ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

November 17, 2000
StID # 3907

REMEDIAL ACTION COMPLETION CERTIFICATION

Mr. Jack Keeney
20 W. Third Ave.
Oakland CA 94619

Mr. Jeff Clarke c/o
Terminix International Co.
860 Ridge Lake Blvd.
Memphis, TN 38120

RE: 1500-1512 E. 12th St., Oakland 94606

Dear Messrs. Keeney and Clarke:

This letter confirms the completion of site investigation and remedial action for the one (1) 1,000 gallon gasoline tank removed on 3/29/2000 formerly located at the above described location. This also confirms the completion of site investigation of the (1) 1000 gallon UL gasoline tank removed on 2/2/96, previously closed but likely the source of the MTBE release found beneath the 1,000 gasoline tank. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground tank is greatly appreciated.

Based on information in the above-referenced file and with provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25299.37 of this Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.77 of the Health and Safety Code and that no further action related to the petroleum release(s) as the site is required.

This notice is issued pursuant to subdivision (h) of Section 25299.37 of the Health and Safety Code.

Please contact Barney Chan at (510) 567-6765 if you have any questions regarding this matter.

Sincerely,

Mee Ling Tung
Director, Environmental Health

c: B. Chan, Hazardous Materials Division-files
Mr. Chuck Headlee, RWQCB
Mr. Allan Patton, SWRCB Cleanup Fund
Mr. Leroy Griffin, City of Oakland OES, 1605 Martin Luther King Dr., Oakland CA 94612

RACC1500-1512E12thSt

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

November 17, 2000
StID # 3907

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

Mr. Jack Keeney
20 W. Third Ave.
Oakland CA 94619

Mr. Jeff Clarke c/o
Terminix International
860 Ridge Lake Blvd.
Memphis, TN 38120

RE: Fuel Leak Site Case Closure, 1500-1512 E. 12th St., Oakland CA 94606

Dear Messrs. Keeney and Clarke:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with the Health and Safety Code, Chapter 6.75 (Article 4, Section 25299.37 h). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Health Services, Local Oversight Program (LOP) is required to use this case closure letter. We are also enclosing the case closure summary. This document confirms the completion of the investigation and cleanup of the reported release at the subject site.

Site Investigation and Cleanup Summary:

Please be advised that the following conditions exist at the site:

- 4.3 parts per million (ppm) Total Petroleum Hydrocarbons as gasoline (TPHg), 0.12, 0.12, 0.098, 0.061 and 2.2 ppm benzene, toluene, ethyl benzene, xylenes and MTBE, respectively remain in the soil at the site.

- 52 parts per billion (ppb) MTBE remain in the groundwater at the site.

This site should be included in the City's permit tracking system. You may contact me at (510) 567-6765 if you have any questions.

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

enclosures: Case Closure Letter, Case Closure Summary

c: Mr. L. Griffin, City of Oakland OES, 1605 MLK Jr. Way, Oakland CA 94612
B. Chan, files (letter only)

Tr1t1500-1512E12thSt

01-2515

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION **Date:** September 15, 2000

Agency name: Alameda County-HazMat Address: 1131 Harbor Bay Parkway Rm 250, Alameda CA 94502

City/State/Zip: Alameda Phone: (510) 567-6700

Responsible staff person: Barney Chan Title: Hazardous Materials Spec.

00 NOV 13 AM 9:23

II. CASE INFORMATION

Site facility name: Keeney Property aka Rose Pest Control

Site facility address: 1500-1512 E. 12th St., Oakland CA 94606

RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: 3907

ULR filing date: 9/8/00 SWEEPS No: **N/A**

Responsible Parties:	Addresses:	Phone Numbers:
Mr. Jeff Clarke c/o Terminix International Co.	860 Ridge Lake Blvd. Memphis, TN 38120	
Mr. Jack Keeney	20 W. Third Ave. Oakland CA 94619	(650) 345-7080

Tank No:	Size in gal.:	Contents:	Closed in-place or removed?:	Date:
1	1000	UL gasoline	removed	2/2/96
2	1000	gasoline	closed-in-place removed	~1970 then 3/29/00

III RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: unknown

Site characterization complete? yes

Date approved by oversight agency:

Monitoring Wells installed? No Number: 0

Proper screened interval? N/A

Highest GW depth: 12' bgs Lowest depth: 25' bgs

Leaking Underground Fuel Storage Program

Flow direction: assumed south- southwesterly

Most sensitive current use: mixed residential/commercial area

Are drinking water wells affected? No Aquifer name: NA

Is surface water affected? No Nearest affected SW name: NA

Off-site beneficial use impacts (addresses/locations): NA

Report(s) on file? **Yes** Where is report(s)?

Alameda County 1131 Harbor Bay Parkway, Room 250, Alameda CA 94502-6577	and	City of Oakland OES 1605 MLK Jr. Way Oakland CA 94612

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment of Disposal w/destination)	Date
Tanks	1-1000 gallon	disposed, H&H Shipping, SF	2/2/96
	1-1000 gallon	initially closed-in-place	~ 1970, later
		disposed, ECI, Richmond	3/29/00
Gasoline	125 gal	disposed, Romic Env., E.Palo Alto	2/2/96
Soil	~30 cy	disposed	2/96
	38 tons	disposed, Forward Landfill	4/18/00

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm)			Water (ppb)		
	1Before		After2	3Before		After 4
	1996	2000		1996	2000	ND
TPH (Gas)	ND	4.3		400	2900	ND
Benzene	ND	0.12		18	1300	ND
Toluene	ND	0.12		54	310	ND
Ethylbenzene	ND	0.098		8	54	ND
Xylenes	ND	0.061		48	180	ND
MTBE	ND	2.2		280	5400	52

Comments (Depth of Remediation, etc.):
1 soil samples from 1996 & 2000 tank removals
2 no over-excavation done
3 grab groundwater samples taken in 1996 & 2000
4 8/8/00 geoprobe investigation

Leaking Underground Fuel Storage Tank Program

IV. **CLOSURE**

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Undetermined

Does corrective action protect public health for current land use? YES

Site management requirements: site should be included in the City of Oakland Permit Tracking System.

Should corrective action be reviewed if land use changes? Yes

Monitoring wells Decommisioned: NA

Number Decommisioned: NA Number Retained: NA

List enforcement actions taken: none

List enforcement actions rescinded: NA

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Barney M. Chan Title: Hazardous Materials Specialist

Signature: Barney M Chan Date: 9/26/00

Reviewed by

Name: Tom Peacock Title: Manager

Signature: Tom Peacock Date: 9-25-00

Name: Eva Chu Title: Hazardous Materials Specialist

Signature: Eva Chu Date: 9/14/00

VI. RWQCB NOTIFICATION

Date Submitted to RB: RB Response: Concur

RWQCB Staff Name: C. Headlee Title: AEG

Signature: Chuck Headlee Date: 10/25/00

VII. ADDITIONAL COMMENTS, DATA, ETC.

See attached site summary.

Site Summary for 1500-1512 E. 12th St., Oakland CA 94606
StID # 3907

This site lies on the east side of interstate 880, opposite the Oakland-Alameda estuary. The site originally operated 1-1000 gallon gasoline (older) tank, which was closed-in-place in the 1970s. This tank was later replaced with another (newer) 1000 gallon unleaded gasoline tank. **See Figure 1 for the site location.**

On **February 2, 1996**, the "newer" UL gasoline tank was removed from this site. The tank was being used by the tenant, Terminix (formerly Rose) Pest Control and thus was their responsibility to remove. The property owner, Mr. Jack Keeney, has leased the property ever since his ownership and never used any of the USTs. Approximately 125 gallons of gasoline was pumped from the tank prior to its removal. The spoils, approximately 30 cy, were disposed even though they were not impacted with TPH. One soil sample was collected from each end of the tank (W End and E End) at a depth of 8' bgs. **See Figure 2.** A small amount of water was present on the bottom of the excavation, from which, a water sample was collected. The samples were analyzed for TPHg, BTEX, MTBE and organic lead. No analytes were detected in the soil samples. The grab groundwater sample exhibited 400 ppb TPHg, 18, 54, 8, 48 and 280 ppb BTEX and MTBE, respectively. **See Tables 1-3.** Upon conference with the SFRWQCB, it was deemed no further action would be required for this tank. On June 3, 1996, a "No Further Action" letter was issued by our office.

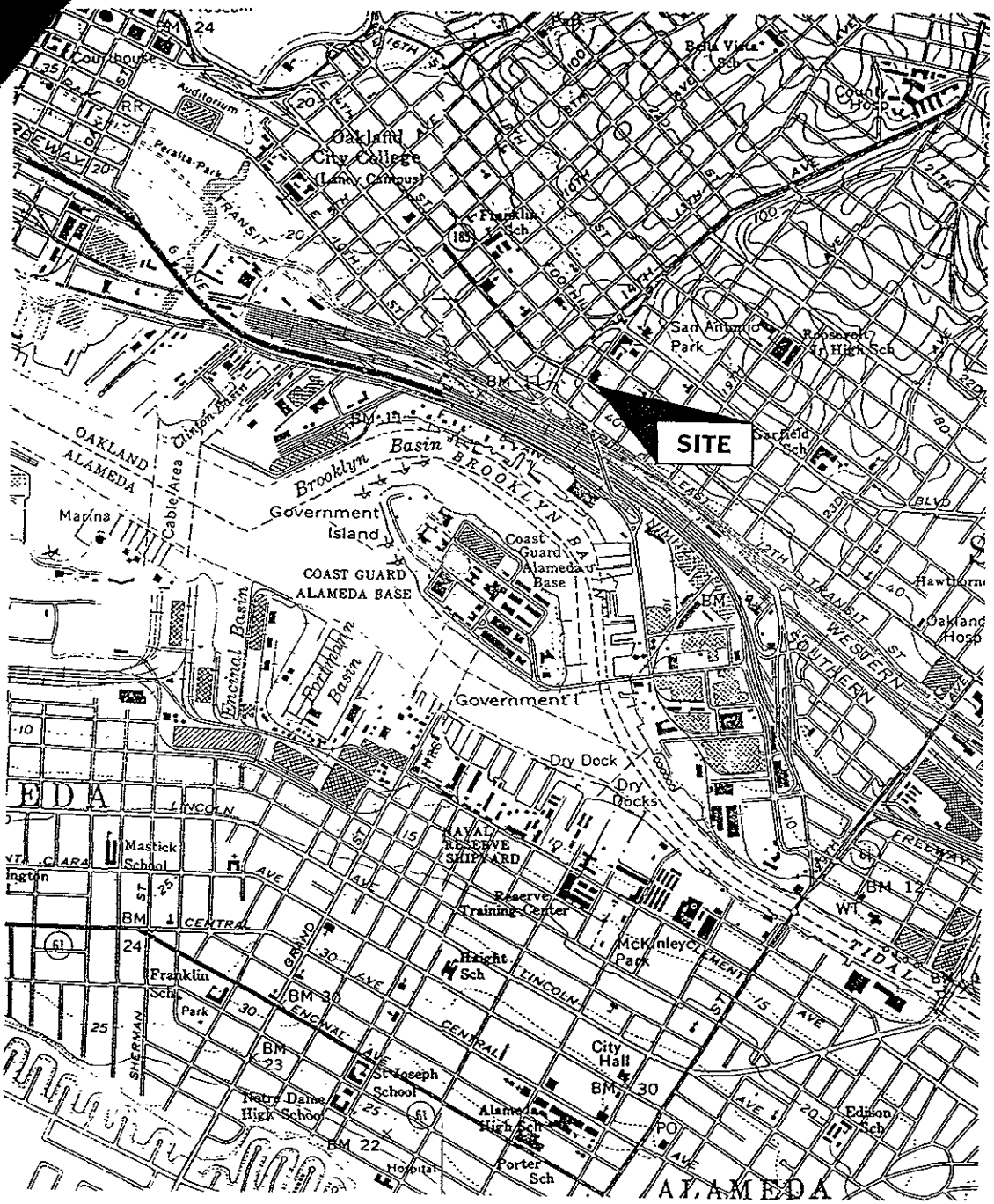
On March 29, 2000 the "older" formerly closed-in-place 1000 gallon gasoline tank was removed from the site to facilitate a property transfer. The removal of the tank was overseen by the City of Oakland. Minor soil contamination was observed in the pit above the tank from 5-8' bgs. The bottom of the tank was at approximately 9' bgs. No water was observed in the tank pit. One soil sample was collected from each end of the tank at a depth of 9' bgs. In addition, a four-point composite sample from the stockpile was collected. The UST samples, CS-1 and CS-2, exhibited low levels of TPHg and BTEX, however, 2.2 ppm MTBE was reported in sample CS-1. The stockpile sample exhibited elevated TPHg, BTEX and MTBE and was disposed at Forward Landfill. **See Figure 3 and Table 4, the analytical results**. Because of the presence of MTBE in soil, a groundwater sample was required to be sampled for this analyte. **On May 3, 2000, a grab groundwater sample was collected from a geoprobe boring advanced in the middle of the former tank pit.** The water sample was collected at 12' bgs. This sample exhibited 2900 ppb TPHg, and 1300, 310, 54, 180, 5400 ppb, BTEX and MTBE, respectively. **See Table 5 and the log for boring B-1**.

Based upon these results, this site was transferred to Alameda County LOP on June 8, 2000. The County required delineation of the petroleum plume, particularly the MTBE plume. It was somewhat puzzling, however, how the elevated MTBE and TPHg arrived beneath this "older" tank. This tank was closed-in-place in the 1970s, prior to the use of MTBE and the soil samples beneath the tank exhibited low TPH concentrations. Upon further examination, you see that the "newer" UL gasoline tank was located just 30 feet from the "older" tank in the up-gradient direction. There had been a MTBE release from the "newer" tank that impacted groundwater. It is now presumed that this release migrated down-gradient towards the "older" tank pit where it encountered permeable soils and preferential pathways.

On August 8, 2000 four geoprobe borings (BH-A through BH-D) were advanced around the former tank pits. See Figure 4. Groundwater depths ranged from 16-25' bgs, unlike the 12' encountered in the prior boring beneath the tank. Most of the borings encountered groundwater in a permeable layer sandwiched between a low permeable layer. Both soil and groundwater samples were collected from these borings. The soil samples did not contain analytes sought except for 0.0089 ppm MTBE in boring BH-C. The groundwater samples from these borings exhibited ND for TPHg and BTEX and from 3.9-52 ppb MTBE. **See Tables 6 and 7.** Attached are the logs for these borings. Based upon these results, it appears that the petroleum plume, including the MTBE plume, is fairly localized near the former USTs.

Our office recommends the closure of this site as a "low risk" site based upon:

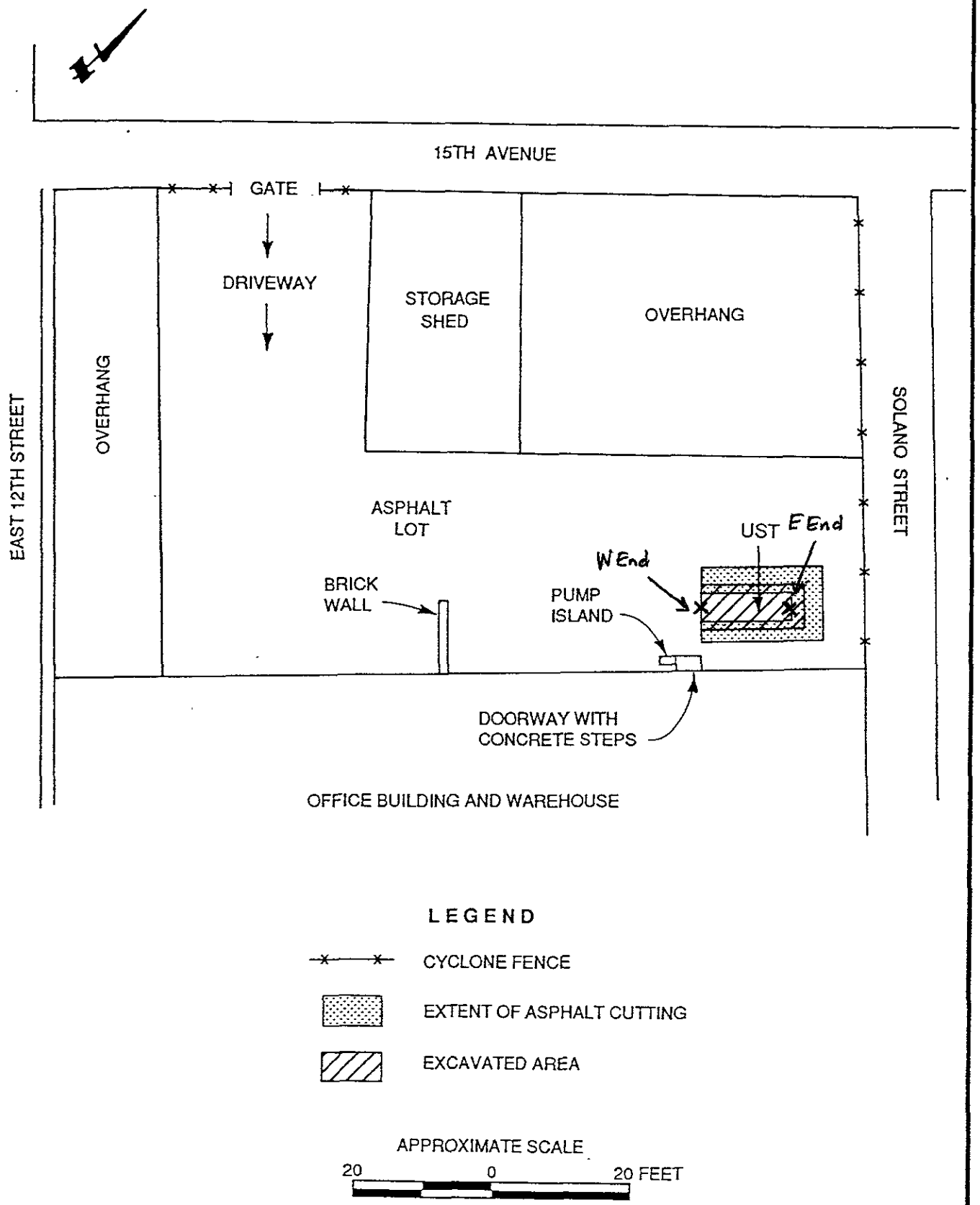
- Source removal (the underground tanks, fuel and contaminated soil) has occurred.
- The site has been adequately characterized.
- The dissolved plume appears to be localized and not migrating significantly.
- No water wells, surface water or other sensitive receptors have been identified near the site.
- The low levels of MTBE should not present a human health or environmental health risk.



SITE LOCATION MAP

Keeney Property
1500/1512 East 12th Street
Oakland, California

AQUA SCIENCE ENGINEERS | Figure 1



RUST ENVIRONMENT & INFRASTRUCTURE
San Jose, California

UST LOCATION MAP

TERMINIX / ROSE PEST CONTROL
1512 EAST 12TH STREET
OAKLAND, CALIFORNIA

PROJECT NO.
68399.300

DATE
MARCH 1996

FIGURE NO.
2

TABLE 1

ANALYTICAL CHEMISTRY RESULTS -BOTTOM OF EXCAVATION
1512 EAST 12TH STREET
OAKLAND, CALIFORNIA

Soil Samples

Collection Date: 02/02/96		Sample Identification	
Parameter	**Detection Limit (mg/kg)**	**W End**	**E End**
Total Petroleum Hydrocarbons as Gasoline	1.0	Not Detected	Not Detected
Benzene	0.0050	Not Detected	Not Detected
Toluene	0.0050	Not Detected	Not Detected
Ethylbenzene	0.0050	Not Detected	Not Detected
Total Xylenes	0.0050	Not Detected	Not Detected
Methyl t-Butyl Ether	0.025	Not Detected	Not Detected
Organic Lead	2.0	Not Detected	Not Detected

Notes:

mg/kg = milligrams per kilogram

TABLE 2

SOIL SAMPLES - ANALYTICAL CHEMISTRY RESULTS
SOIL STOCKPILE
1512 EAST 12TH STREET
OAKLAND, CALIFORNIA

Collection Date: 02/01/96		Sample Identification	
Parameter	**Detection Limit (mg/kg)**	**SS-1**	**SS-2**
Total Petroleum Hydrocarbons as Gasoline	1.0	Not Detected	Not Detected
Benzene	0.0050	Not Detected	Not Detected
Toluene	0.0050	Not Detected	Not Detected
Ethylbenzene	0.0050	Not Detected	Not Detected
Total Xylenes	0.0050	Not Detected	Not Detected
Methyl t-Butyl Ether	0.025	Not Detected	Not Detected
Organic Lead	2.0	Not Detected	Not Detected

Notes:

mg/kg = milligrams per kilogram

TABLE 3

ANALYTICAL CHEMISTRY RESULTS -BOTTOM OF EXCAVATION
1512 EAST 12TH STREET
OAKLAND, CALIFORNIA

Water Sample

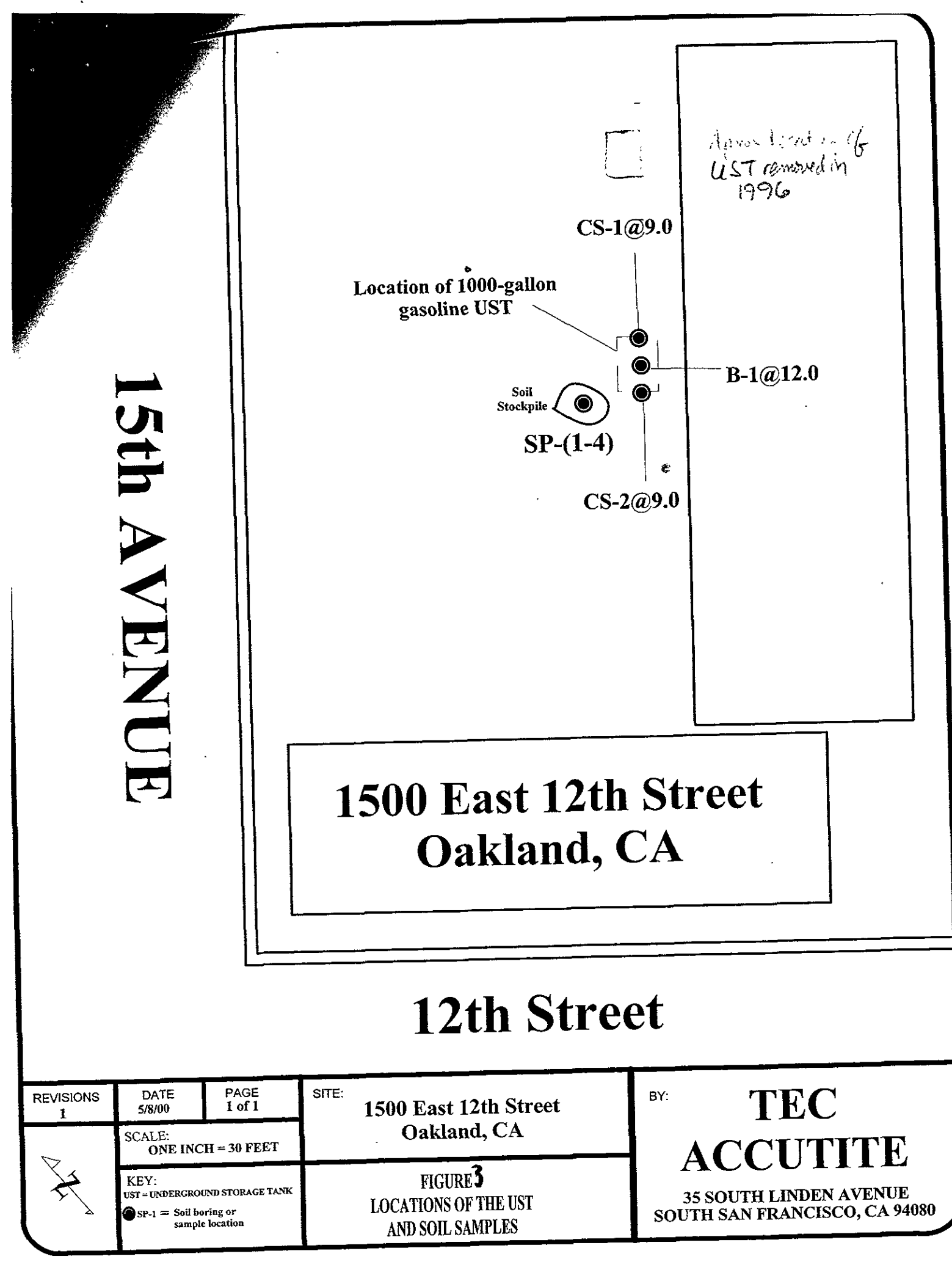
Collection Date: 02/02/96		Sample Identification
Parameter	**Detection Limit (µg/L)**	**Water (µg/L)**
Total Petroleum Hydrocarbons as Gasoline	50	400
Benzene	0.50	18
Toluene	0.50	54
Ethylbenzene	0.50	8.0
Total Xylenes	0.50	48
Methyl t-Butyl Ether	2.5	280
Organic Lead	2000	Not Detected

< 1E-06 Comm GW-Vapor Intrus to Buildings

as of 5/13/96 no fnds for further investiga for this compd.

Notes:

µg/L = micrograms per liter



REVISIONS	DATE	PAGE
1	5/8/00	1 of 1

SCALE: ONE INCH = 30 FEET

KEY:
UST = UNDERGROUND STORAGE TANK
SP-1 = Soil boring or sample location

SITE: 1500 East 12th Street Oakland, CA

FIGURE 3
LOCATIONS OF THE UST AND SOIL SAMPLES

BY:

TEC ACCUTITE
35 SOUTH LINDEN AVENUE
SOUTH SAN FRANCISCO, CA 94080

5.0 ANALYTICAL FINDINGS

The select soil samples were analyzed using the following Environmental Protection Agency Methods:

- EPA Method 8015M for Total Petroleum Hydrocarbons as gasoline (TPHg);
- EPA Method 8020 for Benzene, Toluene, Ethyl benzene, and Xylenes (BTEX);
- EPA Method 8020 and 8260 for Methyl *Tertiary*-butyl ether (MTBE); and
- EPA Method 7420 for lead.

The analytical results for the soil samples are summarized in **Table 1** below. The laboratory report is included in **Appendix C**.

TABLE 1
ANALYTICAL RESULTS OF SOIL SAMPLES

Sample ID	Date Sampled	TPHg ppm	Benzene ppm	Toluene ppm	Ethyl Benzene ppm	Xylenes ppm	MTBE ppm	Total Lead ppm	STLC Lead ppm
SP-(1-4)	3/29/00	1,200	2.7	22	22	140	5.2	64	0.04
CS-1@9.0	3/29/00	4.3	0.12	0.12	0.098	0.61	2.2**	NA	NA
CS-2@9.0	3/29/00	0.76	0.058	0.057	0.022	0.063	0.081	NA	NA

* ppm = (parts per million) ** = confirmed by EPA Method 8260 NA = not analyzed

6.0 SOIL REMOVAL AND DISPOSAL

As requested by Mr. Gomez, Accutite removed and disposed of the hydrocarbon impacted soil generated during the removal of the gasoline UST. The soil stockpile sample contained 1,200 ppm TPHg, 2.7 ppm benzene, and 5.2 ppm MTBE. On April 18, 2000, Accutite removed and disposed of 38.01 tons of hydrocarbon impacted soil from the site. Accutite transported the soil under manifests #14040 and 725051 to Forward Landfill in Manteca, California. The manifests are presented in Attachment D.

7.0 SOIL BORING AND GRAB GROUNDWATER SAMPLE

As requested by Mr. Gomez during an April 12, 2000 telephone conversation and in a letter dated May 9, 2000, Accutite advanced one soil boring in the former location of the UST to 20 feet bgs (Figure 1). Accutite contracted Vironex Environmental Field Services to advance the soil boring using a 2.5-inch diameter hydraulic-push drill rig. On May 3, 2000 Accutite advanced one soil boring, B-1, to 20 feet bgs and collected one soil and one groundwater sample. The soil and groundwater samples were collected from the soil-groundwater interface. The samples were analyzed for TPHg, BTEX and MTBE. The soil boring log is presented in Attachment E.

The analytical results for the soil and groundwater samples are summarized in **Table 2** below. The laboratory report is included in **Appendix C**.

TABLE
ANALYTICAL RESULTS OF SOIL AND GROUNDWATER SAMPLES

Soil Sample ID	Date Sampled	TPHg	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
		ppm	ppm	ppm	ppm	ppm	ppm
B-1@12.0	5/3/00	1.2	0.51	<0.005	<0.005	<0.010	<0.005**
Groundwater Sample ID	Date Sampled	TPHg	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
		ppb*	ppb	ppb	ppb	ppb	ppb
B-1	5/3/00	2,900	1,300	310	54	180	5,400**

* ppm = (parts per billion) ** = confirmed by EPA Method 8260

8.0 CONCLUSIONS AND RECOMMENDATIONS

- The highest hydrocarbon concentrations detected were 1,200 ppm TPHg, 2.7 ppm benzene, and 5.2 ppm MTBE in soil sample SP-(1-4) from the soil stockpile. This soil stockpile was disposed of at a regulated landfill. The highest hydrocarbon concentrations detected in-situ were 4.3 ppm TPHg, 0.12 ppm benzene, and 2.2 ppm MTBE. MTBE was confirmed by EPA Method 8260.

- The hydrocarbon concentrations detected in the grab groundwater sample collected from soil boring B-1 were 2,900 ppb TPHg, 1,300 ppb benzene, and 5,400 ppb MTBE. MTBE was confirmed by EPA Method 8260.

- Case closure or further site assessment is at the discretion of COFPB or the Alameda County Public Works Agency.

8.0 LIMITATIONS

Our services consist of professional opinions; conclusions and recommendations made today in accordance with generally accepted engineering principles and practices. This warranty is in lieu of all other warranties either expressed or implied. Accutite's liability is limited to the dollar amount of the work performed.

Thank you for your cooperation with this project. If you have any questions, please call at (650) 952-5551, Ext. 205.

Sincerely,
TEC Accutite

Walter Cuculic
Project Engineer

Reviewed by:

Sami Maleab, P.E., R.E.A.
Environmental Manager

cc: Mr. Jack Keeney, 20 West 3rd Avenue, San Mateo, CA 94402

TEC ACCUTITE SOIL BORING LOG

B-1

CLIENT JACK KEENEY

DRILLING 5/3/00

LOCATION 1500 East 12th Street, Oakland, CA

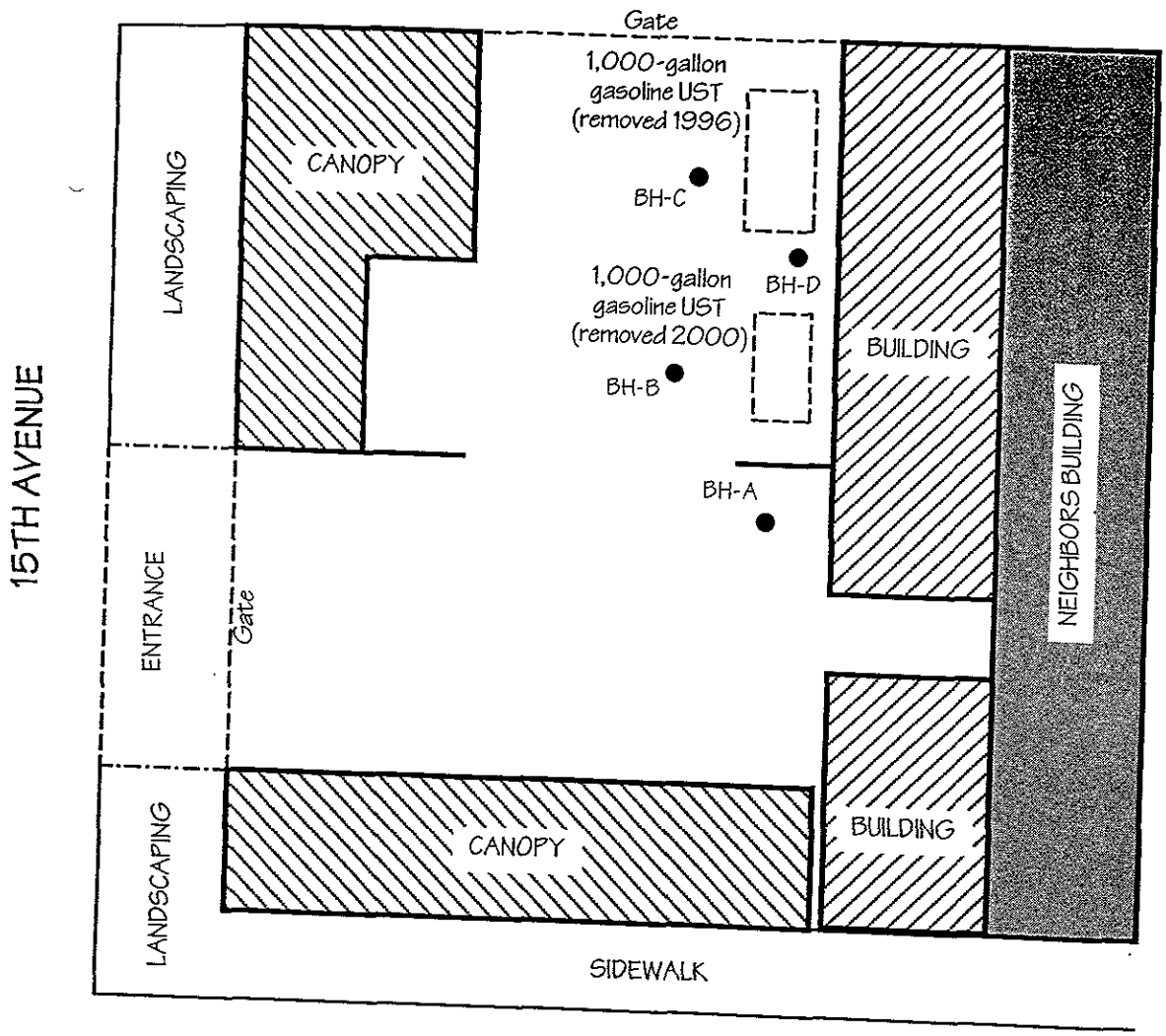
LETED DRILLING 5/3/00

START TIME 1:00 pm FINISH TIME 3:00 pm ELEVATION NA

DRILLING METHOD DIRECT PUSH-GEOPROBE LOGGED BY WALTER CUCULIC

SAMPLING METHOD 2.25" MACRO-CORE (CONTINUOUS) DRILLED BY VIRONEX, INC.

DEPTH BELOW GROUND SURFACE	SAMPLES COLLECTED: INT	SAMPLES COLLECTED: PPM Heating Oil	SAMPLES COLLECTED: SAMPLE ID	LITHOLOGIC DESCRIPTION	UNIFIED SOIL CLASSIFICATION	GRAPHIC LOG	COMPLETED BORING	REMARKS
1FT				Sandy Clayey SILT; (FILL); dark brown; dry to wet; low plasticity; moderate estimated permeability.	FILL			PORTLAND CEMENT I / II
5			B-1@5.0					
10			B-1@ 12.0	Clayey SAND, (SC), olive brown; wet; low plasticity; moderate estimated permeability. ▼ groundwater @ 12.5'	SC			
15				Silty Clay; (CL); tan; moist; medium plasticity; low estimated permeability.	CL			
20				BORING TERMINATED AT 20 FEET BGS				
25								
30								
35								
40								
45								
50								



LEGEND

BH-A ● Boring Location

NORTH

SCALE
1" = 30'

BORING LOCATION MAP

Keeney Property
1500/1512 East 12th Street
Oakland, California

AQUA SCIENCE ENGINEERS | Figure 4

are tabulated in Table One, and the certified analytical report and chain of custody forms are included in Appendix D.

TABLE SIX
Summary of Chemical Analysis of **SOIL** Samples
All results are in **parts per million**

Boring	Depth Sampled	TPH Gasoline	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
BH-A	23.0'	<1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-B	24.0'	<1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-C	15.0'	<1	< 0.005	< 0.005	< 0.005	< 0.005	**0.0089**
BH-D	17.5'	<1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

Notes:
Non-detectable concentrations noted by the less than symbol (<) followed by the detection limit

Detectable concentrations are in **bold**.

The only hydrocarbon concentration detected in any of the soil samples was 0.0089 ppm MTBE in the soil sample collected from 15.0-feet bgs in boring BH-C. No other hydrocarbons were detected in any soil samples analyzed.

6.0 ANALYTICAL RESULTS FOR GROUNDWATER

The groundwater samples were analyzed by Kiff Analytical, LLC for TPH-G, BTEX and MTBE by EPA Method 8260. The analytical results are tabulated in Table Two, and the certified analytical report and chain of custody forms are included in Appendix D.

TABLE SEVEN
Summary of Chemical Analysis of **GROUNDWATER** Samples
All results are in **parts per billion**

Boring	TPH Gasoline	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
BH-A	<50	<0.5	<0.5	<0.5	<0.5	**12**
BH-B	<50	<0.5	<0.5	<0.5	<0.5	**3.9**
BH-C	<50	<0.5	<0.5	<0.5	<0.5	**52**
BH-D	<50	<0.5	<0.5	<0.5	<0.5	**5.8**
DHS MCL	NE	1.0	150	700	1,750	13

Notes:
Non-detectable concentrations noted by the less than symbol (<) followed by the detection limit.

Detectable concentrations are in **bold**.

DHS MCL is the California Department of Health Services maximum contaminant level for drinking water.

NE = DHS MCLs are not established.

The only hydrocarbon detected in the groundwater samples analyzed was MTBE at concentrations ranging from 3.9 ppb to 52 ppb. The MTBE concentrations in groundwater samples collected from borings BH-A and BH-C exceeded the California Department of Health Services (DHS) maximum contaminant level (MCL) for drinking water.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The only hydrocarbon concentration detected in any of the soil samples was 0.0089 ppm MTBE in the soil sample collected from 15.0-feet bgs in boring BH-C. This MTBE concentration is low and would not present a threat to human health or the environment. No other hydrocarbons were detected in any soil samples analyzed.

The only hydrocarbon detected in the groundwater samples analyzed was MTBE at concentrations ranging from 3.9 ppb to 52 ppb. Although some

IL BORING LOG AND WELL COMPLETION DETAILS

Soil Boring: BH-A

Project Name: Keeney Property | Project Location: 1500 East 12th Street, Oakland, CA | Page 1 of 1

Driller: Vironex | Type of Rig: Geoprobe | Size of Drill: Macro Core Sampler

Logged By: Robert E. Kitay, R.G. | Date Drilled: August 8, 2000 | Checked By: Robert E. Kitay, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: 24'

Static Depth of Water in Well: Unknown

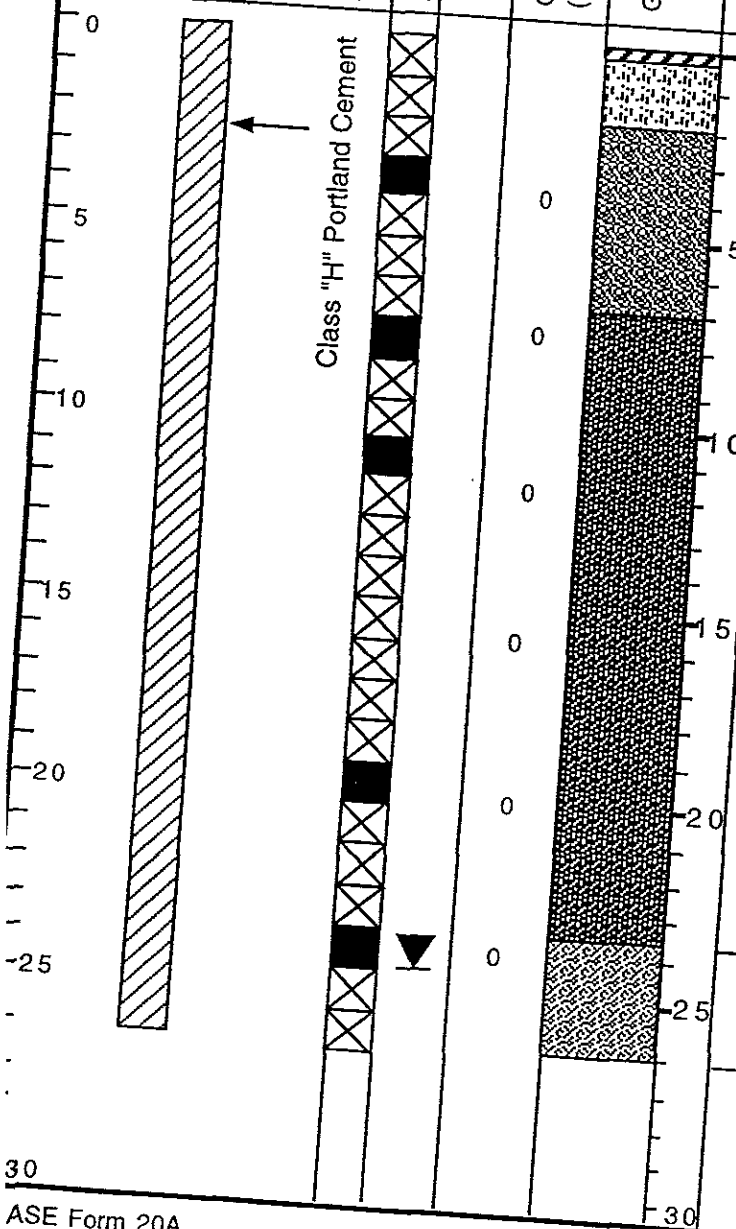
Total Depth of Boring: 26'

Total Depth of Well Completed: NA

Well Screen Type and Diameter: NA

Well Screen Slot Size: NA

Type and Size of Soil Sampler: Macro Core Sampler



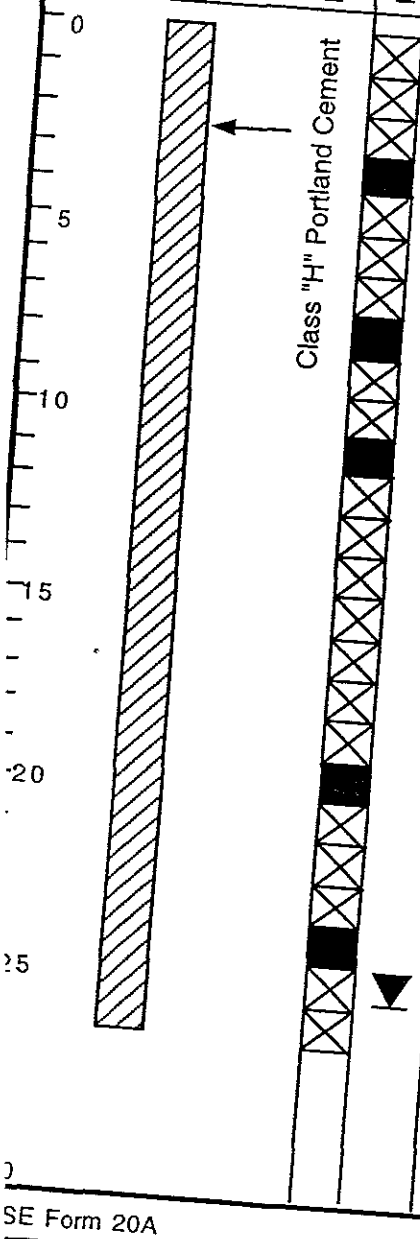
Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
0	Asphalt
	Silty SAND (SM); grey; loose; dry; 75% fine to coarse sand; 15% silt; 10% gravel to 2" diameter; non-plastic; high estimated K; no odor
5	Sandy SILT (ML); yellow brown; medium stiff; dry; 75-80% silt; 20-25% fine sand; trace clay; non-plastic; low estimated K; no odor
10	Silty CLAY (CH); yellow brown; medium stiff; dry; 75% clay; 15% silt; 10% fine sand; high plasticity; very low estimated K; no odor
	1" pockets of coarse sand at 11'
15	
20	moist at 19'
25	Sandy SILT (ML); yellow brown; soft; wet; 60% silt; 35% fine sand; 5% clay; low plasticity; low estimated K; no odor
	End of boring at 26'
30	

L BORING LOG AND WELL COMPLETION DETAILS

Project Name: Keeney Property	Project Location: 1500 East 12th Street, Oakland, CA		Soil Boring: BH-B
Driller: Vironex	Type of Rig: Geoprobe	Size of Drill: Macro Core Sampler	Page 1 of 1
Logged By: Robert E. Kitay, R.G.	Date Drilled: August 8, 2000		Checked By: Robert E. Kitay, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: 25'	Total Depth of Well Completed: NA
Static Depth of Water in Well: Unknown	Well Screen Type and Diameter: NA
Total Depth of Boring: 26'	Well Screen Slot Size: NA
	Type and Size of Soil Sampler: Macro Core Sampler



SOIL/ROCK SAMPLE DATA					DESCRIPTION OF LITHOLOGY
Interval	Water Level	OVM (ppmv)	Graphic Log	Depth in Feet	standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
				0	Asphalt
		0			Silty SAND (SM); black; loose; dry; 80% fine to coarse sand; 10-15% silt; 5-10% gravel to 1" diameter; non-plastic; high estimated K; no odor
		0		5	Silty CLAY (CH); yellow brown; stiff; dry; 90% clay; 10% silt; high plasticity; very low estimated K; no odor
		0		10	no odor at 10'
		0		15	no odor at 15'
		0		20	no odor at 20'
		0		25	wet; no odor at 25'
				30	End of boring at 26'

L BORING LOG AND WELL COMPLETION DETAILS

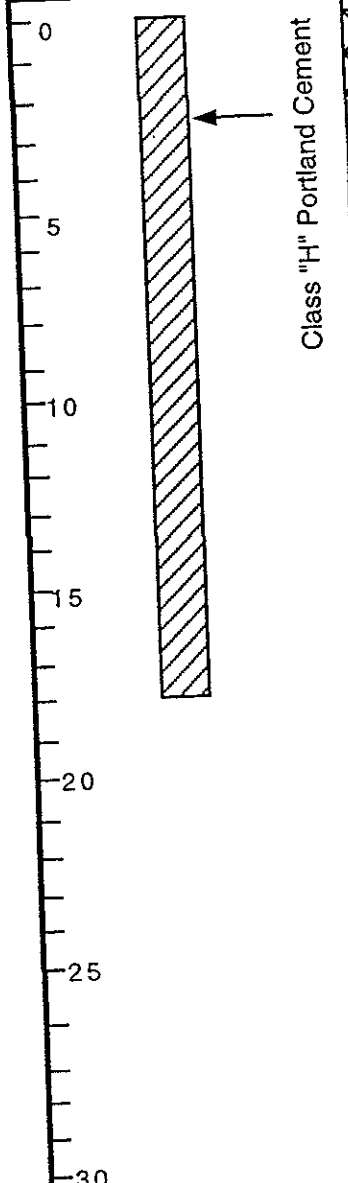
Soil Boring: BH-C

Page 1 of 1

Project Name: Keeney Property	Project Location: 1500 East 12th Street, Oakland, CA	
Driller: Vironex	Type of Rig: Geoprobe	Size of Drill: Macro Core Sampler
Logged By: Robert E. Kitay, R.G.	Date Drilled: August 8, 2000	Checked By: Robert E. Kitay, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: 16'	Total Depth of Well Completed: NA
Static Depth of Water in Well: Unknown	Well Screen Type and Diameter: NA
Total Depth of Boring: 18'	Well Screen Slot Size: NA
	Type and Size of Soil Sampler: Macro Core Sampler



SOIL/ROCK SAMPLE DATA

Interval	Water Level	OVM (ppmv)	Graphic Log
		0	
		0	
		0	
		0	

Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
0	Asphalt
	Silty CLAY (CH); yellow brown; medium stiff; dry; 90% clay; 10% silt; high plasticity; very low estimated K; no odor
15	Silty SAND (SM); yellow brown; medium dense; moist; 85% medium to coarse sand; 15% silt; non-plastic; high estimated K; no odor fine sand; wet at 16'
	End of boring at 18'
30	

AQUA SCIENCE ENGINEERS, INC.

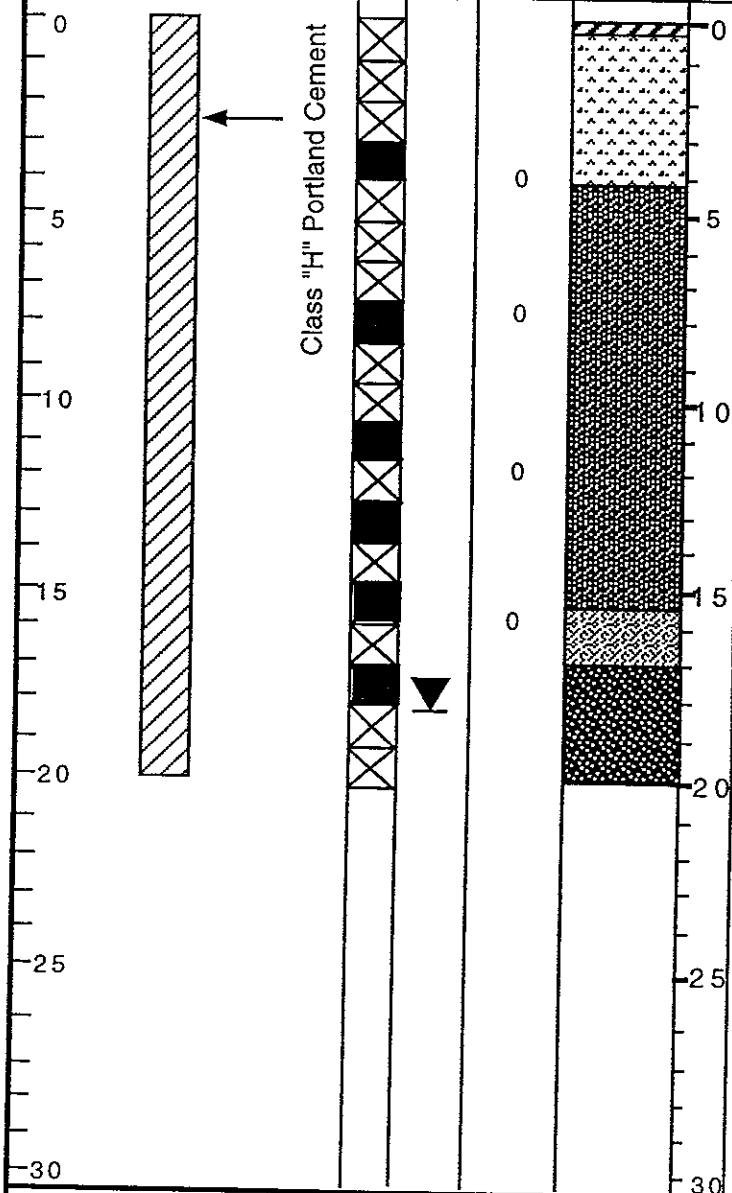
L BORING LOG AND WELL COMPLETION DETAILS

Soil Boring: BH-D

Project Name: Keeney Property	Project Location: 1500 East 12th Street, Oakland, CA	Page 1 of 1
Driller: Vironex	Type of Rig: Geoprobe	Size of Drill: Macro Core Sampler
Logged By: Robert E. Kitay, R.G.	Date Drilled: August 8, 2000	Checked By: Robert E. Kitay, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: 18'	Total Depth of Well Completed: NA
	Well Screen Type and Diameter: NA
Static Depth of Water in Well: Unknown	Well Screen Slot Size: NA
Total Depth of Boring: 20'	Type and Size of Soil Sampler: Macro Core Sampler



Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
0	Concrete
	Gravelly SAND (SM); red; loose; dry; 50% fine to coarse sand; 30% gravel to 2" diameter; 20% silt; non-plastic; high estimated K; no odor
5	Silty CLAY (CH); yellow brown; medium stiff; dry; 90% clay; 10% silt; high plasticity; very low estimated K; no odor
10	
15	Sandy SILT (ML); yellow brown; medium stiff; wet; 60% silt; 40% fine sand; non-plastic; low estimated K; no odor
20	CLAY (CH); yellow brown; medium stiff; wet; 60% 90% clay; 10% silt; high plasticity; very low estimated K; no odor
	End of boring at 20'
25	
30	