg/kg	8,000	0.40	mg/kg
	CR	51.0	mg/kg	2,500	0.40	mg/kg
	CU	21.5	mg/kg	2,500	0.20	mg/kg
	HG	ND		20	1.0	mg/kg
	MO	ND		3,500	1.0	mg/kg
	NI	44.2	mg/kg	2,000	1.0	mg/kg
	PB	ND		1,000	3.1	mg/kg
	SB	ND		500	10	mg/kg
	SE	ND		100	4.0	mg/kg
	TL	ND		700	10	mg/kg
	V	45.5	mg/kg	2,400	1.0	mg/kg
	ZN	35.0	mg/kg	5,000	1.0	mg/kg

TRACE=Result is below method quantitation limit(3.3-Det.Lim.)
ND=Not Detected
ANALYST:NANCY S.TESCHE

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ENVIRONMENTAL LABORATORY

L A B O R A T O R Y R E S U L T S

Date Collected: 08/30/88
Date Extracted: 09/12/88
Date Analyzed: 09/12/88

Laboratory Job No.: 884278
Date Received: 09/08/88
Date Reported: 09/26/88

ASSAY:TPH/DIESEL EPA 3550/8015/3510
MATRIX:SOIL

LABNO SMPLNO-ID	RESULTS	DET.LIM
63797 EB1-16+21 COMP		
DIESEL	ND	6.0 mg/kg
63798 EB2,4,13,14,15 COMP		
DIESEL	TRACE	6.0 mg/kg
63799 EB3,5,6,7,8,9 COMP		
DIESEL	ND	6.0 mg/kg
63800 EB10,11 COMP		
DIESEL	ND	6.0 mg/kg
63802 EB10W		
DIESEL	ND	300.0 ug/l

ANALYST:JEAN M.BONITE

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ENVIRONMENTAL LABORATORY

L A B O R A T O R Y R E S U L T S

Date Collected: 08/30/88
Date Extracted: 09/12/88
Date Analyzed: 09/12/88

Laboratory Job No.: 884278
Date Received: 09/08/88
Date Reported: 09/26/88

ASSAY:TPH/GASOLINE & BTEX EPA 5020/5030/8015/8020
MATRIX:SOIL & WATER

LABNO SMPLNO-ID	RESULTS	DET.LIM
63797 EB1-16,21		
GASOLINE	TRACE	1.0 mg/kg
BENZENE	0.11 mg/kg	0.01 mg/kg
TOLUENE	ND	0.01 mg/kg
XYLENE	TRACE	0.01 mg/kg
ETHYL BENZENE	TRACE	0.01 mg/kg
63798 EB2,4,13,14,15 COMP		
GASOLINE	ND	1.0 mg/kg
BENZENE	ND	0.01 mg/kg
TOLUENE	ND	0.01 mg/kg
XYLENE	ND	0.01 mg/kg
ETHYL BENZENE	ND	0.01 mg/kg
63799 EB3,5,6,7,8,9 COMP		
GASOLINE	ND	1.0 mg/kg
BENZENE	ND	0.01 mg/kg
TOLUENE	ND	0.01 mg/kg
XYLENE	ND	0.01 mg/kg
ETHYL BENZENE	ND	0.01 mg/kg
63800 EB10,11 COMP		
GASOLINE	ND	1.0 mg/kg
BENZENE	ND	0.01 mg/kg
TOLUENE	ND	0.01 mg/kg
XYLENE	ND	0.01 mg/kg
ETHYL BENZENE	ND	0.01 mg/kg

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 884278

LABNO SMPLNO-ID	RESULTS		DET.LIM	
63801 EB1W				
GASOLINE	8,360	mg/lt	60.0	mg/lt
BENZENE	191	mg/l	1.0	mg/l
TOLUENE	534	mg/l	1.0	mg/l
XYLENE	877	mg/l	1.0	mg/l
ETHYL BENZENE	150	mg/l	1.0	mg/l
63802 EB10W				
GASOLINE	ND		50	ug/l
BENZENE	ND		0.5	ug/l
TOLUENE	ND		0.5	ug/l
XYLENE	ND		0.5	ug/l
ETHYL BENZENE	ND		0.5	ug/l

ANALYST:JEAN M.BONITE

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ENVIRONMENTAL LABORATORY

L A B O R A T O R Y R E S U L T S

Date Collected: 08/30/88
Date Extracted: 09/20/88
Date Analyzed: 09/21/88

Laboratory Job No.: 884278
Date Received: 09/08/88
Date Reported: 09/26/88

ASSAY:PESTICIDES AND PCBS IN WATER(EPA 608)
MATRIX:WATER

LABNO SMPLNO-ID	RESULTS		DET.LIM	
63801 EB1W				
ALDRIN	ND		1.3	ug/lt
BHC-ALPHA	7.89	ug/lt (1)	1.3	ug/lt
BHC-BETA	ND		1.9	ug/lt
BHC-DELTA	ND		2.6	ug/lt
BHC-GAMMA	ND		1.3	ug/lt
CHLORDANE	24.5	**	19.0	ug/lt
DDD	ND		3.2	ug/lt
DDE	2.26	**	1.3	ug/lt
DDT	ND		8.4	ug/lt
DIELDRIN	ND		0.65	ug/lt
ENDOSULFAN	ND		3.2	ug/lt
ENDOSULFAN2	1.56	**	1.3	ug/lt
ENDOSULFAN SULFATE	ND		6.5	ug/lt
ENDRIN	ND		1.9	ug/lt
ENDRIN ALDEHYDE	ND		6.5	ug/lt
HEPTACHLOR	ND		1.3	ug/lt
HEPTACHLOR EPOXIDE	ND		3.2	ug/lt
PCBs	158.0	ug/lt (1)	19.0	ug/lt
TOXAPHENE	ND		19.0	ug/lt

(1)NOTE:SAMPLE TOO DIRTY TO ALLOW RELIABLE CONFIRMATION BY 2ND COLUMN GC/ECD OR GC/MS AT THIS DET. LIM.

ND=Not Detected
ANALYST:DAVE BUSCH

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ENVIRONMENTAL LABORATORY

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 884278
Date Received: 09/08/88
Date Reported: 09/26/88

Date Collected: 08/30/88

ASSAY:PESTICIDES AND PCBS IN SOIL(EPA 8080)
MATRIX:SOIL

LABNO SMPLNO-ID	RESULTS	DET.LIM	
63798 EB24131415			
ALDRIN	ND	0.0010	ug/gm
BHC-ALPHA	ND	0.0010	ug/gm
BHC-BETA	ND	0.0015	ug/gm
BHC-DELTA	ND	0.0020	ug/gm
BHC-GAMMA	ND	0.0010	ug/gm
CHLORDANE	ND	0.015	ug/gm
DDD	ND	0.0025	ug/gm
DDE	ND	0.0010	ug/gm
DDT	ND	0.0025	ug/gm
DIELDRIN	ND	0.00050	ug/gm
ENDOSULFAN	ND	0.0025	ug/gm
ENDOSULFAN2	ND	0.0010	ug/gm
ENDOSULFAN SULFATE	ND	0.0050	ug/gm
ENDRIN	ND	0.0015	ug/gm
ENDRIN ALDEHYDE	ND	0.0050	ug/gm
HEPTACHLOR	ND	0.0010	ug/gm
HEPTACHLOR EPOXIDE	ND	0.0025	ug/gm
PCBs	ND	0.015	ug/gm
TOXAPHENE	ND	0.015	ug/gm

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L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 884278

LABNO SMPLNO-ID	RESULTS	DET.LIM	
63799 EB356789			
ALDRIN	ND	0.0010	ug/gm
BHC-ALPHA	ND	0.0010	ug/gm
BHC-BETA	ND	0.0015	ug/gm
BHC-DELTA	ND	0.0020	ug/gm
BHC-GAMMA	ND	0.0010	ug/gm
CHLORDANE	ND	0.015	ug/gm
DDD	ND	0.0025	ug/gm
DDE	ND	0.0010	ug/gm
DDT	ND	0.0025	ug/gm
DIELDRIN	ND	0.00050	ug/gm
ENDOSULFAN	ND	0.0025	ug/gm
ENDOSULFAN2	ND	0.0010	ug/gm
ENDOSULFAN SULFATE	ND	0.0050	ug/gm
ENDRIN	ND	0.0015	ug/gm
ENDRIN ALDEHYDE	ND	0.0050	ug/gm
HEPTACHLOR	ND	0.0010	ug/gm
HEPTACHLOR EPOXIDE	ND	0.0025	ug/gm
PCBs	ND	0.015	ug/gm
TOXAPHENE	ND	0.015	ug/gm

ND=Not Detected
ANALYST:DAVE BUSCH

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ENVIRONMENTAL LABORATORY

L A B O R A T O R Y R E S U L T S

Date Collected: 08/30/88
Date Extracted: 09/09/88
Date Analyzed: 09/22/88

Laboratory Job No.: 884278
Date Received: 09/08/88
Date Reported: 09/26/88

SEMIVOLATILES BY GC/MS(EPA 8270)

COMPOUNDS:	LAB#	63798	DET.	63799	DET.	63801	DET.
	SMP#	EB24131415	LIM.	EB356789	LIM.	EB1W	LIM.
BNA		UG/GM		UG/GM		MG/L	
4-CHLORO-3-METHYLPHENOL		ND	0.2	ND	0.2	ND	0.68
2-CHLOROPHENOL		ND	0.2	ND	0.2	ND	0.68
2,4-DICHLOROPHENOL		ND	0.2	ND	0.2	ND	0.68
2,4-DIMETHYLPHENOL		ND	0.2	ND	0.2	ND	0.68
2,4-DINITROPHENOL		ND	1.0	ND	1.0	ND	3.4
2-METHYL-4,6-DINITROPHENOL		ND	1.0	ND	1.0	ND	3.4
2-NITROPHENOL		ND	0.2	ND	0.2	ND	0.68
4-NITROPHENOL		ND	1.0	ND	1.0	ND	3.4
PENTACHLOROPHENOL		ND	1.0	ND	1.0	ND	3.4
PHENOL		ND	0.2	ND	0.2	ND	0.68
2,4,6-TRICHLOROPHENOL		ND	0.2	ND	0.2	ND	0.68
ACENAPHTHENE		ND	0.2	ND	0.2	ND	0.68
ACENAPHTHYLENE		ND	0.2	ND	0.2	ND	0.68
ANTHRACENE		ND	0.2	ND	0.2	ND	0.68
BENZO(a)ANTHRACENE		ND	0.2	ND	0.2	ND	0.68
BENZO(b)FLUORANTHENE		ND	0.2	ND	0.2	ND	0.68
BENZO(k)FLUORANTHENE		ND	0.2	ND	0.2	ND	0.68
BENZO(a)PYRENE		ND	0.2	ND	0.2	ND	0.68
BENZO(g,h,i)PERYLENE		ND	0.2	ND	0.2	ND	0.68
BENZIDINE		ND	1.0	ND	1.0	9.7	3.4
BIS(2-CHLOROETHYL)ETHER		ND	0.2	ND	0.2	ND	0.68
BIS(2-CHLOROETHOXY)METHANE		ND	0.2	ND	0.2	ND	0.68
BIS(2-ETHYLHEXYL)PHTHALATE		ND	0.2	ND	0.2	ND	0.68
BIS(2-CHLOROISOPROPYL)ETHER		ND	0.2	ND	0.2	ND	0.68
4-BROMOPHENYL PHENYL ETHER		ND	0.2	ND	0.2	ND	0.68
BUTYL BENZYL PHTHALATE		ND	0.2	ND	0.2	ND	0.68
2-CHLORONAPHTHALENE		ND	0.2	ND	0.2	ND	0.68
4-CHLOROPHENYL PHENYL ETHER		ND	0.2	ND	0.2	ND	0.68
CHRYSENE		ND	0.2	ND	0.2	ND	0.68

FIREMAN'S FUND
INSURANCE COMPANIES
Environmental Laboratory
3700 Lakeville Highway
Petaluma, CA 94952
800-FFIC-LAB

ENVIRONMENTAL LABORATORY

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 884278

COMPOUNDS:	LAB#	63798	DET.	63799	DET.	63801	DET.
	SMP#	EB24131415	LIM.	EB356789	LIM.	EB1W	LIM.
BNA		UG/GM		UG/GM		MG/L	
DIBENZO(a,h)ANTHRACENE		ND	0.2	ND	0.2	ND	0.68
DI-n-BUTYL PHTHALATE		ND	0.2	ND	0.2	ND	0.68
1,2-DICHLOROBENZENE		ND	0.2	ND	0.2	ND	0.68
1,3-DICHLOROBENZENE		ND	0.2	ND	0.2	ND	0.68
1,4-DICHLOROBENZENE		ND	0.2	ND	0.2	ND	0.68
3,3'-DICHLOROBENZIDINE		ND	0.5	ND	0.5	ND	1.7
DIETHYL PHTHALATE		ND	0.2	ND	0.2	ND	0.68
DIMETHYL PHTHALATE		ND	0.2	ND	0.2	ND	0.68
2,4-DINITROTOLUENE		ND	0.2	ND	0.2	ND	0.68
2,6-DINITROTOLUENE		ND	0.2	ND	0.2	ND	0.68
DIOCTYL PHTHALATE		ND	0.2	ND	0.2	ND	0.68
FLUORANTHENE		ND	0.2	ND	0.2	2.8	0.68
FLUORENE		ND	0.2	ND	0.2	ND	0.68
HEXACHLOROBENZENE		ND	0.2	ND	0.2	ND	0.68
HEXACHLOROBUTADIENE		ND	0.2	ND	0.2	ND	0.68
HEXACHLOROETHANE		ND	0.2	ND	0.2	ND	0.68
HEXACHLOROCYCLOPENTADIENE		ND	1.0	ND	1.0	ND	3.4
INDENO(1,2,3-c,d)PYRENE		ND	0.2	ND	0.2	ND	0.68
ISOPHORONE		ND	0.2	ND	0.2	ND	0.68
NAPHTHALENE		ND	0.2	ND	0.2	67	0.68
NITROBENZENE		ND	0.2	ND	0.2	ND	0.68
N-NITROSODIMETHYLAMINE		ND	0.2	ND	0.2	ND	0.68
N-NITROSODI-n-PROPYLAMINE		ND	0.2	ND	0.2	ND	0.68
N-NITROSODIPHENYLAMINE		ND	0.2	ND	0.2	ND	0.68
PHENANTHRENE		ND	0.2	ND	0.2	3.5	0.68
PYRENE		ND	0.2	ND	0.2	ND	0.68
1,2,4-TRICHLOROBENZENE		ND	0.2	ND	0.2	ND	0.68

SAMPLE EB1W WAS EXTRACTED FROM THE WATER PHASE ONLY. AN ORGANIC PHASE, ABOUT 60% OF THE SAMPLES VOLUME, WAS DECANTED OFF FIRST.THIS SAMPLE CONTAINED SUCH A LARGE AMOUNT OF ORGANIC MATERIAL THAT A DILUTION WAS ANALYZED. THE HIGH DETECTION LIMITS REFLECT THAT DILUTION. A MORE CONCENTRATED EXTRACT WAS ANALYZED, AND IT INDICATED ADDITIONAL 8270 TARGETS ARE PRESENT, BUT THE ANALYSIS SATURATED THE DETECTOR DUE TO THE VERY HIGH AMOUNTS OF HYDROCARBONS, AND PRECLUDED TARGET COMPOUND QUANTITATION.

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Laboratory Job No.: 884278

COMPOUNDS:	LAB#	63798	DET.	63799	DET.	63801	DET.
	SMP#	EB24131415	LIM.	EB356789	LIM.	EB1W	LIM.
BNA		UG/GM		UG/GM		MG/L	

ND: NOT DETECTED

ANALYST:PAUL MILLS

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ENVIRONMENTAL LABORATORY

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 884278
Date Collected: 08/30/88
Date Received: 09/08/88
Date Analyzed: 09/13/88
Date Reported: 09/26/88

PURGEABLES BY GC/MS(EPA8240)

COMPOUNDS:	LAB#	63798	DET.	63799	DET.	63801	DET.
	SMP#	EB24131415	LIM.	EB356789	LIM.	EB1W	LIM.
	dil.	1		1		250000	
PURGEABLES		UG/KG		UG/KG		UG/ML	
BENZENE		ND	2.5	ND	2.5	ND	125.0
BROMODICHLOROMETHANE		ND	2.5	ND	2.5	ND	125.0
BROMOFORM		ND	2.5	ND	2.5	ND	125.0
BROMOMETHANE		ND	2.5	ND	2.5	ND	125.0
CARBON TETRACHLORIDE		ND	2.5	ND	2.5	ND	125.0
CHLOROBENZENE		ND	2.5	ND	2.5	ND	125.0
CHLOROETHANE		ND	2.5	ND	2.5	ND	125.0
2-CHLOROETHYLVINYL ETHER		ND	5.0	ND	5.0	ND	250.0
CHLOROFORM		ND	2.5	ND	2.5	ND	125.0
CHLOROMETHANE		ND	2.5	ND	2.5	ND	125.0
DIBROMOCHLOROMETHANE		ND	2.5	ND	2.5	ND	125.0
1,2-DICHLOROBENZENE		ND	2.5	ND	2.5	ND	125.0
1,3-DICHLOROBENZENE		ND	2.5	ND	2.5	ND	125.0
1,4-DICHLOROBENZENE		ND	2.5	ND	2.5	ND	125.0
1,1-DICHLOROETHANE		ND	2.5	ND	2.5	ND	125.0
1,2-DICHLOROETHANE		ND	2.5	ND	2.5	ND	125.0
1,1-DICHLOROETHENE		ND	2.5	ND	2.5	ND	125.0
TRANS-1,2-DICHLOROETHENE		ND	2.5	ND	2.5	ND	125.0
1,2-DICHLOROPROPANE		ND	2.5	ND	2.5	ND	125.0
CIS-1,3-DICHLOROPROPENE		ND	2.5	ND	2.5	ND	125.0
TRANS-1,3-DICHLOROPROPENE		ND	2.5	ND	2.5	ND	125.0
ETHYL BENZENE		ND	2.5	ND	2.5	1600	125.0
METHYLENE CHLORIDE		ND	2.5	ND	2.5	ND	125.0
1,1,2,2-TETRACHLOROETHANE		ND	2.5	ND	2.5	ND	125.0
TETRACHLOROETHENE		ND	2.5	ND	2.5	ND	125.0
TOLUENE		ND	2.5	ND	2.5	410	125.0
1,1,1-TRICHLOROETHANE		ND	2.5	ND	2.5	ND	125.0
1,1,2-TRICHLOROETHANE		ND	2.5	ND	2.5	ND	125.0

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Laboratory Job No.: 884278

COMPOUNDS:	LAB#	63798	DET.	63799	DET.	63801	DET.
	SMP#	EB24131415	LIM.	EB356789	LIM.	EB1W	LIM.
	dil.	1		1		250000	
PURGEABLES		UG/KG		UG/KG		UG/ML	
TRICHLOROETHENE		ND	2.5	ND	2.5	ND	125.0
TRICHLOROFLUOROMETHANE		ND	2.5	ND	2.5	ND	125.0
VINYL CHLORIDE		ND	5.0	ND	5.0	ND	250.0
XYLENES		ND	2.5	ND	2.5	1800	125.0

SAMPLE EB1W CONTAINED HIGH LEVELS OF HYDRODARBONS. THE REQUIRED DILUTION WAS 1 TO 250000. THE DETECTION LIMITS REFLECT THAT DILUTION. ALSO, ONLY THE AQUEOUS PHASE OF THIS SAMPLE WAS ANALYZED. THERE WAS AN ORGANIC PHASE, ABOUT 10% BY VOLUME, WHICH WAS NOT ANALYZED.

ANALYST:PAUL MILLS