

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



ENVIRONMENTAL HEALTH SERVICES

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

StID 2871 9*

September 15, 1999

Mr. Durtzer
3985 1st Street
Livermore, CA 94550

Ms. Karen Petryna
Equiva Services
P.O. Box 8080
Martinez, CA 94553

Re: Fuel Leak Site Case Closure for 2730 Old First Street, Livermore, CA

Dear Mr. Durtzer and Ms. Petryna:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with 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 Environmental Protection Division is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed.

SITE INVESTIGATION AND CLEANUP SUMMARY

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

- up to 1,000ppm TPH as gasoline and 3.4ppm benzene exists in soil beneath the site;
- up to 14,000ppb TPHg and 810ppb benzene exists in groundwater beneath the site; and,
- a site safety plan must be prepared for construction workers in the event of excavation/trenching is proposed in the vicinity of residual soil and groundwater contamination.

If you have any questions, please contact me at (510) 567-6762.

eva chu
Hazardous Materials Specialist

enclosures: 1. Case Closure Letter 2. Case Closure Summary

c: Dave Clemens, City of Livermore, Planning Div., 1052 S. Livermore Ave., Livermore,
CA 94550
files (gansbgr-15)



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

REMEDIAL ACTION COMPLETION CERTIFICATION

**StID 2871 - 2730 Old First Street, Livermore, CA
(2-6K, 2-4K, and 1-550 gallon tanks removed on June 5, 1990)**

September 15, 1999

Mr. Bradley Durtzer
3985 1st Street
Livermore, CA 94550

Ms. Karen Petryna
Equiva Services
P.O. Box 8080
Martinez, CA 94553

Dear Mr. Durtzer and Ms. Petryna:

This letter confirms the completion of site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tanks are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground tank release is required.

This notice is issued pursuant to a regulation contained in Title 23, Section 2721(e) of the California Code of Regulations.

Please contact our office if you have any questions regarding this matter.

Sincerely,


Mee Ling Tung, Director

cc: Richard Pantages, Chief of Division of Environmental Protection
Chuck Headlee, RWQCB
Dave Deaner, SWRCB
Danielle Stefani, Livermore-Pleasanton Fire Department
Dale Gansbergr, 1038 Apache St, Livermore, CA 94550
files-ec (gansbgr-14)

RB#01-0697
0679

ENVIRONMENTAL
PROTECTION
55 MAR 22 PM 4:04

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION

Date: March 1, 1999

Agency name: Alameda County-HazMat
City/State/Zip: Alameda, CA 94502
Responsible staff person: Eva Chu

Address: 1131 Harbor Bay Pkwy
Phone: (510) 567-6700
Title: Hazardous Materials Spec.

II. CASE INFORMATION

Site facility name: Livermore German Auto
Site facility address: 2730 Old First Street, Livermore, CA 94550
RB LUSTIS Case No: N/A
URF filing date: 7/31/90

Local Case No./LOP Case No.: 2871
SWEEPS No: N/A

CALIFORNIA REGIONAL WATER

MAR 11 1999

QUALITY CONTROL BOARD

Responsible Parties:

Addresses:

Phone Numbers:

Dale Gansberger
1038 Apache Street
Livermore, CA 94550

Karen Petryna
Texaco/Equiva Services
P.O.Box 8080
Martinez, CA 94553

<u>Tank No:</u>	<u>Size in gal.:</u>	<u>Contents:</u>	<u>Closed in-place or removed?:</u>	<u>Date:</u>
1	6,000	Gasoline	Removed	6/5/90
2	6,000	"	"	"
3	4,000	"	"	"
4	4,000	"	"	"
5	550	Waste Oil	"	"

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: **Unknown**
Site characterization complete? **YES**
Date approved by oversight agency: **12/28/98**
Monitoring Wells installed? **Yes** Number: **6**
Proper screened interval? **Yes, 7' to 27'bgs in well MW-3**
Highest GW depth below ground surface: **9.56'** Lowest depth: **15.10'**
Flow direction: **NW**
Most sensitive current use: **Commercial**
Are drinking water wells affected? **No**
Is surface water affected? **No**
Off-site beneficial use impacts (addresses/locations): **None**
Report(s) on file? **YES** Where is report(s) filed?

Aquifer name: **Mocho Subbasin**
Nearest affected SW name: **NA**
Alameda County
1131 Harbor Bay Pkwy and
Alameda, CA 94502

Livermore Fire Dept
4550 East Ave
Livermore, CA 94550

Treatment and Disposal of Affected Material:

<u>Material</u>	<u>Amount (include units)</u>	<u>Action (Treatment or Disposal w/destination)</u>	<u>Date</u>
Tank Soil Groundwater	5 USTs	Disposed at Erickson, Richmond, CA	6/5/90

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm)		Water (ppb)	
	Before ¹	After ²	Before ³	After ⁴
TPH (Gas)	1,000		110,000	14,000
TPH (Diesel)				
Benzene	3.4		4,800	810
Toluene	26		3,000	530
Ethylbenzene	17		2,600	640
Xylenes	100		12,000	1,600
MTBE	NA		ND	ND
Oil & Grease	1,500		NA	NA
Heavy metals				
Other HVOC	ND		NA	NA

- NOTE: 1 soil sample collected from soil borings advanced through the tank pit at 20'-25'bgs, 10/93
 2 no overexcavation was done at the site. Note that hydrocarbon contamination detected has been in soil collected from depths $\geq 20'$ bgs, below current groundwater elevation.
 3 maximum concentrations from well MW-3, 10/93
 4 most recent sampling event, from well MW-4, 7/98

IV. CLOSURE

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

Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? _____

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

Site management requirements: **A site safety plan must be prepared for construction workers in the event excavation/trenching is proposed in the vicinity of residual soil and groundwater contamination.**

Should corrective action be reviewed if land use changes? **YES**

Monitoring wells Decommissioned: **No, pending site closure**

Number Decommissioned: **0** Number Retained: **6**

List enforcement actions taken: *Typc 1 - 11/16/92*

List enforcement actions rescinded:

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: **Eva Chu**

Title: **Haz Mat Specialist**

Signature: 

Date: *3/5/99*

Reviewed by

Name: **Madhulla Logan**

Title: **Haz Mat Specialist**

Signature: 

Date: *3/3/99*

Name: **Thomas Peacock**

Title: **Supervisor**

Signature: 

Date: *3-8-99*

VI. RWQCB NOTIFICATION

Date Submitted to RB: *3/9/99*

RB Response: *OK for closure*

RWQCB Staff Name: **Chuck Headlee**

Title: **EG**

Signature: 

Date: *3/12/99*

VII. ADDITIONAL COMMENTS, DATA, ETC.

The site was formerly a gasoline service station with an auto repair facility. Currently the site is used only as an automotive repair shop.

Four gasoline USTs (2-6K, 2-4K gallon) and one 550-gallon waste oil UST were removed in June 1990. Soil samples collected beneath the USTs did not reveal remarkable levels of TPHg, BTEX, TPHd, TOG, or HVOC (see Fig 1, 2 and Table 1, 2). However, this Agency requested additional subsurface investigations due to the obvious hydrocarbon contamination noted in soil beneath at least three of the five USTs.

In September 1990 three soil borings were advanced through the former tank pit. Elevated hydrocarbon levels were identified in soil from 20' to 35'bgs (see Fig 3, Table 3). Six additional soil borings (G1 through G6) were advanced to delineate the lateral extent of soil contamination. A grab water sample was also collected from boring G2. Analytical results indicated soil contamination to be limited to the immediate vicinity of the tank pit at 20' to 30'bgs. And, groundwater appeared to be impacted by the tank release. (See Fig 4, Table 4)

In September and October 1993 three soil borings (B1 through B3) and three monitoring wells (MW1 through MW3) were advanced to better evaluate soil contamination at the former pump islands as well as groundwater quality beneath the site. Sediments noted below the first 4' to 6' of fill material, consisted of fine to coarse gravel with some clay and silt from 6' to 27' or 33'bgs. A 5' to 6' thick silty clay

aquitard was found underlying the gravel. Cross sections are presented in Figs 5 and 6. First groundwater was detected at 27' to 31'bgs, just above the silty clay, therefore, the monitoring wells were screened from 7' to 27'bgs, in the fine to coarse gravel. Soil contamination was only noted in boring MW3 at 20' to 25'bgs. Groundwater contamination was found in all the monitoring wells, with the highest concentrations in well MW3. (See Fig 4, Table 5)

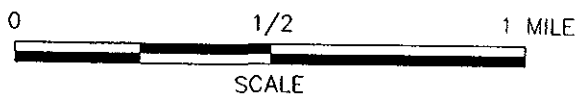
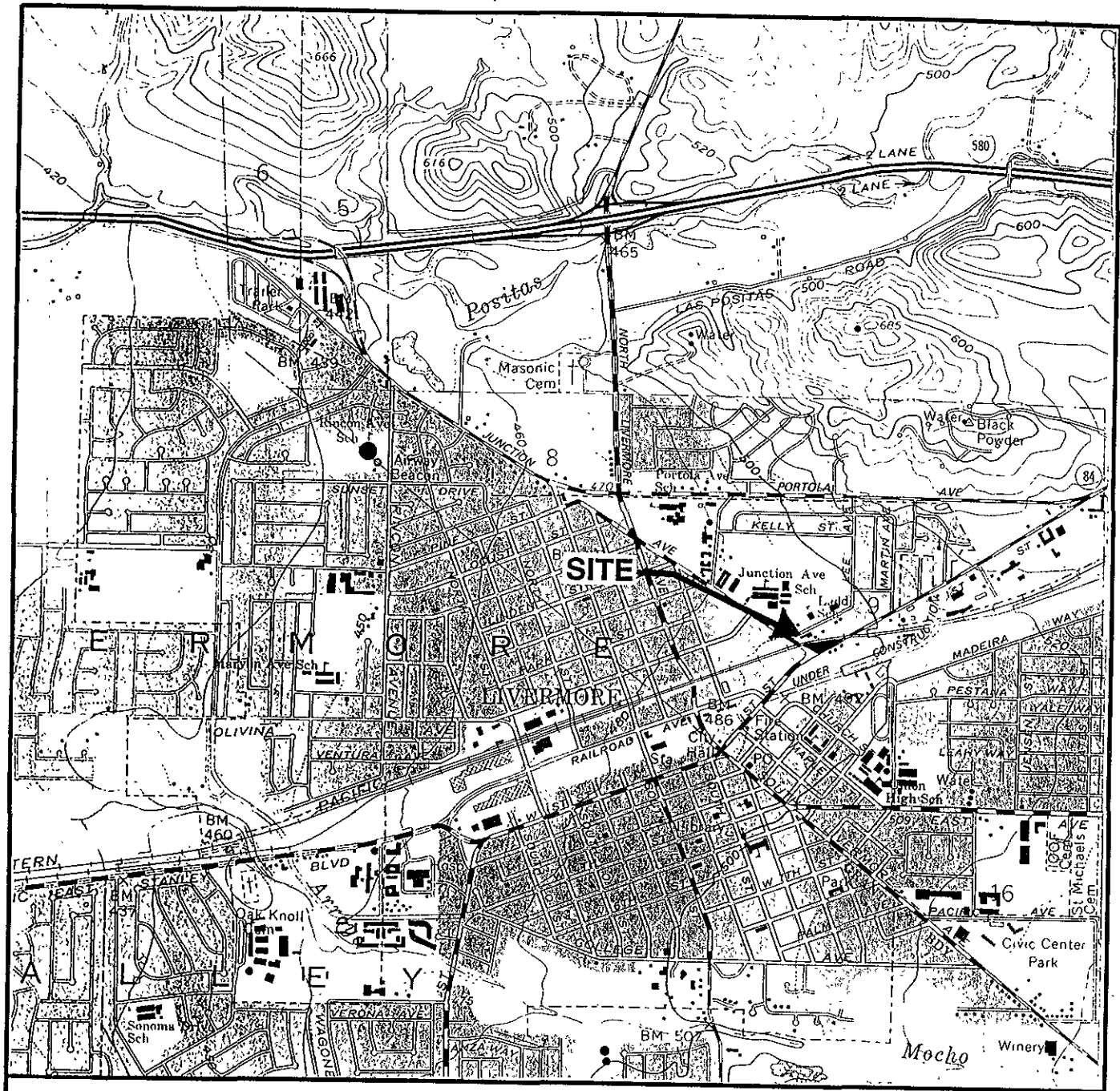
In April 1995 seven soil borings (B4 through B7 and MW-4 through MW-6) were drilled. Soil samples collected from borings B4, B5, and B7 were to evaluate potential release from the hydraulic lifts. And borings MW-4 through MW-6 were subsequently converted into groundwater monitoring wells. After several groundwater monitoring events, downgradient well MW-4 continues to contain elevated TPHg and BTEX constituents, indicating that the dissolved plume may have migrated offsite. In December 1996 two direct-push borings, B8 and B9, were drilled to delineate the lateral extent of groundwater contamination offsite. Groundwater was encountered at ~13.5'bgs. Soil and water samples collected did not contain TPHg, BTEX, or MTBE (see Fig 4, Table 6, 7, 8). It appears that the groundwater plume has stabilized and no longer migrating.

Groundwater monitoring well MW-3 has been sampled since 10/93, and well MW-4 since 5/95. Contaminant concentrations in MW-3 have shown a steady decline from 4,800ppb (in 10/93) to 16ppb benzene (in 7/98). Contaminant levels in well MW-4 have stabilized at approximately 800ppb benzene (in 7/98). (See Table 9)

A RBCA analysis was performed for the site. Based on the results of the RBCA, no onsite SSTLs were exceeded for the current use scenario as an automotive repair facility or for a future commercial development (see Table 10, 11, 12, 13).

In summary, case closure is recommended because:

- the leak and ongoing sources have been removed;
- the dissolved hydrocarbon plume is not migrating;
- no water wells, surface water, or other sensitive receptors are likely to be impacted; and,
- the site presents no significant risk to human health or the environment.



REFERENCE.
 U.S.G.S. LIVERMORE QUADRANGLE, 1961,
 PHOTOREVISED 1980


 GeoResearch		
SITE LOCATION FORMER TEXACO SERVICE STATION 2730 OLD 1st STREET LIVERMORE, CALIFORNIA PROJECT NUMBER: 948000400		
DATE: 10/26/93	CKD BY:	FIGURE NO 1
FILE NO: TOPO		DRAWN BY: S.NASH

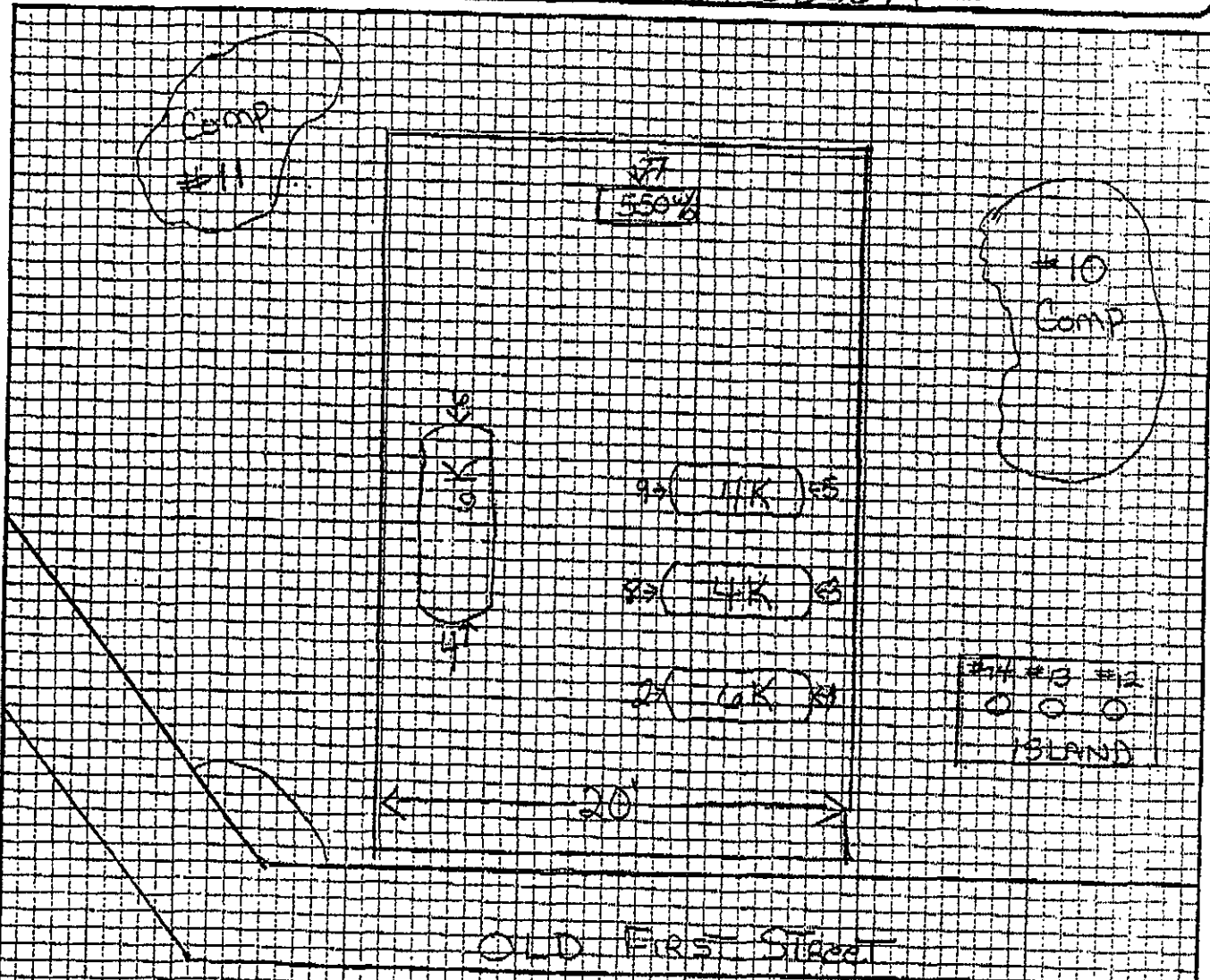
FIG 2

1008 Leslie Street
San Mateo, Calif. 94402
(415) 572-8033

SITE PLAN

General & Engineering Contractors
431 W. Hatch Rd.
Modesto, Calif. 95351
(209) 524-9653

SUBMITTED TO:	DESCRIPTION OF JOB:
Sample Locations	Job Livermore German Auto
	Address 2730 Old First St.
	City Livermore State CA
	Phone 443-3239 Date



SAMPLE DEPTHS

- | | |
|----------------------|------------------------|
| 1) S.E. 6K GAS-12'6" | 8) N. 4K GAS-14' |
| 2) N.E. 6K GAS-13' | 9) S. 4K GAS-12' |
| 3) S.E. 4K GAS-14' | 10) COMP. SPOILS SOUTH |
| 4) W. 6K GAS-12' | 11) COMP. SPOILS NORTH |
| 5) S.E. 4K GAS-14'6" | 12) PUMP ISLAND |
| 6) N.E. 4K GAS-14' | 13) PUMP ISLAND |
| 7) 550 W/O 8' | 14) PUMP ISLAND |

Table 1

SUPERIOR ANALYTICAL LABORATORY, INC.

1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 52109
CLIENT: SEMCO
CLIENT JOB NO.: GANSBERGER

DATE RECEIVED: 06/06/90
DATE REPORTED: 06/14/90

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
by Modified EPA SW-846 Method 5030 and 8015

LAB #	Sample Identification	Concentration (mg/kg) Gasoline Range
1	#1-SE6K	ND<1
2	#2-NE6K	ND<1
3	#3-4KSE	** 35
4	#4-6KW	ND<1
5	#5-4KG	ND<1
6	#6-4KGN	ND<1
7	#7-W/O	ND<1
8	#8-4KGN	ND<1
9	#9-4KG	ND<1
10	#10-COM	ND<1
11	#11-COMP	** 4
12	#12-PI	ND<1
13	#13-PI	ND<1
14	14-PI	ND<1

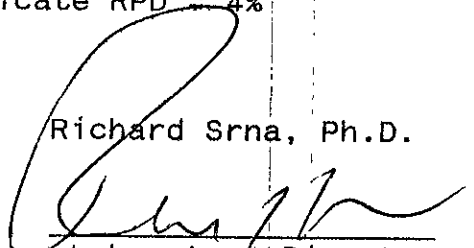
mg/kg - parts per million (ppm)

Minimum Detection Limit for Gasoline in Soil: 1mg/kg

** Reported in gasoline range but analysis does not match gasoline pattern

QAQC Summary:

Daily Standard run at 2mg/L: %DIFF Gasoline = <15
MS/MSD Average Recovery = 71%: Duplicate RPD = 4%

Richard Srna, Ph.D.

Laboratory Director

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY, INC.

1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 52109
 CLIENT: SEMCO
 CLIENT JOB NO.: GANSBERGER

DATE RECEIVED: 06/06/90
 DATE REPORTED: 06/14/90

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
 by EPA SW-846 Methods 5030 and 8020

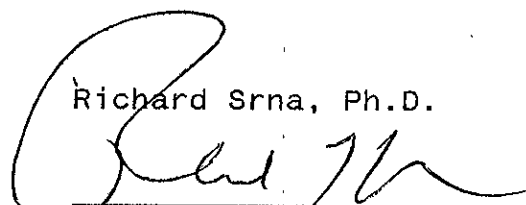
LAB #	Sample Identification	Concentration(ug/kg)			
		Benzene	Toluene	Ethyl Benzene	Xylenes
1	#1-SE6K	10	20	4	28
2	#2-NE6K	ND<3	7	9	61
3	#3-4KSE	10	11	12	43
4	#4-6KW	ND<3	4	4	20
5	#5-4KG	ND<3	ND<3	ND<3	ND<3
6	#6-4KGN	ND<3	ND<3	ND<3	ND<3
7	#7-W/O	ND<3	ND<3	ND<3	ND<3
8	#8-4KGN	ND<3	ND<3	ND<3	ND<3
9	#9-4KG	ND<3	ND<3	ND<3	ND<3
10	#10-COM	17	27	7	50
11	#11-COMP	ND<3	ND<3	ND<3	25
12	#12-PI	ND<3	ND<3	ND<3	ND<3
13	#13-PI	ND<3	ND<3	5	16
14	14-PI	3	14	10	65

mg/kg - parts per million (ppm)

Minimum Detection Limit in Soil: 3.0ug/kg

QAQC Summary:

Daily Standard run at 20ug/L: %DIFF = <15
 MS/MSD Average Recovery = 93% : Duplicate RPD = 6%

Richard Srna, Ph.D.

 Laboratory Director

SUPERIOR ANALYTICAL LABORATORY, INC.

1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 52109
CLIENT: SEMCO
CLIENT JOB NO.: GANSBERGER

DATE RECEIVED: 06/06/90
DATE REPORTED: 06/14/90

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS by Modified EPA SW-846 Method 8015

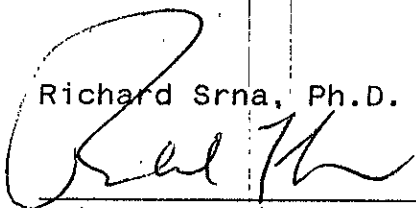
LAB #	Sample Identification	Concentration (mg/kg)	
		Gasoline Range	Diesel Range
7	#7-W/O	ND<1	ND<10

mg/kg - parts per million (ppm)

Minimum Detection Limit for Gasoline and Diesel in Soil: 10mg/kg
Minimum Detection Limit for Gasoline and Diesel in Water: 1mg/L

QAQC Summary:

Daily Standard run at 200mg/L: RPD Gasoline = 1 %
 RPD Diesel = 1 %
 MS/MSD Average Recovery = 96%: Duplicate RPD = 6gas, 1d %

Richard Srna, Ph.D.

 Laborator Director

cont. Table 2

SUPERIOR ANALYTICAL LABORATORY, INC.

1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 52109
CLIENT: SEMCO
CLIENT JOB NO.: GANSBERGER

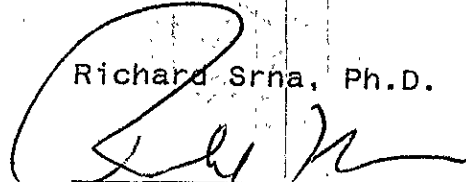
DATE RECEIVED: 06/06/90
DATE REPORTED: 06/18/90

ANALYSIS FOR TOTAL PETROLEUM OIL AND GREASE by EPA Method 503E

LAB #	Sample Identification	Concentration (mg/kg) Total oil & grease
7	#7-W/O	ND<20

mg/kg - parts per million (ppm)

Minimum Detection Limit for oil & grease in Soil: 20mg/kg

Richard Srna, Ph.D.

Laboratory Director

OUTSTANDING QUALITY AND SERVICE

cont. Table 2

SUPERIOR ANALYTICAL LABORATORY, INC.

1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 52109-7
CLIENT: Semco
JOB NO.: Gansberger

DATE SAMPLED: 06/06/90
DATE RECEIVED: 06/06/90
DATE ANALYZED: 06/14/90

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: #7-W/O

Compound (ug/kg)	MDL (ug/kg)	R E S U L T S
Chloromethane	5.0	ND <5.0
Bromomethane	5.0	ND <5.0
Vinyl chloride	10.0	ND <10.0
Dichlorodifluoromethane	5.0	ND <5.0
Chloroethane	5.0	ND <5.0
Methylene chloride	10.0	ND <10.0
Trichlorofluoromethane	5.0	ND <5.0
1,1-Dichloroethene	2.0	ND <2.0
1,1-Dichloroethane	5.0	ND <5.0
trans-1,2-Dichloroethene	5.0	ND <5.0
Chloroform	5.0	ND <5.0
1,2-Dichloroethane	5.0	ND <5.0
1,1,1-Trichloroethane	5.0	ND <5.0
Carbon tetrachloride	5.0	ND <5.0
Bromodichloromethane	5.0	ND <5.0
1,2-Dichloropropane	5.0	ND <5.0
cis-1,3-Dichloropropene	5.0	ND <5.0
Trichloroethylene	5.0	ND <5.0
1,1,2-Trichloroethane	5.0	ND <5.0
trans-1,3-Dichloropropene	5.0	ND <5.0
Dibromochloromethane	5.0	ND <5.0
2-Chloroethylvinyl ether	10.0	ND <10.0
Bromoform	5.0	ND <5.0
Tetrachloroethene /		
1,1,2,2-Tetrachloroethane	5.0	ND <5.0
Chlorobenzene	5.0	ND <5.0
1,3-Dichlorobenzene	5.0	ND <5.0
1,2-Dichlorobenzene	5.0	ND <5.0
1,4-Dichlorobenzene	5.0	ND <5.0

MDL = Method Detection Limit

ug/kg = parts per billion (ppb)

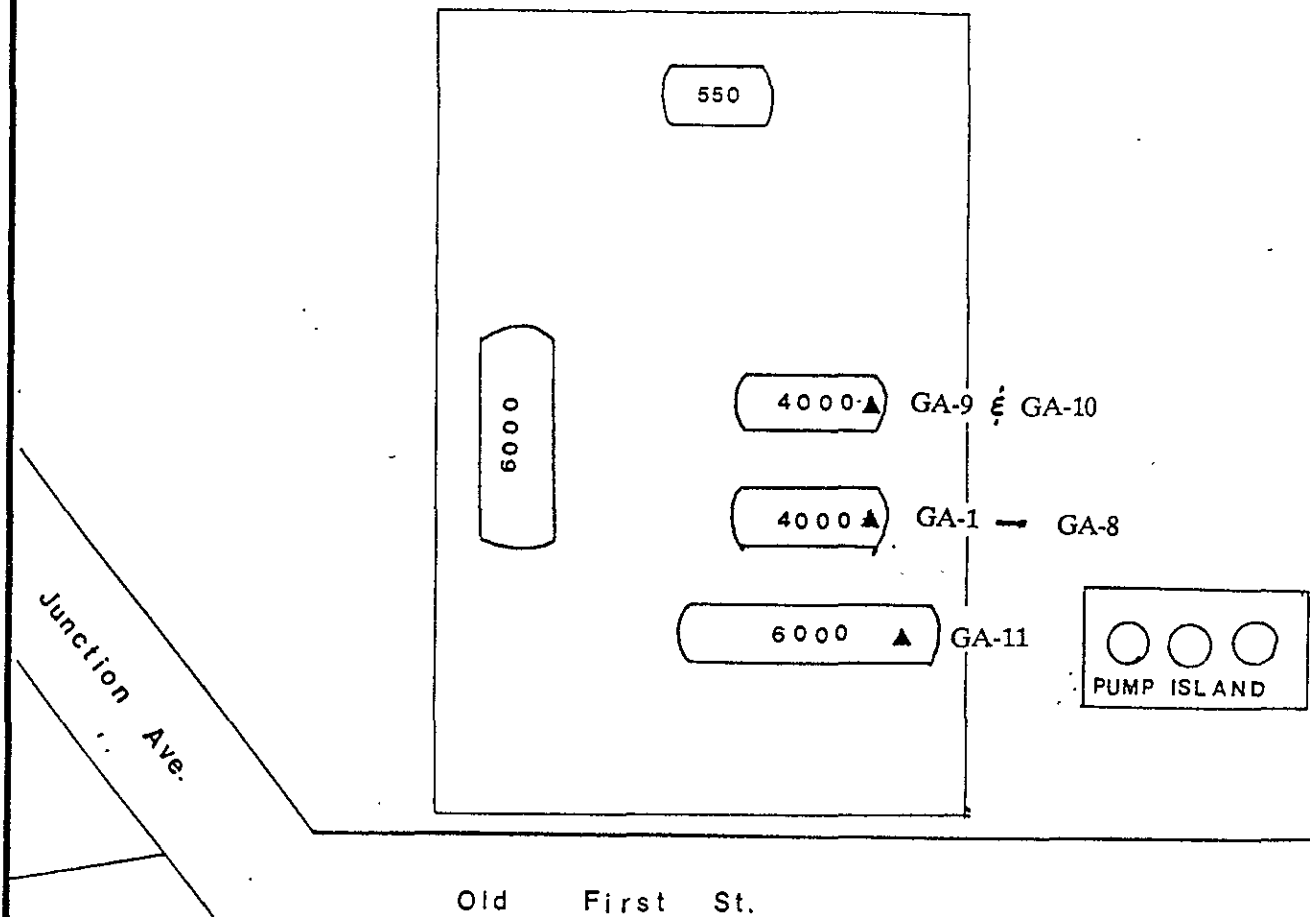
QA/QC Summary: Daily Standard %Diff= <15

MS/MSD average recovery = 97 % : MS/MSD RPD = < 7 %

Richard Srna, Ph.D.

Laboratory Director

OUTSTANDING QUALITY AND SERVICE



▲ Soil borings



Figure 13

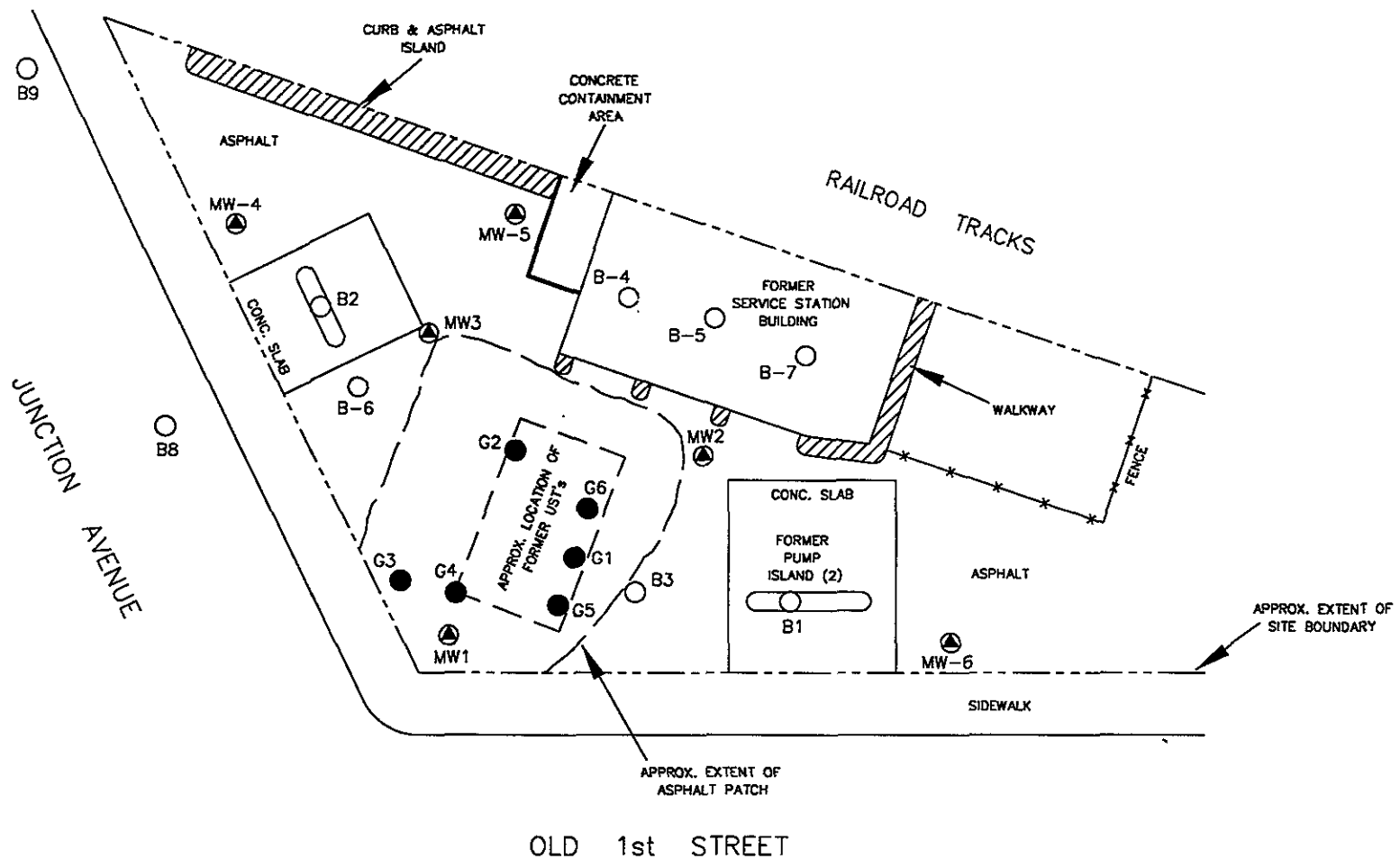
Generalized diagram
of tank and soil boring locations

TABLE 3

Bore Hole Location	Sample Number	Sample Depth	TPH-Gasoline (ppm)	Benzene (ppb)	Toluene (ppb)	Ethyl Benzene (ppb)	Xylenes (ppb)	Geology
Middle Tank	GA-1	7.5'	ND	ND	ND	ND	ND	Backfill
	GA-2	20'	800	3400	19000	10000	61000	Moderately clayey gravel with sand
	GA-3	25'	1000	1900	23000	13000	81000	Moderately clayey gravel with sand
	GA-4	30'	1	1100	38	14	81	Gravelly clay with sand
	GA-5	35'	ND	42	20	10	39	Sandy gravel with clay lense(s)
	GA-6	40'	64	ND	290	150	320	Sandy gravel with clay lense(s)
	GA-7	45'	110	180	300	1400	7300	Silty to sandy gravel, minor clay
	GA-8	50'	ND	ND	ND	ND	ND	Silty to sandy gravel, minor clay
North Tank	GA-9	7.5'	ND	ND	ND	ND	ND	Backfill, gravel with sand
	GA-10	20'	ND	ND	ND	ND	ND	Gravel with sand, minor fines
South* Tank	GA-11	20'	1500	2600	26000	17000	100000	Gravel with sand, minor fines

ND = < 1ppm TPH and < 3ppb BTEX

* Backfill material was too loose to hold in sample tube at 7.5'



LEGEND :

- ▲ MW1 MONITORING WELL LOCATION AND WELL NUMBER
- G6 SOIL BORING LOCATION AND BORING NUMBER
- B-9 SOIL BORING LOCATION AND BORING NUMBER

SOURCE :
 MODIFIED FROM
 GEORESEARCH DWG.

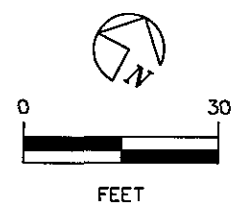


FIG 4

TEXACO
 REFINING AND MARKETING INC.
 ENVIRONMENT, HEALTH AND SAFETY

FORMER TEXACO SERVICE STATION
 2730 OLD 1st ST. / JUNCTION AVE.,
 LIVERMORE, CALIFORNIA

SCALE	1"=30'-0"	LOCATION #	61-857-1036
DRAWN BY	AMA	DATE	09/30/1996
CHECKED BY		DATE	
DRAWING NO. (LIVERMORE) 01-JU-LLDWG			

Table 4

2730 Old First Street							
Soil Sample Analytical Results							
Boring#	Sample#	Depth (ft)	TPHG	ppm			
				B	T	E	X
G1	GA-1	7.5	nd	nd	nd	nd	nd
G1	GA-2	20	800	3.4	19	10	61
G1	GA-3	25	1000	1.9	23	13	81
G1	GA-4	30	1	1.1	0.038	0.014	0.081
G1	GA-5	35	nd	0.042	0.02	0.01	0.039
G1	GA-6	40	64	nd	0.29	0.15	0.32
G1	GA-7	45	110	0.18	0.3	1.4	7.3
G1	GA-8	50	nd	nd	nd	nd	nd
G2	G-21	10	nd	nd	nd	nd	nd
G2	G-22	15	nd	nd	nd	nd	nd
G2	G-23	20	nd	nd	nd	nd	nd
G2	G-24	25	2	0.31	0.32	0.025	0.15
G2	G-25	30	nd	0.07	nd	nd	nd
G2	G-26	35	nd	0.006	0.006	0.018	0.024
G2	G-27	40	18	nd	0.054	0.077	0.016
G2	G-28	45	27	nd	0.068	0.041	0.048
G2	G-29	50	nd	0.003	0.003	0.005	0.016
G2	GW-1	48	53	0.34	1.9	2.3	12
G3	G-31	10	nd	nd	nd	nd	nd
G3	G-32	15	nd	nd	nd	nd	nd
G3	G-34	20	nd	nd	nd	nd	nd
G3	G-35	25	nd	0.047	nd	0.005	0.026
G3	G-36	30	nd	nd	nd	nd	nd
G3	G-37	35	nd	nd	nd	nd	nd
G4	G-41	10	nd	nd	nd	nd	nd
G4	G-42	15	nd	nd	nd	nd	nd
G4	G-43	20	nd	nd	nd	nd	nd
G4	G-44	25	nd	0.026	nd	nd	0.008
G4	G-45	30	nd	nd	nd	nd	nd
G4	G-46	35	nd	nd	nd	nd	nd
G4	G-47	40	6	nd	0.024	0.019	0.018
G5	GA-11	20	1500	2.6	26	17	100
G6	GA-9	7.5	nd	nd	nd	nd	nd
G6	GA-10	20	nd	nd	nd	nd	nd

TABLE 5

SOIL SAMPLES ANALYTICAL RESULTS
 2730 OLD 1ST STREET
 LIVERMORE, CALIFORNIA,

SAMPLE ID	DEPTH (FEET)	TPH-G	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
B1-10	10	<1.0	<0.005	<0.005	<0.005	<0.005
B1-15	15	<1.0	<0.005	0.005	<0.005	<0.005
B2-5	5	<1.0	<0.005	<0.005	<0.005	<0.005
B2-11	11	<1.0	<0.005	<0.005	<0.005	<0.005
B3-10	10	<1.0	<0.005	<0.005	<0.005	<0.005
B3-15	15	<1.0	<0.005	<0.005	<0.005	<0.005
B3-20	20	<1.0	<0.005	<0.005	<0.005	<0.005
B3-26.5	26.5	<1.0	<0.005	<0.005	<0.005	<0.005
B3-30	30	<1.0	<0.005	<0.005	<0.005	<0.005
B3-35	35	<1.0	0.061	<0.005	<0.005	<0.005
B3-40	40	<1.0	<0.005	<0.005	<0.005	<0.005
MW1-5	5	<1.0	<0.005	<0.005	<0.005	<0.005
MW1-10	10	<1.0	<0.005	<0.005	<0.005	<0.005
MW1-15	15	<1.0	<0.005	<0.005	<0.005	<0.005
MW1-21	20	<1.0	<0.005	<0.005	<0.005	<0.005
MW2-5	5	<1.0	<0.005	<0.005	<0.005	<0.005
MW2-10	10	<1.0	<0.005	<0.005	<0.005	<0.005
MW2-15	15	<1.0	<0.005	<0.005	<0.005	<0.005

TABLE 5
-continued-

SAMPLE ID	DEPTH (FEET)	TPH-G	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW2-20	20	<1.0	<0.005	<0.005	<0.005	<0.005
MW2-25	25	<1.0	<0.005	<0.005	<0.005	<0.005
MW2-30	30	<1.0	<0.005	<0.005	<0.005	<0.005
MW3-5	5	<1.0	<0.005	<0.005	<0.005	<0.005
MW3-10	10	<1.0	<0.005	<0.005	<0.005	<0.005
MW3-15	15	<1.0	<0.005	<0.005	<0.005	<0.005
MW3-20	20	160	0.60	0.18	2.3	10
MW3-25	25	910	4.5	5.8	88	18
MW3-30	30	<1.0	<0.005	<0.005	<0.005	0.065

NOTES:

1. All values are reported as milligrams per kilogram (mg/kg).
2. Depth measured in feet below ground surface (bgs).
3. TPH-G = Total petroleum hydrocarbons as gasoline (TPH-G).
4. <1.0 = Not detected above the indicated laboratory detection limit.
5. Laboratory Reports are presented in Appendix D.
6. Soil samples were analyzed by Mobile Chem Lab of Martinez, California

1304

TABLE 36
CURRENT ANALYTICAL RESULTS FOR SOIL SAMPLES
FORMER TEXACO SERVICE STATION
2730 OLD LIVERMORE ROAD
LIVERMORE, CALIFORNIA

SAMPLE ID	DEPTH	TRPH	TPH		Benzene	Toluene	Ethyl-Benzene	Total Xylenes
			DIESEL	GAS				
B5	5	220	<1	<1	<0.005	<0.005	<0.005	<0.005
B5	10	83	<1	<1	<0.005	<0.005	<0.005	<0.005
B4	5	450	<1	<1	<0.005	<0.005	<0.005	<0.005
B4	10	1500	<1	<1	<0.005	<0.005	<0.005	<0.005
B6	5	NA	<10	<1	<0.005	<0.005	<0.005	<0.015
B6	10	NA	<10	<1	<0.005	<0.005	<0.005	<0.015
B6	15	NA	<10	<1	<0.005	<0.005	<0.005	<0.015
B6	20	NA	<10	15	<0.005	0.023	0.09	0.24
B6	25	NA	<10	310	0.3	1.2	4.3	24
B6	28	NA	<10	3.3	0.2	0.15	0.1	0.59
B7	5	1300	7	<1	<0.005	<0.005	<0.005	<0.005
B7	9	1100	5.7	<1	<0.005	<0.005	<0.005	<0.005
MW4	5	NA	3.5	<1	<0.005	<0.005	<0.005	<0.005
MW4	10	NA	<1	<1	<0.005	<0.005	<0.005	<0.005
MW4	15	NA	<1	<1	<0.005	<0.005	<0.005	<0.005
MW4	20	NA	13	100	<0.5	<0.5	<0.5	1.6
MW4	25	NA	<1	<1	0.06	<0.005	0.038	0.041
MW4	30	NA	<1	<1	<0.005	<0.005	<0.005	<0.005
MW5	5	NA	<1	<1	<0.005	<0.005	<0.005	<0.005
MW5	10	NA	<1	<1	<0.005	<0.005	<0.005	<0.005
MW5	15	NA	<1	<1	<0.005	<0.005	<0.005	<0.005
MW5	20	NA	<1	<1	<0.005	<0.005	<0.005	<0.005
MW5	25	NA	<1	<1	<0.005	<0.005	<0.005	<0.005
MW5	28	NA	<1	<1	<0.005	<0.005	<0.005	<0.005
MW6	5	NA	<10	<1	<0.005	<0.005	<0.005	<0.015
MW6	10	NA	<10	<1	<0.005	<0.005	<0.005	<0.015
MW6	15	NA	<10	<1	<0.005	<0.005	<0.005	<0.015
MW6	25	NA	<10	<1	<0.005	<0.005	<0.005	<0.015
MW6	30	NA	<10	<1	<0.005	<0.005	<0.005	<0.015

Notes:

1. All values are reported in milligrams per kilogram (mg/kg)
2. Depth measured in feet below ground surface
3. <1.0 = Not detected above the indicated laboratory detection limit
4. TPH = Total petroleum hydrocarbons
5. TRPH = Total recoverable petroleum hydrocarbons
6. NA = Not analyzed

KEI-J96-1102.R1
February 5, 1997

TABLE 1

SUMMARY OF LABORATORY ANALYSES
SOIL

<u>Date</u>	<u>Sample Number</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl- benzene</u>	<u>Xylenes</u>	<u>MTBE</u>
12/11/96	B8(13)	<1	<0.005	<0.005	<0.005	<0.005	<0.3
	B9(13)	<1	<0.005	<0.005	<0.005	0.0064	<0.3

NOTE: The soil samples were collected at the depths below grade indicated in the () of the respective sample number.

Results are in milligrams per kilogram (mg/kg), unless otherwise indicated.

KEI-J96-1102.R1
February 5, 1997

TABLE 8

SUMMARY OF LABORATORY ANALYSES
WATER

<u>Date</u>	<u>Sample Number</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-benzene</u>	<u>Xylenes</u>	<u>MTBE</u>
12/11/96	B8	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	B9	<50	<0.5	<0.5	<0.5	<0.5	<0.5

NOTE: Water samples were collected during drilling. The results of the analyses may not be representative of formation water, and should be used for comparative informational purposes only.

Results are in micrograms per liter ($\mu\text{g/L}$), unless otherwise indicated.

Table 29
Groundwater Analytical Data
2730 Old First Street, Livermore, CA

Well Number	Date Sampled	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Xylenes (ppb)	MTBE (ppb)
MW-1	10/20/93	260	22	0.6	5.5	4.9	NA
MW-1	03/17/94	190	6.9	16	4.5	22	NA
MW-1	06/22/94	1,200	190	5.4	20	5.9	NA
MW-1	09/15/94	93	<0.5	0.68	<0.5	<0.5	NA
MW-1	12/28/94	110	12	0.50	0.57	1.3	NA
MW-1	03/29/95	58	<0.5	<0.5	<0.5	<0.5	NA
MW-1	05/09/95	350	19	15	11	45	NA
MW-1	08/21/95	<50	<0.5	<0.5	<0.5	<0.5	<10
MW-1	11/14/95	<50	<0.5	0.89	<0.5	1.8	<10
MW-1	01/18/96	<50	<0.5	<0.5	<0.5	<0.5	NA
MW-1	05/10/96	<50	<0.5	0.53	<0.5	1.3	NA
MW-1	08/14/96	<50	<0.5	<0.5	<0.5	<0.5	NA
MW-1	11/22/96	73	2.1	2.3	2.6	9.8	<30
MW-1	02/11/97	<50	<0.5	<0.5	<0.5	<0.5	<30
MW-1	02/06/98	<50	<0.5	<0.5	<0.5	<0.5	<30
MW-2	10/20/93	10,000	310	24	220	560	NA
MW-2	03/17/94	1,300	37	1.3	12	26	NA
MW-2	06/22/94	6,200	340	14	38	130	NA
MW-2	09/15/94	Not sampled - well dry					
MW-2	12/28/94	2,300	76	3.2	9.5	35	NA
MW-2	03/29/95	3,700	140	14	29	95	NA
MW-2	05/09/95	2,000	46	24	21	61	NA
MW-2	08/21/95	910	11	<0.5	8.5	8.9	<10
MW-2	11/14/95	860	5.8	0.97	6.0	7.0	10
MW-2	01/18/96	470	3.5	<0.5	2.2	2.0	NA
MW-2	05/10/96	420	0.86	<0.5	1.2	1.5	NA
MW-2	08/14/96	<50	<0.5	<0.5	<0.5	<0.5	NA
MW-2	11/22/96	870	1.5	<0.5	2.2	2.4	<30
MW-2	02/11/97	210	1.4	<0.5	1.5	<0.5	<30
MW-2	02/06/98	<50	<0.5	<0.5	<0.5	<0.5	<30
MW-3	10/20/93	110,000	4,800	3,000	2,600	12,000	NA
MW-3	03/17/94	47,000	1,700	570	1,400	4,800	NA
MW-3	06/22/94	29,000	3,400	1,200	1,400	4,900	NA
MW-3	09/15/94	34,000	3,500	930	1,800	5,700	NA
MW-3	12/28/94	45,000	2,700	1,400	2,000	6,800	NA
MW-3	03/29/95	7,500	120	54	45	410	NA
MW-3	05/09/95	22,000	1,000	700	680	3,300	NA
MW-3	08/21/95	1,300	33	29	30	110	<10
MW-3	11/14/95	22,000	860	550	770	3,100	<200
MW-3	01/18/96	19,000	800	570	590	2,100	NA
MW-3	05/10/96	1,200	76	8.5	7.7	92	NA
MW-3	08/14/96	1,100	25	8.7	16	80	NA
MW-3	11/22/96	1,900	59	39	46	220	<30
MW-3	02/11/97	3,900	150	61	120	450	<30
MW-3	02/06/98	180	2.9	<0.5	2.9	9.1	<30
MW-3	07/31/98	780	16	4.7	25	46	<2.5

cont Table 19
Groundwater Analytical Data
2730 Old First Street, Livermore, CA

Well Number	Date Sampled	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MTBE (ppb)
MW-4	05/09/95	28,000	2,500	1,800	1,200	5,000	NA
MW-4	08/21/95	1,200	99	60	57	140	<10
MW-4	11/14/95	33,000	2,600	1,600	1,600	4,500	<200
MW-4	01/18/96	20,000	1,400	790	800	2,100	NA
MW-4	05/10/96	17,000	1,900	890	770	2,200	NA
MW-4	08/14/96	9,800	700	200	350	800	NA
MW-4	11/22/96	19,000	1,000	530	600	1,700	<600
MW-4	02/11/97	18,000	1,000	620	790	2,500	<600
MW-4	02/06/98	1,700	220	110	34	220	<30
MW-4	07/31/98	14,000	810	530	640	1,600	<25
MW-5	05/09/95	2,000	100	95	67	310	NA
MW-5	08/21/95	<50	<0.5	<0.5	<0.5	<0.5	<10
MW-5	11/14/95	<50	<0.5	0.93	<0.5	1.8	<10
MW-5	01/18/96	<50	<0.5	<0.5	<0.5	<0.5	NA
MW-5	05/10/96	<50	<0.5	<0.5	<0.5	1.7	NA
MW-5	08/14/96	<50	<0.5	<0.5	<0.5	<0.5	NA
MW-5	11/22/96	90	2.1	4.6	2.6	12	<30
MW-5	02/11/97	<50	<0.5	<0.5	<0.5	<0.5	<30
MW-5	02/06/98	<50	<0.5	<0.5	<0.5	<0.5	<30
MW-6	05/09/95	850	54	47	35	160	NA
MW-6	08/21/95	<50	<0.5	<0.5	<0.5	<0.5	<10
MW-6	11/14/95	<50	<0.5	<0.5	<0.5	<0.5	<10
MW-6	01/18/96	<50	<0.5	<0.5	<0.5	<0.5	NA
MW-6	05/10/96	<50	0.99	1.0	0.98	3.3	NA
MW-6	08/14/96	<50	<0.5	<0.5	<0.5	<0.5	NA
MW-6	11/22/96	<50	0.64	0.85	0.43	1.4	<30
MW-6	02/11/97	<50	<0.5	<0.5	<0.5	<0.5	<30
MW-6	02/06/98	No Longer Sampled					
MCLs		NA	1.0	NA	680	1,750	
DWAL		NA	NA	100	NA	NA	
MTBE = Methyl-tert-butylether							
TPHg = Total Petroleum Hydrocarbon as gasoline							
MCLs = Adopted Maximum Contaminant Levels in Drinking Water							
DWAL = Recommended Drinking Water Action Level							
NA = Not Analyzed							
ppb = parts per billion							

RBCA SITE ASSESSMENT

Tier 2 Worksheet 9.1

Site Name: Former Texaco S/S
 Site Location: 2730 Old First St., Livermore, CA

Completed By: Sarkis Soghomonian
 Date Completed: 12/8/1997

1 OF 1

**SURFACE SOIL SSTL VALUES
 (< 3 FT BGS)**

Target Risk (Class A & B) 1.0E-6 MCL exposure limit?
 Target Risk (Class C) 1.0E-5 PEL exposure limit?
 Target Hazard Quotient 1.0E+0

Calculation Option: 3

SSTL Results For Complete Exposure Pathways ("X" if Complete)

CONSTITUENTS OF CONCERN		Representative Concentration	Soil Leaching to Groundwater			X	Ingestion, Inhalation and Dermal Contact		X	Construction Worker	Applicable SSTL	SSTL Exceeded ?	Required CRF
CAS No.	Name	(mg/kg)	Residential: (on-site)	Commercial: (on-site)	Regulatory(MCL): (on-site)	Residential: (on-site)	Commercial: (on-site)	Commercial: (on-site)	(mg/kg)	"X" if yes	Only if "yes" left		
71-43-2	Benzene-CA	5.0E-3	NA	NA	NA	NA	9.2E-1	3.3E+1	9.2E-1	<input type="checkbox"/>	<1		
100-41-4	Ethylbenzene	5.0E-3	NA	NA	NA	NA	>Res	>Res	>Res	<input type="checkbox"/>	<1		
1634-04-4	Methyl t-Butyl Ether	3.0E-1	NA	NA	NA	NA	1.7E+2	2.4E+2	1.7E+2	<input type="checkbox"/>	<1		
108-88-3	Toluene	5.0E-3	NA	NA	NA	NA	>Res	>Res	>Res	<input type="checkbox"/>	<1		
1330-20-7	Xylene (mixed isomers)	5.0E-3	NA	NA	NA	NA	>Res	>Res	>Res	<input type="checkbox"/>	<1		

Table D

RBCA SITE ASSESSMENT

Tier 2 Worksheet 9.2

Site Name: Former Texaco S/S

Completed By: Sarkis Soghomonian

Site Location: 2730 Old First St., Livermore, CA

Date Completed: 12/8/1997

1 OF 1

**SUBSURFACE SOIL SSTL VALUES
(> 3 FT BGS)**

Target Risk (Class A & B) 1.0E-6

MCL exposure limit?

Calculation Option: 3

Target Risk (Class C) 1.0E-5

PEL exposure limit?

Target Hazard Quotient 1.0E+0

SSTL Results For Complete Exposure Pathways ("x" if Complete)

CONSTITUENTS OF CONCERN		Representative Concentration	Soil Leaching to Groundwater			Soil Volatilization to Indoor Air		X	Soil Volatilization to Outdoor Air		Applicable SSTL	SSTL Exceeded?	Required CRF
CAS No.	Name	(mg/kg)	Residential: (on-site)	Commercial: (on-site)	Regulatory(MCL): (on-site)	Residential: (on-site)	Commercial: (on-site)	Residential: (on-site)	Commercial: (on-site)	(mg/kg)	<input type="checkbox"/> If yes	Only if "yes" left	
71-43-2	Benzene-CA	3.0E-2	NA	NA	NA	NA	NA	NA	NA	3.0E+0	<input type="checkbox"/>	<1	
100-41-4	Ethylbenzene	4.5E-2	NA	NA	NA	NA	NA	NA	>Res	>Res	<input type="checkbox"/>	<1	
1634-04-4	Methyl t-Butyl Ether	3.0E-1	NA	NA	NA	NA	NA	NA	>Res	>Res	<input type="checkbox"/>	<1	
108-88-3	Toluene	4.6E-2	NA	NA	NA	NA	NA	NA	>Res	>Res	<input type="checkbox"/>	<1	
1330-20-7	Xylene (mixed isomers)	8.0E-2	NA	NA	NA	NA	NA	NA	>Res	>Res	<input type="checkbox"/>	<1	

Table 11

RBCA SITE ASSESSMENT

Site Name: Former Texaco S/S

Completed By: Sarkis Soghomonian

Site Location: 2730 Old First St., Livermore, CA

Date Completed: 12/8/1997

GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-6

MCL exposure limit?

Calculation Option: 3

Target Risk (Class C) 1.0E-5

PEL exposure limit?

Target Hazard Quotient 1.0E+0

SSTL Results For Complete Exposure Pathways ("x" if Complete)

CONSTITUENTS OF CONCERN		Representative Concentration (mg/L)	Groundwater Ingestion			Groundwater Volatilization to Indoor Air		Groundwater Volatilization to Outdoor Air		Applicable SSTL (mg/L)	SSTL Exceeded ? "■" If yes	Required CRF Only if "yes" left
			Residential: (on-site)	Commercial: (on-site)	Regulatory(MCL): (on-site)	Residential: (on-site)	Commercial: (on-site)	Residential (on-site)	Commercial: (on-site)			
71-43-2	Benzene-CA	1.3E-2	NA	NA	NA	NA	NA	NA	1.1E+2	<input type="checkbox"/>	<1	
100-41-4	Ethylbenzene	7.4E-3	NA	NA	NA	NA	NA	NA	>Sol	<input type="checkbox"/>	<1	
1634-04-4	Methyl t-Butyl Ether	5.0E-4	NA	NA	NA	NA	NA	NA	>Sol	<input type="checkbox"/>	<1	
108-88-3	Toluene	9.0E-3	NA	NA	NA	NA	NA	NA	>Sol	<input type="checkbox"/>	<1	
1330-20-7	Xylene (mixed isomers)	2.1E-2	NA	NA	NA	NA	NA	NA	>Sol	<input type="checkbox"/>	<1	

Table 12

RBCA SITE ASSESSMENT

Tier 2 Worksheet 0.2

Site Name: 0
Site Location: 0

Completed By: michelle slipp
Date Completed: 1/1/2004

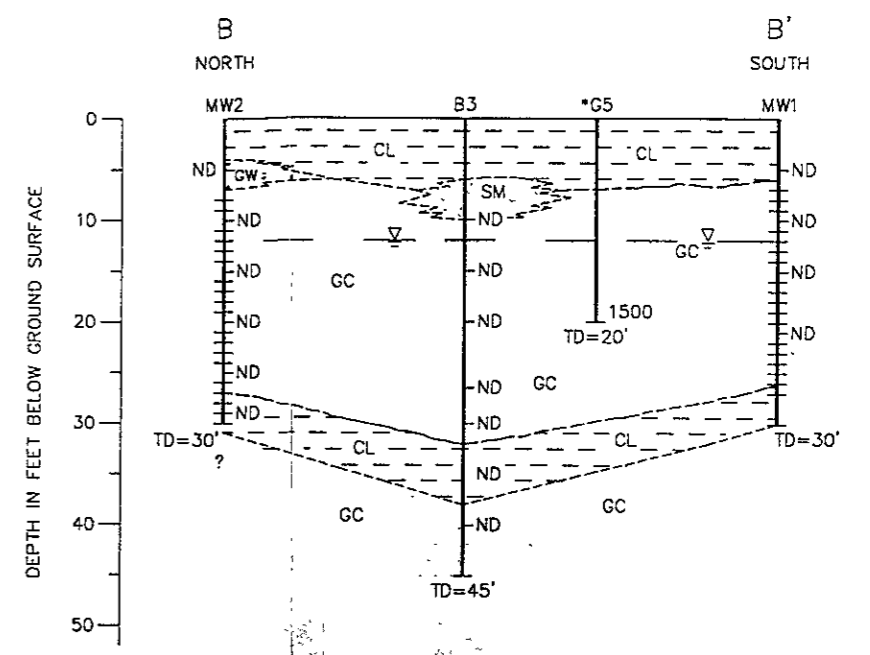
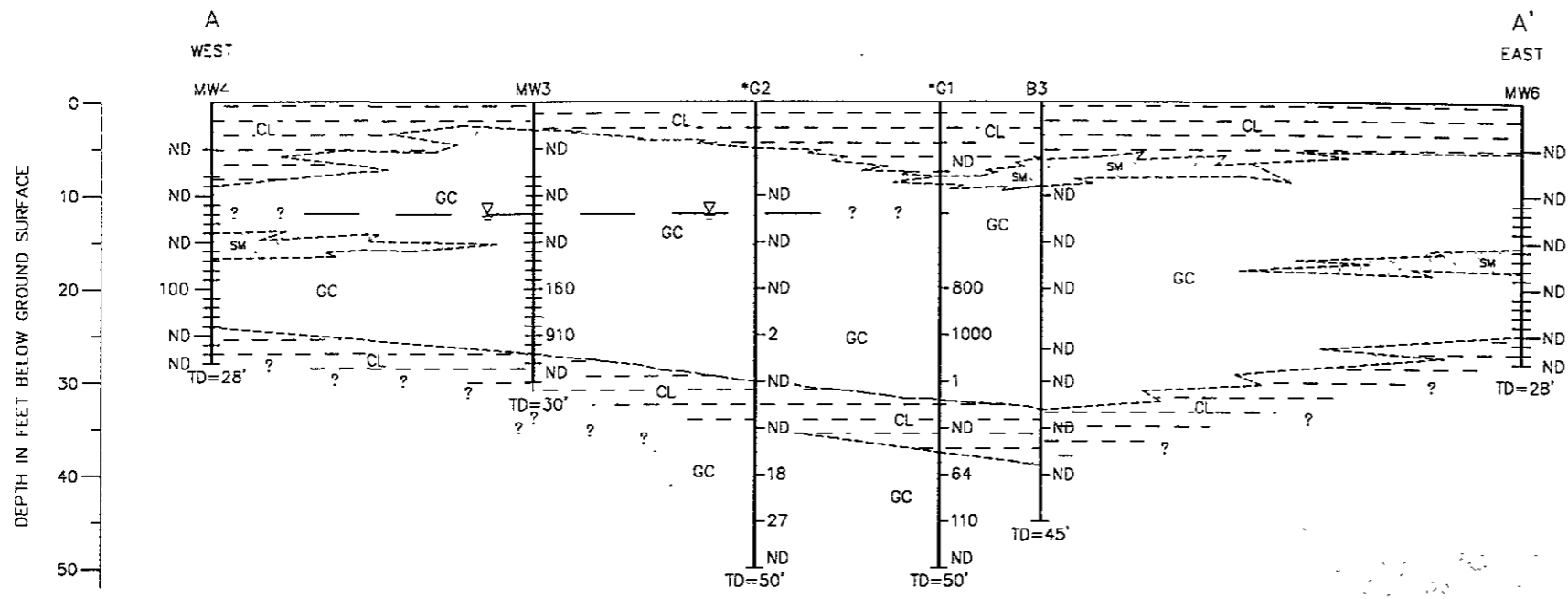
1 OF 1

SUBSURFACE SOIL SSTL VALUES (> 3.3 FT BGS)		Target Risk (Class A & B): 1.0E-6	<input type="checkbox"/> MCL exposure limit?	Calculation Option: 1							
		Target Risk (Class C): 1.0E-5	<input type="checkbox"/> PEL exposure limit?								
Target Hazard Quotient: 1.0E+0											
SSTL Results For Complete Exposure Pathways ("X" if Complete)											
CONSTITUENT'S OF CONCERN	Representative Concentration	Soil Leaching to Groundwater			Soil Volatilization to Indoor Air		Soil Volatilization to Outdoor Air		Applicable SSTL (mg/kg)	SSTL Exceeded?	Required CPF
		Residential (on-site)	Commercial (on-site)	Regulatory (MCL) (on-site)	Residential (on-site)	Commercial (on-site)	Residential (on-site)	Commercial (on-site)			
CAS No.	Name	(mg/kg)								"Yes" if yes	Only if "yes" left
0-00-0	Benzene-CA	3.0E-2	NA	NA	NA	2.3E-2	NA	NA	2.3E-2	<input checked="" type="checkbox"/>	1.0E+00
100-41-4	Ethylbenzene	4.5E-2	NA	NA	NA	>Res	NA	NA	>Res	<input type="checkbox"/>	<1
1634-04-4	Methyl t-Butyl Ether	3.0E-1	NA	NA	NA	7.0E+2	NA	NA	7.0E+2	<input type="checkbox"/>	>1
106-98-3	Toluene	4.6E-2	NA	NA	NA	9.3E+1	NA	NA	9.3E+1	<input type="checkbox"/>	<1
1330-20-7	Xylene (mixed isomers)	6.0E-2	NA	NA	NA	>Res	NA	NA	>Res	<input type="checkbox"/>	<1

>Res indicates risk-based target concentration greater than constituent residual saturation value

Table 13

SENT BY: Xerox Telecopier 7021 : 2-16-99 : 5:00PM : 60378203914 PEG-San Jose: # 3



LEGEND

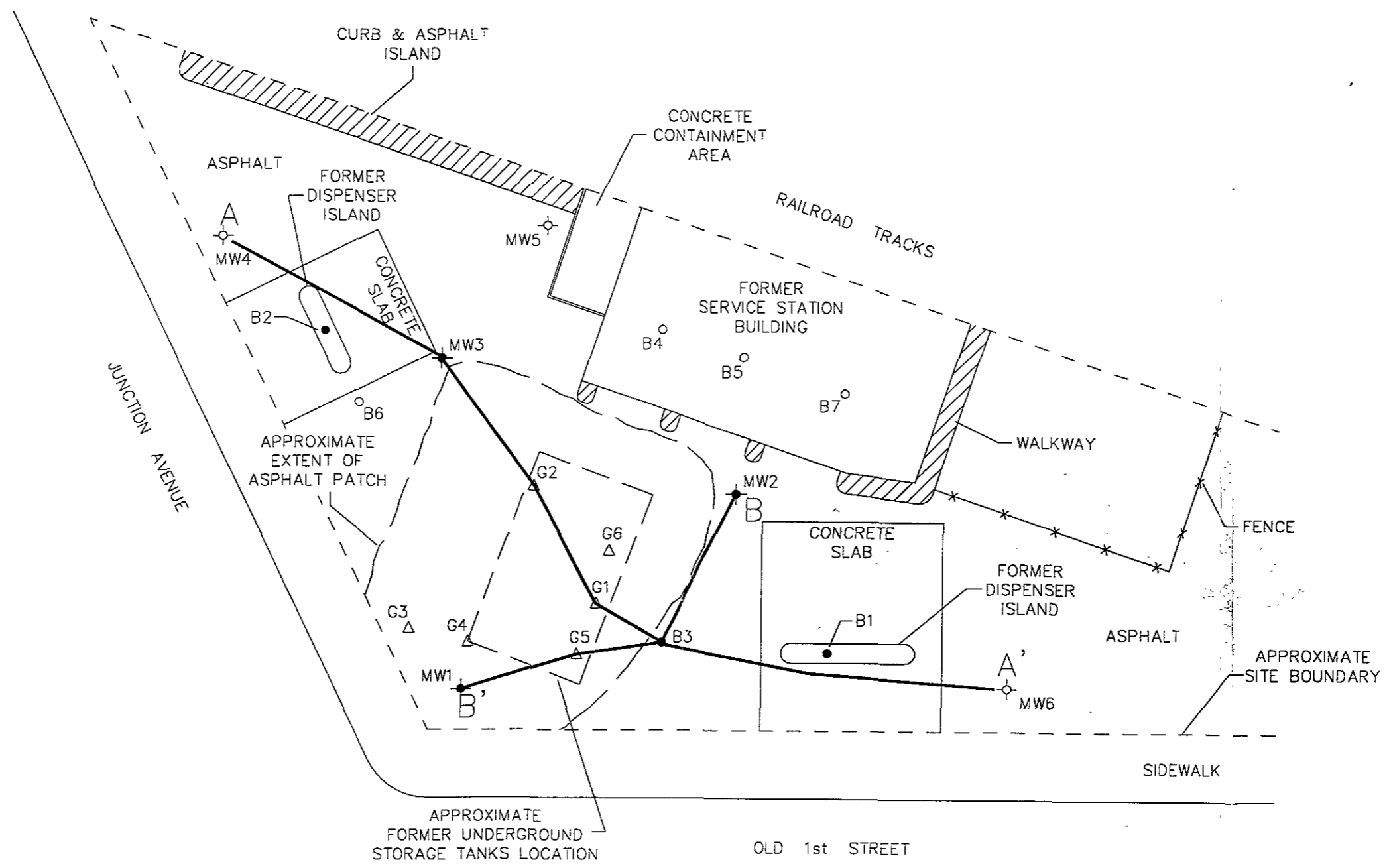
- GW FINE TO COARSE GRAVEL WITH 15 TO 45 PERCENT SILT AND/OR CLAY, AND UP TO 15 PERCENT FINE TO COARSE SAND
- GC FINE TO COARSE GRAVEL WITH SOME CLAY AND SILT
- SM FINE SAND WITH 15 TO 45 PERCENT CLAY AND/OR SILT
- CL SILTY CLAY/CLAYEY SILT
- INFERRED LITHOLOGIC CONTACT QUERIED WHERE UNKNOWN
- BOREHOLE PREVIOUSLY DRILLED AT THE SITE LITHOLOGIC DATA NOT USED FOR CROSS-SECTION
- ▽ GROUND-WATER TABLE MEASURED ON 04/28/95
- TH-8 TOTAL PETROLEUM HYDROCARBON AS GASOLINE (TPH-C) CONCENTRATIONS IN MILLIGRAMS PER KILOGRAMS (mg/kg)
- ND= NOT DETECTED
- TD= TOTAL DEPTH DRILLED IN FEET BELOW GROUND SURFACE
- SCREEN INTERVAL FOR GROUND WATER MONITORING WELLS

20
10
VERTICAL & HORIZONTAL SCALE IN FEET
10 20

GeoResearch

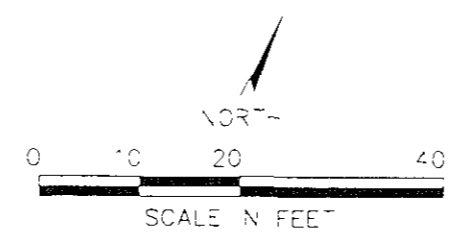
CROSS-SECTIONS A-A' AND B-B'
FORMER TEXACO SERVICE STATION
2730 OLD 1ST STREET
LIVERMORE, CALIFORNIA
PROJECT NUMBER 9580702600


DATE 05/23/95	CKD BY	FIGURE NO 16
FILE NO. H00400-3		DRAWN BY SNASH



LEGEND

- G5 Δ SOL. BORING DRILLED BY PREVIOUS CONSULTANT
- B1 \bullet SOL. BORING LOCATION INSTALLED BY GEORESEARCH, 1995
- MW2 \bullet MONITORING WELL LOCATION AND DESIGNATION INSTALLED BY GEORESEARCH, 1995
- B6 \circ SOL. BORING LOCATION INSTALLED BY GEORESEARCH, 1995
- MW4 \circ MONITORING WELL LOCATION AND DESIGNATION INSTALLED BY GEORESEARCH, 1995
- A-A' LINE OF SECTION

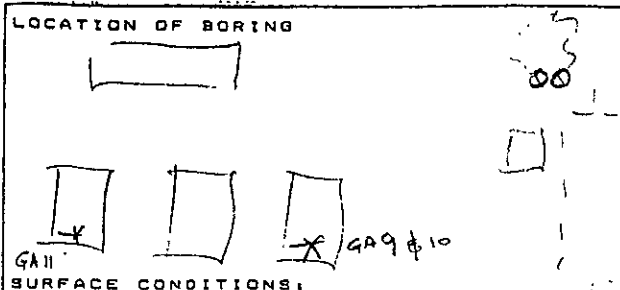


 GeoResearch		
SITE PLOT PLAN FORMER TEXACO SERVICE STATION 2730 OLD 1st STREET LIVERMORE, CALIFORNIA PROJECT NUMBER 9580702600		
DATE	05/23/95	CAD BY
FILE NO	H00400-2	DRAWN BY: S NASH
		FIGURE NO: 25

FIELD LOG

HW988

SHEET OF

LOCATION OF BORING 			PROJECT NO. & PROJECT NAME		PROJECT LOCATION
SURFACE CONDITIONS: GA11 GA9 & 10			CLIENT		DRILL HOLE NO.
			DRILLING CO./FOREMAN		DRILLING DATE/TIME START END
WATER LEVEL DATE TIME GEOLOGIST			DRILLING METHOD/RIG MODEL		ELEVATION - DATUM - TOTAL DEPTH -
			SAMPLING METHOD(S)		SEC - TOWNSHP - RANGE
			GEOPHYS. LOGS:		

LABORATORY	NO. SAMPLES	C-O-C NO.	C-O-C RELEASE DATE/TIME	OTHER
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DEPTH FEET	SAMPLE TYPE & NUMBER	SPT	USCS	CLASS	NAME	DENSE	COLOR	MOIST	DESCRIPTION AND REMARKS
5	GA-9	3							Backfill Material
10		4							
15	GA-10 TD-20	26			GW	V. Dense	Med Brn Gy	Moist	clayey - sandy gravel
20		30							
25		30							
30	GA11 TD	4			GW	V. Dense	Med Brn Gy	Moist Dry	Clayey Gravel
35		8							
40		34							

GeoResearch

FIELD LOG OF BORING

BORING/WELL I.D. B6
SHEET 1 OF 2

PROJECT NAME TEXACO: LIVERMORE		PROJECT NUMBER 9580702600	ELEVATION AND DATUM	REFERENCE
DRILLING COMPANY PRECISION SAMPLING		DRILLER MIKE	DATE & TIME STARTED 4/28/95 10:00 AM	DATE & TIME COMPLETED 4/28/95 12:30 PM
DRILLING EQUIPMENT METHOD XD-1 SAMPLING RIG	DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> SLANT _____ DEG. FROM VERT		TOTAL DEPTH OF BORING 28 FT BGS.	
SIZE AND TYPE OF BIT ENVIROCORE 2" STEEL DRIVE PIPE		TOTAL NO. OF SAMPLES 6	BULK	SS 6
DRILLING FLUID NONE		WATER LEVEL	FIRST	AFTER HOURS
SAMPLER CONTINUOUS CORE TYPE _____ DRIVING WT. _____ DROP _____		HYDROGEOLOGIST/DATE MICHAEL GUY 4/28/95		CHECKED BY/DATE WARREN GROSS 5/22/95

DEPTH (FEET)	WELL CONST		OVA (PPM)	SAMPLES			GRAPH. LOG	SOIL CLASS (USCS)	DESCRIPTION OF MATERIALS	REMARKS
	CSG	FILL		NO.	TYPE	BLOWS /6"				
0			0	B6-5			AF ML	ARTIFICIAL FILL, asphalt. SILT, dark yellowish brown, stiff, slightly moist, minor clay, trace fine gravel.		
5									No hydrocarbon odor noted.	
10			0	B6-10			GC	CLAYEY GRAVEL, moderate yellowish brown, fine, moist, medium-dense, some clay, fine to coarse sand, trace coarse gravel and silt.		
15			6	B6-15					Becomes wet at 14 ft bgs.	
20			10	B6-20					Slight hydrocarbon	
25			2	B6-25			ML	CLAYEY SILT, moderate yellowish brown, stiff, wet, medium plasticity.		

BORING LOG

Boring No. 96-1102.R1	Boring Diameter 2"	Logged By <i>JGG</i>
	Casing Diameter N/A	D.L. <i>CEG/633</i>
Project Name Former Texaco S/S ,730 Old First Street, Livermore	Well Cover Elevation N/A	Date Drilled 12/11/96
Boring No. B8	Drilling Method Geo Probe Macrocore	Drilling Company Gregg Drilling

Penetration blows/6"	G.W. level	O.V.M. (ppm)	Depth (feet) Samples	Stratigraphy USCS	Description
			0		A.C.pavement over sand and gravel base.
			5	ML	Silt, estimated at 10-15% clay and 10-15% sand and gravel, gravel to 2 inches in diameter, stiff, moist, very dark grayish brown.
		0.0	5	GC	Clayey gravel with sand, estimated at 15% clay, gravel to greater than 2 inches in diameter, dense, moist, brown.
		0.0	10	GW-GM	Well graded gravel with silt and sand, gravel to greater than 2 inches in diameter, very dense, dry to slightly moist, brown.
	▽	0.0	15	GM	Silty gravel with sand, estimated at 15-20% silt and trace clay, gravel to greater than 2 inches in diameter, very dense, slightly moist grading to wet, brown, some gravel is decomposed.
					TOTAL DEPTH: 17'
			20		

BORING LOG

Project No. EI-J96-1102.R1	Boring Diameter 2"	Logged By <i>JGG</i>
	Casing Diameter N/A	D.L. <i>LEG 1633</i>
Project Name Former Texaco S/S 2730 Old First Street, Livermore	Well Cover Elevation N/A	Date Drilled 12/11/96
Boring No. B9	Drilling Method Geo Probe Macrocore	Drilling Company Gregg Drilling

Penetration blows/6"	G.W. level	O.V.M. (ppm)	Depth (feet) Samples	Stratigraphy USCS	Description
			0		A.C.pavement over sand and gravel base.
			5	ML	Silt, estimated at 10-20% clay and 10-15% sand and gravel, gravel to 2 inches in diameter, stiff to very stiff, moist, very dark grayish brown.
		0.0	5	GM	Silty gravel with sand, estimated at 15-25% silt, trace clay, dense to very dense, moist, dark brown.
			10	GW- GM	Well graded gravel with silt and sand, estimated at 5-15% silt, gravel to greater than 2 inches in diameter, very dense, dry to moist, brown, some gravel is decomposed.
			12	SM	Silty sand, estimated at 20-30% silt, trace clay, sand is predominantly fine to coarse-grained, medium dense, moist, dark yellowish brown.
	▽		15	GW- GM	Well graded gravel with silt and sand, estimated at 5-15% silt, trace clay, gravel to greater than 2 inches in diameter, very dense, slightly moist to wet, olive brown to brown, locally grades to silty gravel with sand.
					TOTAL DEPTH: 16'
			20		

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FIELD LOG OF BORING

BORING/WELL I.D. MW4
SHEET 1 OF 2

PROJECT NAME TEXACO: LIVERMORE		PROJECT NUMBER 9580702600	ELEVATION AND DATUM	REFERENCE
DRILLING COMPANY PRECISION SAMPLING		DRILLER MIKE	DATE & TIME STARTED 3/21/95 11:00 AM	DATE & TIME COMPLETED 3/21/95 1:00 PM
DRILLING EQUIPMENT METHOD XD-1 SAMPLING RIG	DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> SLANT _____ DEG. FROM VERT		TOTAL DEPTH OF BORING 31 FT BGS	
SIZE AND TYPE OF BIT ENVIROCORE 2" STEEL DRIVE PIPE		TOTAL NO. OF SAMPLES 6	BULK	SS 6
DRILLING FLUID NONE		WATER LEVEL	FIRST	AFTER HOURS
SAMPLER CONTINUOUS CORE TYPE DRIVING WT. DROP		HYDROGEOLOGIST/DATE MICHAEL GUY 3/21/95		CHECKED BY/DATE WARREN GROSS 5/22/95

DEPTH (FEET)	WELL		OVA (PPM)	SAMPLES			GRAPH. LOG	SOIL CLASS (USCS)	DESCRIPTION OF MATERIALS	REMARKS
	CONST	FILL		NO.	TYPE	BLOWS /6"				
0							AF ML	ARTIFICIAL FILL, asphalt.		
5			0	MW4-5	NA			SILT, dark yellowish brown, moist, stiff, low plasticity, clay, low plasticity, some clay, low minor fine to coarse gravel, trace coarse sand.		
6								Grade to clayey silt, some fine to coarse gravel and minor fine to coarse sand between 6 and 7 ft bgs.		
10			0	MW4-10	NA		GW	GRAVEL, moderate yellowish brown, fine to medium, moist, medium-dense some fine sand and clay, trace coarse sand and coarse gravel.		
13							SC	SAND, dark yellowish orange, fine to coarse, moist, medium-dense, some clay, trace fine to medium gravel. Becomes wet at 13 ft bgs and grades to some gravel at 14 ft bgs.		
15			3	MW4-15	NA		GW	SANDY GRAVEL, dark yellowish orange fine to coarse, wet, medium dense trace silt and coarse sand.		
17.5								Grades to greyish olive at 17.5 ft.		
20			48	MW4-20	NA		CL	SILTY CLAY, moderate yellowish brown, stiff, wet, med plasticity.		
20							GW	SANDY GRAVEL, greyish olive and slight hydrocarbon odor noted between 20 to 24 ft bgs.		
60			60	MW4-25	NA		ML	CLAYEY SILT, moderate yellowish brown, stiff, wet, low plasticity.		

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FIELD LOG OF BORING

BORING/WELL I.D. MW4
 SHEET 2 OF 2

PROJECT NAME TEXACO: LIVERMORE	PROJECT NUMBER 9580702600	HYDROGEOLOGIST MICHAEL GUY 3/21/95	CHECKED BY/DATE WARREN GROSS 5/22/95
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DEPTH (FEET)	WELL		OVA (PPM)	SAMPLES			GRAPH. LOG	SOIL CLASS (USCS) ML	DESCRIPTION OF MATERIALS	REMARKS
	CONST CSG	FILL		NO.	TYPE	BLOWS /6"				
30			<1	MW4-30		NA			Boring terminated at 31 ft bgs.	

PROJECT NAME TEXACO: LIVERMORE		PROJECT NUMBER 9580702600	ELEVATION AND DATUM	REFERENCE
DRILLING COMPANY PRECISION SAMPLING		DRILLER MIKE	DATE & TIME STARTED 3/21/95 1:30 PM	DATE & TIME COMPLETED 3/21/95 4:00 PM
DRILLING EQUIPMENT METHOD XD-1 SAMPLING RIG	DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> SLANT _____ DEG. FROM VERT		TOTAL DEPTH OF BORING 28 FT BGS.	
SIZE AND TYPE OF BIT ENVIROCORE 2" STEEL DRIVE PIPE		TOTAL NO. OF SAMPLES 6	BULK	SS
DRILLING FLUID NONE		WATER LEVEL	FIRST	AFTER HOURS
SAMPLER CONTINUOUS CORE TYPE DRIVING WT. DROP		HYDROGEOLOGIST/DATE MICHAEL GUY 3/21/95		CHECKED BY/DATE WARREN GROSS 5/22/95

DEPTH (FEET)	WELL		OVA (PPM)	SAMPLES			GRAPH. LOG	SOIL CLASS (USCS)	DESCRIPTION OF MATERIALS	REMARKS
	CONST	FILL		NO.	TYPE	BLOWS /6"				
0							AF ML	ARTIFICIAL FILL, asphalt. SILT, dark yellowish brown, moist, stiff, low plasticity, some clay, trace fine to medium gravel and coarse sand.		
5			0	MW5-5	█	NA		Grades to olive grey. No hydrocarbon odor noted in the soil samples collected.		
10			0	MW5-10	█	NA	GW	GRAVEL, moderate yellowish brown, fine to medium, moist, medium-dense some silt and clay, minor fine to coarse sand.		
15			2	MW5-15	█	NA	ML GW	SILT, moderate yellowish brown, moist, stiff, low plasticity. GRAVEL, moderate yellowish brown, fine to medium, moist, medium-dense some clay, minor fine to coarse sand.		
20			3	MW5-20	█	NA		Becomes wet at 13 ft bgs.		
25			0	MW5-25	█	NA	ML	CLAYEY SILT, moderate yellowish brown, stiff, wet, low plasticity.		

FIELD LOG OF BORING

BORING/WELL I.D. MW5
 SHEET 2 OF 2

PROJECT NAME TEXACO: LIVERMORE	PROJECT NUMBER 9580702600	HYDROGEOLOGIST MICHAEL GUY 3/21/95	CHECKED BY/DATE WARREN GROSS 5/22/95
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DEPTH (FEET)	WELL CONST		OVA (PPM)	SAMPLES			GRAPH. LOG	SOIL CLASS (USCS)	DESCRIPTION OF MATERIALS	REMARKS
	CSG	FILL		NO.	TYPE	BLOWS /6"				
30			0	MW5-28	NA		ML	Boring terminated at 28 ft bgs.		

FIELD LOG OF BORING

 BORING/WELL I.D. MW6
 SHEET 1 OF 2

PROJECT NAME TEXACO: LIVERMORE		PROJECT NUMBER 9580702600	ELEVATION AND DATUM	REFERENCE
DRILLING COMPANY PRECISION SAMPLING		DRILLER MIKE	DATE & TIME STARTED 4/28/95 8:10 AM	DATE & TIME COMPLETED 4/28/95 9:45 AM
DRILLING EQUIPMENT METHOD XD-1 SAMPLING RIG	DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> SLANT _____ DEG. FROM VERT		TOTAL DEPTH OF BORING 31 FT BGS	
SIZE AND TYPE OF BIT ENVIROCORE 2" STEEL DRIVE PIPE		TOTAL NO. OF SAMPLES 5	BULK	SS OTHER 5
DRILLING FLUID NONE		WATER LEVEL	FIRST	AFTER HOURS
SAMPLER CONTINUOUS CORE TYPE DRIVING WT. DROP		HYDROGEOLOGIST/DATE MICHAEL GUY 4/28/95		CHECKED BY/DATE WARREN GROSS 5/22/95

DEPTH (FEET)	WELL		OVA (PPM)	SAMPLES			GRAPH. LOG	SOIL CLASS (USCS)	DESCRIPTION OF MATERIALS	REMARKS
	CONST	FILL		NO.	TYPE	BLOWS /6"				
0								AF ML	ARTIFICIAL FILL, asphalt SILT, dark yellowish brown, stiff, slightly moist, minor clay and fine sand.	
5			<1	MW6-5						
10			10	MW6-10				GM	SILTY GRAVEL, moderate yellowish brown, fine, medium dense, moist, some clay, minor fine to coarse sand. Minor to some clay between 11 and 17 ft bgs. Grades to fine sandy gravel, medium to fine, wet, some to minor clay at 11 ft bgs.	
15			3	MW6-15				SC	CLAYEY SAND, moderate yellowish brown, medium to coarse, wet, medium dense, minor fine gravel. 10% recovery 19-22 ft bgs.	
20								GC	CLAYEY GRAVEL, moderate yellowish brown, fine, medium dense, wet, some to minor fine to coarse sand, trace medium gravel.	
25			2	MW6-25				ML	CLAYEY SILT, moderate yellowish brown, stiff, wet, medium plasticity.	

