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

February 1, 1999
StID # 607

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

REMEDIAL ACTION COMPLETION CERTIFICATION

Mr. Clifford Mapes
14 Grass Valley Ct.
Oakland CA 94605

Chevron USA Products Co.
Mr. Phil Briggs
6001 Bollinger Canyon Rd.,Bld L
San Ramon, CA 94583

King Petroleum c/o
John & Molly King
P.O. Box 137
Woodacre, CA 94973

Exxon Co. c/o
Ms. Marla Guensler
P.O. Box 4032
Concord, CA 94524

RE: Fuel Leak Site Case Closure, 2001 Versailles Ave., Alameda, CA 94501

Dear Ladies and Gentlemen:

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. These documents confirm 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:

- 890 parts per billion (ppb) Total Petroleum Hydrocarbons (TPH)as diesel remain in groundwater at the site.
- 8200 parts per million (ppm) Total Petroleum Hydrocarbons (TPH)as gasoline, 6100 ppm TPH as diesel, 7200 ppm Oil and Grease and 2.9, 5.5, 14, 63 ppm benzene, toluene, ethyl benzene and xylenes, respectively,remain in soil at the site.

Please contact me at (510) 567-6765 if you have any questions.

Sincerely,

Barney M Chan

Barney M. Chan
Hazardous Materials Specialist

enclosures: Case Closure Letter, Case Closure Summary

c: Capt. S. McKinley, Alameda Fire Dept., 1300 Park St., Alameda CA, 94501
B. Chan, files (letter only)

TrLt2001Versailles

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

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

January 29,1999
StID # 607

REMEDIAL ACTION COMPLETION CERTIFICATION

Mr. Clifford Mapes
14 Grass Valley Ct.
Oakland CA 94605

Chevron USA Products Co.
Mr. Phil Briggs
6001 Bollinger Canyon Rd.,Bld L
San Ramon, CA 94583

King Petroleum c/o
John & Molly King
P.O. Box 137
Woodacre, CA 94973

Exxon Co. c/o
Ms. Marla Guensler
P.O. Box 4032
Concord, CA 94524

RE: King Petroleum/Clifford Mapes Property, 2001 Versailles Ave. Alameda, CA 94501

Dear Ladies and Gentlemen:

This letter confirms the completion of site investigation and remedial action for the eleven (11) underground tanks; five gasoline, one diesel, two waste oil, two spill tanks and one holding tank of various sizes. 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 upon the available information and with provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground tank releases is required.

This notice is issued pursuant to a regulation contained in Title 23, Division 3, Chapter 16, Section 2721 (e) of the California Code of Regulations.

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
Chuck Headlee, RWQCB
Mr. Dave Deaner, SWRCB Cleanup Fund
Capt. S. McKinley, 1300 Park St., Alameda, CA 94501

RACC2001Versailles

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION Date: March 20, 1998

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.**

II. CASE INFORMATION

Site facility name:King Petroleum/Clifford Mapes Property

Site facility address: 2001 Versailles Ave., Alameda CA 94501

RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: 607

ULR filing date: 4/10/91 from Leak Book SWEEPS No: **N/A**

Responsible Parties:	Addresses:	Phone Numbers:
1. Mr. Clifford Mapes	14 Grass Valley Ct. Oakland CA 94605	
2. Chevron USA Products Co. c/o Mr. Phil Briggs	6001 Bollinger Canyon Rd. Bld L, San Ramon, CA 94583	510/842-9136
3. King Petroleum c/o John & Molly King	P.O. Box 137 Woodacre, CA 94973	
4. Exxon Co. c/o Ms. Marla Guensler	P.O. Box 4032 Concord, CA 94524-2032	

Tank No:	Size in gal.:	Contents:	Closed in-place or removed?:	Date:
1	2-10k	gasoline	removed	1982
2	1-1k	gasoline	"	"
3	2-8k	gasoline	"	"
4	1-8k	diesel	"	"
5	1-8k, 1-800gal	spill tank	"	"
6	2-250	waste oil		

III RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: unknown

Leaking Underground Fuel Storage Tank Program

III RELEASE AND SITE CHARACTERIZATION INFORMATION (cont)

Site characterization complete? Yes

Date approved by oversight agency:

Monitoring Wells installed? Yes Number: 12

Proper screened interval? Yes, based upon first encountered groundwater level. Groundwater appears partially confined.

Highest GW depth: 3.3' bgs Lowest depth: 9.1' bgs

Flow direction: north-northeasterly

Most sensitive current use: residential

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

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment of Disposal w/destination)	Date
Tanks	10 @ USTs	disposed by Exxon unknown location	1982

No tank closure report exists for the removal of the USTs, soil, piping run etc. performed by Exxon in 1982

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm)		Water (ppb)	
	1Before	After	Before	After
TPH (Gas)	8200	8200		ND
TPH (Diesel)	6100	6100		890
Benzene	2.9	2.9		ND
Toluene	5.5	5.5		ND
Ethylbenzene	14	14		ND
Xylenes	63	63		ND
MTBE				ND
Oil and Grease	7200	7200		ND

Priority Pollutant Metals- (13) all either ND or at background levels
Semi-volatiles- detected in a few soil samples at concentrations<PRGsoil Residential.

Comments (Depth of Remediation, etc.):
1 results from 8/90 soil samples taken by Kleinfelder

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. A site health and safety plan will be required for any subsurface work.

Should corrective action be reviewed if land use changes? Yes

Monitoring wells Decommisioned: Yes

Number Decommisioned: 6 Number Retained: 6

List enforcement actions taken: none

List enforcement actions rescinded: NA

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Barney M. Chan Title: Hazardous Materials Specialist

Signature: Date:

Reviewed by

Name: Tom Peacock Title: Manager

Signature: Date:

Name: Eva Chu Title: Hazardous Materials Specialist

Signature: Date:

VI. RWQCB NOTIFICATION

Date Submitted to RB: RB Response:

RWQCB Staff Name: C. Headlee Title: AEG Date:

VII. ADDITIONAL COMMENTS, DATA, ETC.

See attached site summary.

IP0,0,1016,1016;SC0,600,0,600;

Tim Horton

Teli-Deli

6363 Telegraph Avenue

Oakland, CA 94609

January 14, 1998

RE: Permits to operate at Teli-Deli at 6363 Telegraph Avenue, Oak

Dear Mr. Horton:

There are two issues that this letter will address. The first iss
required - one to operate the liquor store, and another to operat
two separate business owners, *two separate* health permits to oper

Reportedly, six aboveground storage tanks were installed; 1-19,500 gallon gasoline, 1-19,500 gallon diesel, 1-34K gallon diesel, 2-44,500 gallon gasoline and 1-100,000 gallon fuel oil.

Site Summary for 2100 Versailles Ave., Alameda CA 94502
StID # 607

to the east & south.

This property is located on the corner of Versailles, Fernside and Tilden Avenues in Alameda. This is a triangular lot, approximately 1.25 acres, with residential homes immediately surrounding the site. To the west, across Tilden Way, lies a commercial shopping center. Approximately 400' north of the site lies the Oakland-Alameda estuary. See **Figure 1** for a site map.

Signal Oil (Standard Oil) built a petroleum bulk storage plant at this site in the 1930s.* Humble Oil (Exxon) reportedly bought the property from Standard Oil in 1967. In 1975, Exxon removed the aboveground gasoline and diesel tanks from the northeast corner of the property and installed the underground gasoline, ~~and~~ diesel and waste oil tanks in the southern ~~part~~ portion of the site. Potential sources of contamination have been identified as former underground and aboveground storage tanks, a drum storage area, a concrete wash area, a concrete sump and the manifold distribution lines.
In November, 1982, Exxon reportedly removed all the USTs from the site prior to selling the site to Mr. Richard King of King Petroleum. See **Figure 2.**

On **March 5, 1984,** a phase II soil and groundwater investigation was proposed and performed by Kennedy/Jenks Engineers (K/J) and Subsurface Consultants. Both environmental and geotechnical borings were advanced. Four borings were advanced. See **Plate 1.** Boring 1 was advanced in the area of former USTs, previously removed by Exxon Corporation in 1982. Boring 3 was advanced near the former aboveground tanks. ~~Both~~ soil samples and grab groundwater samples were taken from boring 1. A grab groundwater sample was also collected from an ~~apparent~~ irrigation well, just west of the site on a neighboring residential property. (Although not all samples were analyzed and not all chemicals of concern were analyzed.) ~~However~~, the preliminary results indicated that there had been a release of fuel which had impacted groundwater. The grab groundwater sample from boring 1 exhibited 29 ppb benzene. Though the soil samples were not run for petroleum contaminants, boring logs described petroleum odors in the borings. No organics were detected in the offsite well water sample. See **Tables 1 & 2.**

On **December 1984,** Exxon installed three monitoring wells at this site (W-1 through W-3). In addition, two additional shallow wells; SW-1 and SW-2, were installed adjacent to wells W-1 and W-3 in order to detect free product. Soil samples from W-1, W-2 and SW-2 and water samples from all five wells were analyzed for

BTEX and HVOCs. No contaminants were detected except for semi-volatiles in SW-2. The groundwater samples ~~were~~ analyzed ~~for~~ and exhibited ND for BTEX. The water sample from W-1 ~~was~~ also ~~analyzed and~~ exhibited ND for volatile and semi-volatile compounds. The 5.5' soil sample from SW-2 ~~did detect~~ exhibited some semi-volatiles. See Tables 3 & 4. It should be noted that the locations of the wells did not represent all the potential source areas.

June 4, 1985- A Harding Lawson report details the April 1985 investigation at this site where one additional monitoring well, W-4, and four shallow 5-5.5' borings (SB-1 through SB-4) were advanced. It appears that the logic was to install these shallow borings adjacent to the potential source areas; former USTs, former spill tank, concrete wash slab and aboveground fuel tanks. Well W-4 was installed along the northern property boundary in the downgradient direction of the former aboveground tanks. The five soil samples from the five borings were analyzed for volatiles and semi-volatiles by EPA Methods 8240 and 8250, respectively. Groundwater samples from wells W-3, W-4 and SW-2 were also analyzed for the same parameters. No compounds were detected in the water samples. Only methylene chloride and phthalate esters were detected in the soil samples. These compounds are common lab contaminants. See **Plate 3.**

In a **July 2, 1985** letter from Roger James, Executive Officer of the CRWQCB, site closure was recommended with the condition that the monitoring wells be properly abandoned. These six wells were subsequently abandoned.

In a **September 25,1989** Earthmetrics report for Mr. Clifford Mapes, a list of potential environmental areas were noted; a drum storage area, a concrete sump, a waste oil container, subsurface product lines and potential asbestos containing building materials. See Figure 3. bold

January 26, 1990- the property was sold ~~from~~ ~~King Petroleum~~ to the Mr. Clifford Mapes. Apparently $125,000 was held in escrow for anticipated ~~the~~ cleanup of the site.

November 5, 1990- Kleinfelder prepared a **Preliminary Remedial Investigation Report** for this site which gave the results of the excavation of ten (10) trenches excavated to 10' bgs. The location of these trenches were in potential source areas based upon past site usage. Results of soil analyses indicate that

hydrocarbon contamination (TPHg,TPHd and TPHo) was widespread across the site. Up to 8200 ppm TPHg, 6100 ppm TPHd, 1200 ppm TPHo and 2.9 ppm benzene was detected in ~~these~~ soil samples. The thirteen priority pollutant metals were analyzed. Only the soil sample from Trench 1, which exhibited 67 ppm total chromium, was potentially hazardous. Soil samples from Trenches 7, 8 and 10 were additionally analyzed for semi-volatiles. Trench 10 was the only sample which detected ~~these analytes~~ semivolatiles @ 740 ppb 2-methylnapthalene, 540 ppb flourene and 430 ppb phenanthrene. This report also identified a potential underground tank in Trench 1. A later investigation showed that this "tank" was only a small container (approximately 20 gallons) which ~~stuck up~~ protruded above ground. See analytical in **Tables 5,6,7** and trench locations in **Plate 4.**

December 1994- Chevron met with Alameda County and the RWQCB in an attempt to determine what additional work would be necessary and Chevron to obtain site closure. An apparent agreement ~~with~~ between Mr. Mapes had been made to share site mitigation costs.

May 1994- Entrix advanced borings GW-2,3,5,6,7& 8 and converted these borings into monitoring wells MW-1 through MW-6. Our ~~office~~ file requested but is still missing the formal MW installation report. See **Figure 4.** for the new locations.

~~An April 20, 1995 cover letter from~~ Chevron provided a March 13, 1995 Touchstone Developments work plan to further characterize the site given the results of the 1990 Kleinfelder report. Nine borings were proposed in areas near those trenches which had previously detected TPH contamination. Two soil samples were to be collected from each boring. One would be in the shallow zone, surface to four feet, and the other would be at the soil/water interface. [bold]

August 16, 1995- The Touchstone report gives the results of It appears the June 29, 1995 exploratory boring investigation. Soil results indicated that the extent of soil contamination is limited. Benzene at 1.1 ppm was found only once in soil boring SB-6 @ 5' depth. ~~Either~~ The TPH contamination previously identified had biodegraded or the limits of contamination was localized, probably both. See **Figure 5 and Table A.**

October 24, 1995 letter from Chevron stated that they would meet the conservative cleanup levels discussed in the December 1994 meeting with our office and the Water Board. The cleanup goals were the Region IX PRG values. Limited excavation was proposed in the October 6, 1995 Touchstone Development report.

Site Summary for 2100 Versailles Ave., Alameda CA 94502
StID # 607

December 21, 1995- The scheduled removal of the 1000 gallon underground tank at this site was canceled when the tank turned out to be a 20 gallon container protruding aboveground.

A November 16,1995 letter from Chevron proposed to delay any overexcavation until site development occurred. It also stated that the soil contamination had not impacted groundwater.

Our office requested a Baseline Human Health Risk Assessment in a February 1996 letter, in accordance with the LLNL report.

Groundwater monitoring was restarted on 8/95 and continued until 6/97. A total of seven monitoring events took place. The sampling results show ND for TPHg, BTEX and MTBE. Only TPH in the diesel range (100-700ppb) is being found in the wells. See **Table B** for analytical results.

Chevron submitted a June 13, 1996 Touchstone Developments **Corrective Action Evaluation RBCA Tier 1.** This report examined all previous soil and groundwater data, evaluated potential complete exposure pathways and compared the highest contaminant values against the RBSL values. In general, groundwater contamination was not considered a problem since there is little impact to groundwater and groundwater is not being used as drinking water at the site. However, specific soil samples exhibited benzene concentrations in exceedence of the RBSL. This RBCA identified the key soil pathway as soil leaching to groundwater, which assumes that groundwater is a potable source. This is not the case here. The most realistic complete exposure pathway is soil vapor migration into indoor air, since residential housing is planned for this site. In this case, two soil samples, 47715 and SB-6 in areas four and five, respectively exceed a risk of 1E10-4. Actually, two other soil samples, 47708 and 47699 also exceed the RBSL but these samples are beneath the current groundwater elevation and should not be considered a complete pathway.

Chevron proposed to excavate the contaminated areas (4 and 6) to a depth of 1' below groundwater when this site is developed.

An addendum to the initial RBCA was prepared which compared the average benzene concentrations in the six potential source areas against SSTL values. Both 1E-4 and 1E-6 SSTLs were provided. This RBCA was reviewed by M. Logan of ACEH. She requested that the consultant tabulate the data and use the exposure pathway, residential to indoor air and 1E-5 risk. She also requested that

they compare the discrete soil depth where benzene was identified with the depth to water. Upon review of the submitted information, it was concluded that there was no risk in exceedance of 1E-5 risk.

In October 1997, Chevron submitted a Risk Management Plan (RMP) to limit any future exposure during development or any subsurface work. Alameda County Enviromental Health and the City of Alameda Building Department shall keep copies of the RMP and be notified if any health or environmental hazardous conditions occur in the future.

This site is recommended for closure based upon:

1. The underground storage tanks have been removed.

2. The site has been adequately characterized with extensive soil borings, trenches and monitoring wells.

3. Long term monitoring indicates that groundwater contaminant levels have decreased and have stabilized.

4. A risk assessment indicates that no anticipated threat to human health or the environment exists. Groundwater is not used as a drinking water source in this area. A nearby irrigation well has been tested and is not impacted by TPH.

✓ Fig 1 (site map)

✓ Fig 2 (map - USTs)

✓ Plate 1 (3/94 borings)

✓ Tables 1 + 2 (3/94 analytical)

✓ ~~Fig 3~~ Plate 2 (MW's 101 - 203)

✓ Tables 3 + 4 (2/84 analytical)

✓ Plate 3 6/4/85

✓ Fig 4 - 9/25/89 Isothickness map

✓ Tables 5 & 7 Analytical 11/5/90

✓ Plate 4 - Facility location map

✓ Fig 5 - May 1994 GW - 2, 3, 5, 6, 7, 8

✓ Fig 6 - 8/15/94 Trichloroethene exposure map

✓ Table 8 Risk results

✓ Table 8 + Fig 7 D.O.F soil splits

RWQCB # 01-0864

CALIFORNIA REGIONAL WATER

SEP 2 8 1998

QUALITY CONTROL BOARD

CT1K

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION **Date:** July 14, 1998

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.**

II. CASE INFORMATION

Site facility name: King Petroleum/Clifford Mapes Property

Site facility address: 2001 Versailles Ave., Alameda CA 94501

RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: 607

ULR filing date: 4/10/91 from Leak Book SWEEPS No: **N/A**

Responsible Parties:	Addresses:	Phone Numbers:
1. Mr. Clifford Mapes	14 Grass Valley Ct. Oakland CA 94605	510/482-5038
2. Chevron USA Products Co. c/o Mr. Phil Briggs	6001 Bollinger Canyon Rd. Bld L, San Ramon, CA 94583	510/842-9136
3. King Petroleum c/o John & Molly King	P.O. Box 137 Woodacre, CA 94973	
4. Exxon Co. c/o Ms. Marla Guensler	P.O. Box 4032 Concord, CA 94524-2032	925/246-8776

Tank No:	Size in gal.:	Contents:	Closed in-place or removed?:	Date:
	2-10k	gasoline	removed	1982
	1-1k	gasoline	"	"
	2-8k	gasoline	"	"
	1-8k	diesel	"	"
	1-8k, 1-800gal	spill tanks	"	"
	2-250	waste oil	"	"
	1-250	holding tank	"	"

III RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: unknown

Leaking Underground Fuel Storage Tank Program

III RELEASE AND SITE CHARACTERIZATION INFORMATION (cont)

Site characterization complete? Yes

Date approved by oversight agency:

Monitoring Wells installed? Yes Number: 12

Proper screened interval? Yes, based upon first encountered groundwater level. Groundwater appears partially confined.

Highest GW depth: 3.3' bgs Lowest depth: 9.1' bgs

Flow direction: north-northeasterly

Most sensitive current use: neighboring properties are residential

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

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment of Disposal w/destination)	Date
Tanks	11 USTs	disposed by Exxon unknown location	1982

No tank closure report exists for the removal of the USTs, soil, piping run et.al. performed by Exxon in 1982

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm)		Water (ppb)	
	1Before	After	Before	After2
TPH (Gas)	8200	8200		ND
TPH (Diesel)	6100	6100		890
Benzene	2.9	2.9		ND
Toluene	5.5	5.5		ND
Ethylbenzene	14	14		ND
Xylenes	63	63		ND
MTBE				ND
Oil and Grease	7200	7200		ND

Priority Pollutant Metals- (13) all either ND or at background levels
Semi-volatiles- found in boring 47704, flourene @ 540 ppb, 2-methyl-napthalene @ 740 ppb and phenanthrene @ 430 ppb <PRGsoil Residential.

Comments (Depth of Remediation, etc.):
1 results from 8/90 soil samples taken by Kleinfelder
2 results from most recent 6/97 monitoring of existing wells

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. A site health and safety plan will be required for any subsurface work.

Should corrective action be reviewed if land use changes? Yes

Monitoring wells Decommisioned: Yes

Number Decommisioned: 6 Number Retained: 6

List enforcement actions taken: none

List enforcement actions rescinded: NA

Leaking Underground Fuel Storage Tank Program

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Barney M. Chan Title: Hazardous Materials Specialist

Signature: Barney M Chan Date: 9/15/98

Reviewed by

Name: Tom Peacock Title: Manager

Signature: Tom Peacock Date: 9-14-98

Name: Eva Chu Title: Hazardous Materials Specialist

Signature: Eva Chu Date: 7/1/98

VI. RWQCB NOTIFICATION

Date Submitted to RB: RB Response: Chuck Headlee

RWQCB Staff Name: C. Headlee Title: EG Date: 9/28/98

VII. ADDITIONAL COMMENTS, DATA, ETC.

See attached site summary.

Site Summary for 2100 Versailles Ave., Alameda CA 94502
StID # 607

This property is located on the corner of Versailles, Fernside and Tilden Avenues in Alameda. This is a triangular lot, approximately 1.25 acres, with residential homes immediately surrounding the site to the east and south. To the west, across Tilden Way, lies a commercial shopping center. Approximately 400' north of the site lies the Oakland-Alameda estuary. See **Figure 1** for a site map.

Signal Oil (Standard Oil) built a petroleum bulk storage plant at this site in the 1930s. Reportedly, six aboveground storage tanks were installed; 1-19,500 gallon gasoline, 1-19,500 gallon diesel, 1-34k gallon diesel, 2-44,500 gallon gasoline and 1-100,000 gallon fuel oil. Humble Oil (Exxon) reportedly bought the property from Standard Oil in 1967. In **1975, Exxon removed the aboveground gasoline and diesel tanks** from the northeast corner of the property and installed the underground gasoline, diesel and waste oil tanks in the southern part of the site. Potential sources of contamination have been identified as the former underground and aboveground storage tanks, a drum storage area, a concrete wash area, a concrete sump and the manifold distribution lines. **In November, 1982**, Exxon reportedly removed all eleven (11) USTs from the site prior to selling the site to Mr. Richard King of King Petroleum. See **Figure 2.**

On **March 5, 1984**, a phase II soil and groundwater investigation was proposed and performed by Kennedy/Jenks Engineers (K/J) and Subsurface Consultants. Both environmental and geotechnical borings were advanced. A total of four borings were advanced. See **Plate 1.** Boring 1 was advanced in the area of former USTs, previously removed by Exxon Corporation in 1982. Boring 3 was advanced near the former aboveground tanks. Soil samples were taken along with one grab groundwater samples from boring 1. A grab groundwater sample was also collected from an irrigation well, just west of the site on a neighboring residential property. Although not all samples were analyzed and not all chemicals of concerned were sought, the results indicated that there had been a release of fuel which had impacted groundwater. The grab groundwater sample from boring 1 exhibited 29 ppb benzene. Though the soil samples were not run for petroleum contaminants, boring logs described petroleum odors at 5-7' bgs. No organics were detected in the off-site well water sample. See **Tables 1 & 2.**

Site Summary for 2100 Versailles Ave., Alameda CA 94502
StID # 607

On **December 1984,** Exxon installed three monitoring wells at this site (W-1 through W-3). In addition, two additional shallow wells; SW-1 and SW-2, were installed adjacent to wells W-1 and W-3 in order to detect the presence of free product. Soil samples from W-1, W-2 and SW-2 and water samples from all five wells were analyzed for BTEX and HVOCs. No contaminants were detected except for semi-volatiles in SW-2. The groundwater samples analyzed exhibited ND for BTEX. The water sample from W-1 also exhibited ND for volatile and semi-volatile compounds. The 5.5' soil sample from SW-2 exhibited some semi-volatiles. See **Plate 2 and Tables 3 & 4.** It should be noted that the locations of the wells did not represent all potential source areas.

June 4, 1985- A Harding Lawson report details the April 1985 investigation at this site where one additional monitoring well, W-4, and four shallow 5-5.5' borings (SB-1 through SB-4) were advanced. It appears that the logic was to install these shallow borings adjacent to the potential source areas; ie former USTs, former spill tank, concrete wash slab and aboveground fuel tanks. Well W-4 was installed along the northern property boundary in the downgradient direction of the former aboveground tanks. The five soil samples from the five borings were analyzed for volatiles and semi-volatiles by EPA Methods 8240 and 8250,respectively. Groundwater samples from wells W-3, W-4 and SW-2 were also analyzed for the same parameters. None of these compounds were detected. Trace levels of toluene, ethylbenzene, methylene chloride and phthalate esters were detected in the soil samples. The latter two compounds are common lab contaminants. See **Plate 3.**

In a **July 2, 1985** letter from Roger James, Executive Officer of the CRWQCB, site closure was recommended with the condition that the monitoring wells be properly abandoned. These six wells were subsequently abandoned.

In a **September 25,1989** Earthmetrics report for Mr. Clifford Mapes, a list of potential environmental areas was noted; a drum storage area, a concrete sump, a waste oil container, subsurface product lines and potential asbestos containing building materials. See **Figure 4.**

January 26, 1990- King Petroleum sold the property to Mr. Clifford Mapes. Apparently $125,000 was held in escrow for the anticipated cleanup of the site.

Site Summary for 2100 Versailles Ave., Alameda CA 94502
StID # 607

November 5, 1990- Kleinfelder prepared a **Preliminary Remedial Investigation Report** for this site which presents the results of the excavation of ten (10) trenches excavated to 10' bgs. The location of these trenches were in potential source areas based upon past site usage. Results of soil analyses indicate that hydrocarbon contamination (TPHg,TPHd and TPHo) was widespread across the site. Up to 8200 ppm TPHg, 6100 ppm TPHd, 1200 ppm TPHo and 2.9 ppm benzene was exhibited in the soil trench samples. The thirteen priority pollutant metals were analyzed. Only the soil sample from Trench 1, which exhibited 67 ppm total chromium, was potentially hazardous. Soil samples from Trenches 7, 8 and 10 were also analyzed for semi-volatiles. Trench 10 was the only sample exhibiting these analytes @ 740 ppb 2-methylnapthalene, 540 ppb flourene and 430 ppb phenanthrene. This report also identified a potential underground tank in Trench 1. A later investigation showed that this "tank" was only a small container (approximately 20 gallons) protruding above ground. See analytical results in **Tables 5,6,7** and trench locations on **Plate 4.**

December 1994- Chevron met with Alameda County and the RWQCB in an attempt to determine what additional work would be necessary to obtain site closure. An apparent agreement between Mr. Mapes and Chevron had been made to share site mitigation expenses.

May 1994- Entrix advanced borings GW-2,3,5,6,7& 8 and converted these borings into monitoring wells MW-1 through MW-6. Though we have copies of the boring logs for these wells, we are missing the formal well installation report. See **Figure 5 for well locations.** These wells eventually became MW-1 through MW-6.

Chevron provided a **March 13, 1995** Touchstone Developments work plan to further characterize the site given the results of the 1990 Kleinfelder report. Nine borings were proposed in areas near those trenches which had previously detected TPH contamination. Two soil samples were to be collected from each boring. One would be in the shallow zone, surface to four feet, and the other would be at the soil/water interface.

August 16, 1995- The Touchstone report gives the results of the June 29, 1995 exploratory boring investigation. Soil results indicated that the extent of soil contamination is limited. Benzene at 1.1 ppm was found only once in soil boring SB-6 @ 5' depth. It appears that either the TPH contamination previously identified had biodegraded or the limits of contamination is localized or both. See **Figure 6 and Table A.**

Site Summary for 2100 Versailles Ave., Alameda CA 94502
StID # 607

October 24, 1995 letter from Chevron stated that they would meet the conservative cleanup levels discussed in the December 1994 meeting with our office and the Water Board. The cleanup goals were the Region IX PRG values. Limited excavation was proposed in the October 6, 1995 Touchstone Development report.

December 21, 1995- the scheduled removal of the 1000 gallon underground tank at this site was canceled when the tank turned out to be a 20 gallon container protruding aboveground.

A November 16,1995 letter from Chevron proposed to delay any overexcavation until site development occurred. It also stated that the soil contamination had not impacted groundwater.

Our office requested a Baseline Human Health Risk Assessment in a February 1996 letter, in accordance with the LLNL report.

Groundwater monitoring was restarted on 8/95 and continued until 6/97. A total of seven monitoring events took place. The sampling results indicate ND for TPHg, BTEX and MTBE. Only TPH in the diesel range (100-700ppb) is being found in the wells. See **Table B** for analytical results.

Chevron submitted a June 13, 1996 Touchstone Developments **Corrective Action Evaluation RBCA Tier 1**. This report examined all previous soil and groundwater data, evaluated potential complete exposure pathways and compared the highest contaminant values against the RBSL values. In general, groundwater contamination was not considered a problem since there is little impact to groundwater and groundwater is not being used for drinking water at the site. However, specific soil samples exhibited benzene concentrations in excess of the RBSL. This RBCA identified the key soil pathway as soil leaching to groundwater, which assumes that groundwater is a potable water source which is not the case here. The most realistic complete exposure pathway is soil vapor migration to indoor air, since residential housing is planned for this site. In this case, two soil samples, 47715 and SB-6 in areas four and five, respectively exceed a Tier 1 RBSL of 1E10-4. Actually, two other soil samples, 47708 and 47699 also exceed the RBSL but these samples are beneath the current groundwater elevation and would not be considered a complete pathway.

Chevron proposed to excavate the contaminated areas (4 and 6) to a depth of 1' below groundwater when this site is developed.

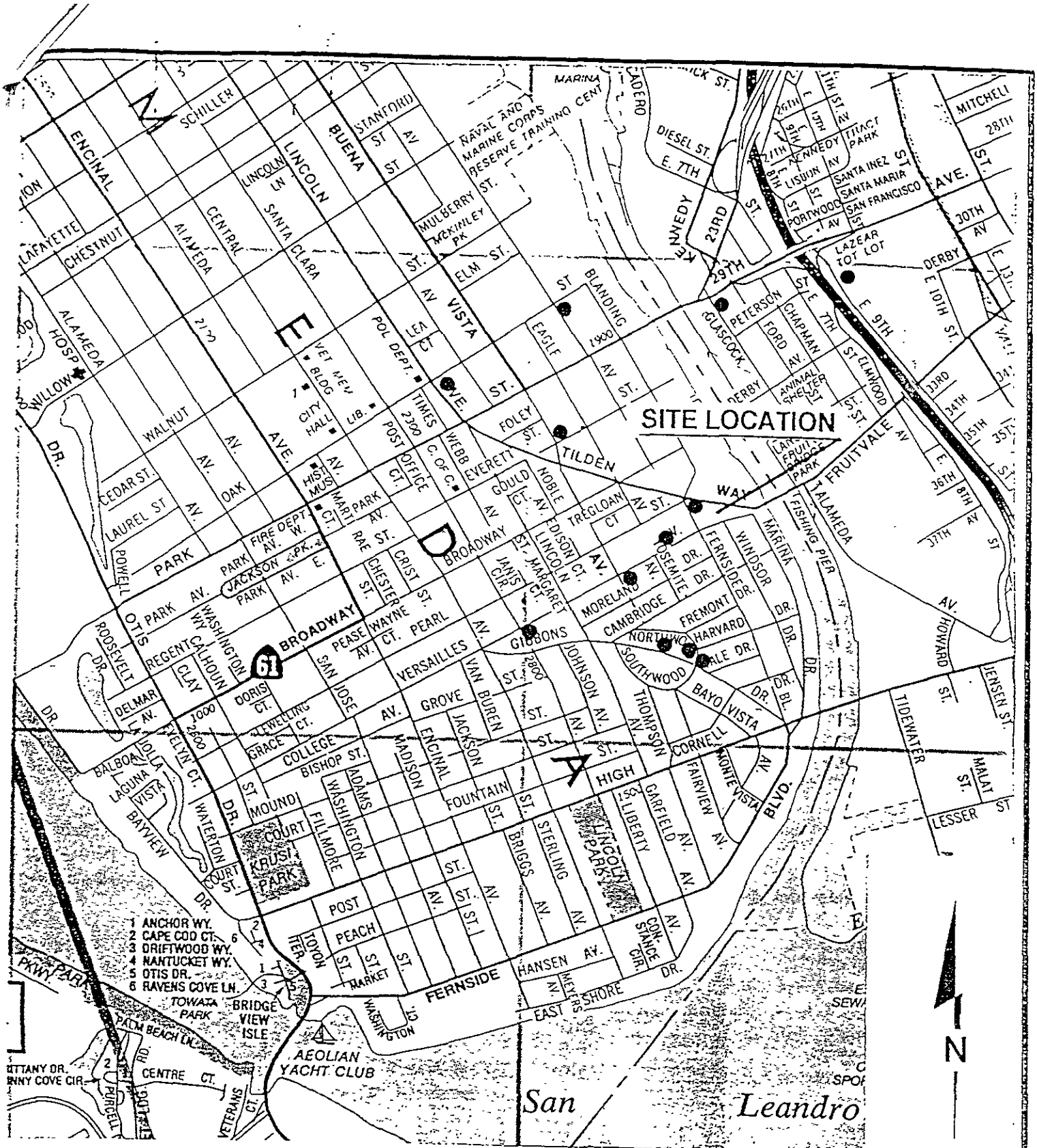
Site Summary for 2100 Versailles Ave., Alameda CA 94502
StID # 607

An addendum to the initial RBCA was prepared which compared the average benzene concentrations in the six potential source areas against SSTL values. Both 1E-4 and 1E-6 SSTLs were provided. This RBCA was reviewed by M. Logan of ACEH. She requested that the consultant tabulate the data and use the exposure pathway, residential to indoor air and a 1E-5 risk. She also requested that they compare the discrete soil depth where benzene was identified with the depth to water. Upon review of the submitted information, it was concluded that there was no risk in excess of 1E-5. Please see **Table 8, Figure 7 and a copy of M. Logan's comments.**

In October 1997, Chevron submitted a Risk Management Plan (RMP) to limit any future exposure during development or any subsurface work. Alameda County Environmental Health and the City of Alameda Building Department must keep copies of the RMP and be notified if any future activities occur which could cause health or environmental hazards.

This site is recommended for closure based upon:

- Source removal, the underground and aboveground storage tanks have been removed.
- The site has been adequately characterized through advancement of numerous soil borings, trenches and monitoring wells.
- Long term monitoring indicates that groundwater contamination levels have decreased and stabilized.
- The risk assessment provided indicates that no anticipated threat to human health or the environment exists. Groundwater is not used as a drinking water source in this area. A nearby irrigation well has been tested and is not impacted by TPH.



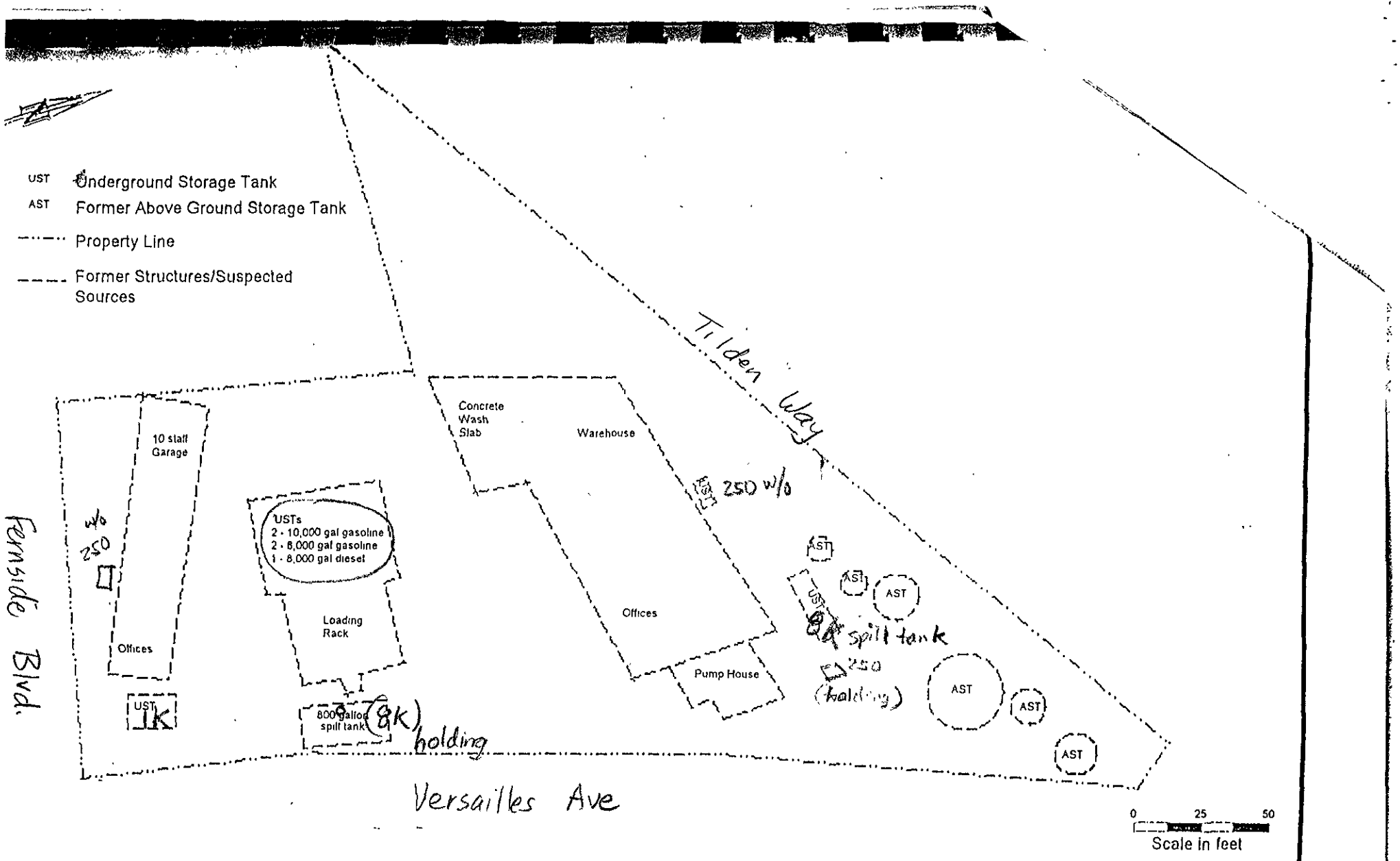
● WELL LOCATION

Touchstone Developments
Environmental Management

SITE VICINITY MAP and WELL SURVEY LOCATIONS

Former Chevron Bulk Plant
2001 Versailles Avenue

FIGURE
1

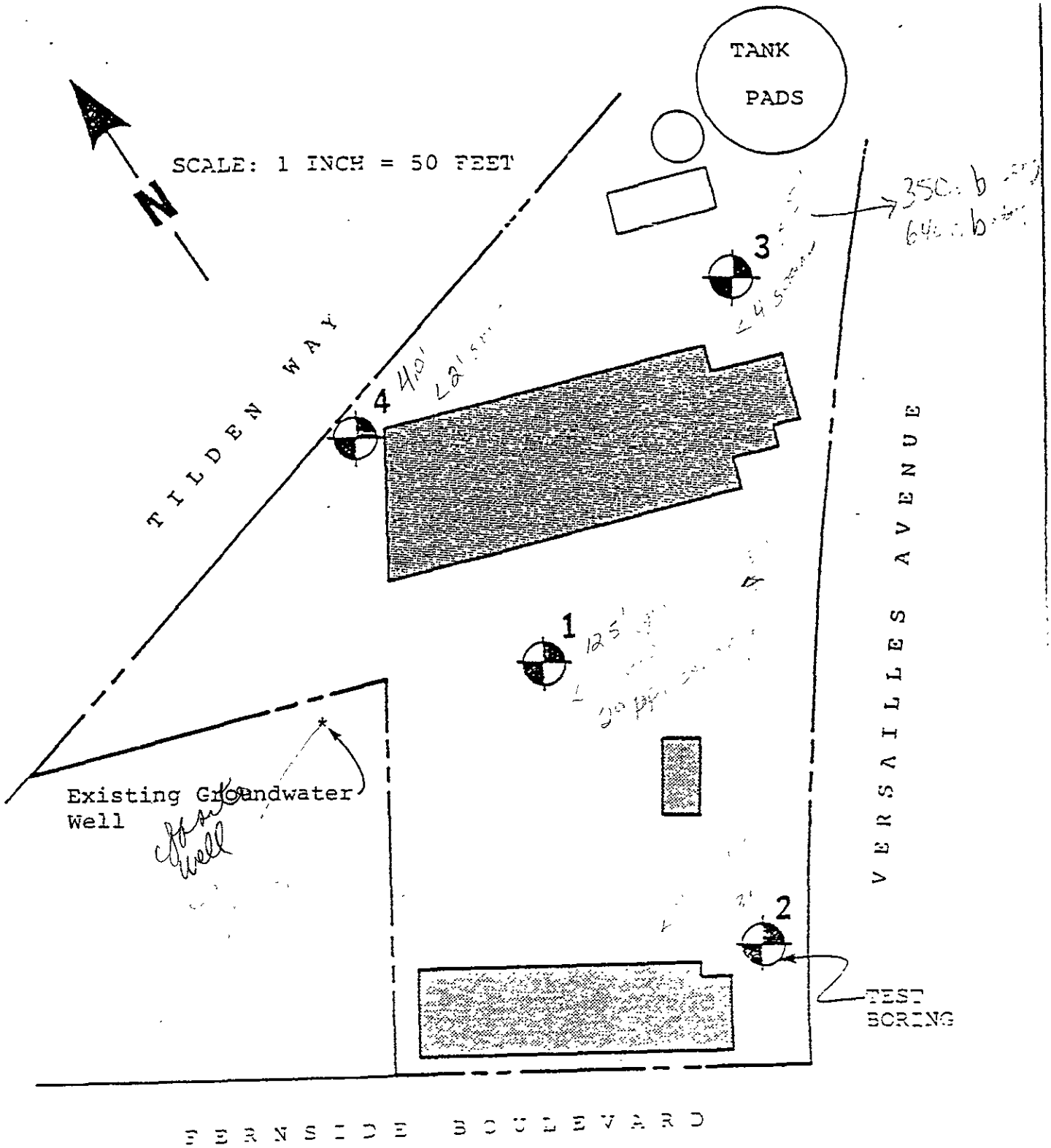


Touchstone Developments
Environmental Management

SITE PLAN
FORMER ALAMEDA BULK PLANT
2001 VERSAILLES AVENUE
ALAMEDA, CALIFORNIA

FIGURE
2

ECT NO.	DRAWN BY:	DATE	BASE MAP:
	AMD	1/95	KLEINFELDER



EM0096

SITE MAP

KING PETROLEUM FACILITY - ALAMEDA

PLATE

JOB NUMBER	DATE	APPROVED

TABLE 1

BORING 3
SOIL SAMPLE
PURGEABLE HYDROCARBON ANALYSES[1]

HYDROCARBON	CONCENTRATION[2] (µg/kg)
Benzene	350
Chlorobenzene	<5
1,2-Dichlorobenzene	<5
1,3-Dichlorobenzene	<5
1,4-Dichlorobenzene	<5
Ethylbenzene	640
Toluene	<5

[1] Analysis by EPA Method 602 (purgeable aromatics).

[2] The chromatograph showed numerous unidentified peaks.

TABLE 2

SOIL METAL AND
POLYCHLORINATED BIPHENYL ANALYSES

METAL	MEASURED CONCENTRATION (mg/kg)[1] BORING 1	COMPOSITE SAMPLE[2]
Arsenic	<2	<2
Antimony	<5	<5
Barium	63	110
Beryllium	0.18	0.23
Cadmium	0.29	0.39
Chromium (T)	53	36
Cobalt	8.6	3.8
Copper	110	20
Lead	<1	<1
Mercury	0.1	0.1
Nickel	50	52
Selenium	<0.5	<0.5
Silver	<1	<1
Thallium	<2	<2
Vanadium	15	17
Zinc	93	27
Polychlorinated biphenyls	<1.0	<1.0

[1]Milligram per kilogram, wet weight (as received)
[2]Equal weight composite of the soil samples from borings 1, 3, and 4.

Table 2

Kennedy/Jenks Engineers, Laboratory Division
657 Howard Street
San Francisco, CA 94105
415-495-6627

Received 3/5/84
Reported 3/26/84

Groundwater Analysis Report

For Kennedy/Jenks Engineers
657 Howard Street, San Francisco, CA 94105
Attention: J. F. Norton

Lab.No.:		84698	84699
Source:		Boring #1 Groundwater	Off-site Well #1 Groundwater
Date Collected:		3/5/84	3/5/84
Time Collected:	Grab:	0945	1200
Collected by:		T. Holsen	

Analysis	Units *	Analytical Results	
PURGEABLES			
Carbon Tetrachloride	ug/L	<2	<2
1,2-Dichloroethane	ug/L	<2	<2
1,1,1-Trichloroethane	ug/L	<2	<2
1,1-Dichloroethane	ug/L	<2	<2
1,1,2,-Trichloroethane	ug/L	<2	<2
1,1,2,2-Tetrachloroethane	ug/L	<2	<2
2-Chloroethylvinyl ether	ug/L	<2	<2
Chloroform	ug/L	<2	<2
1,1-Dichloroethene	ug/L	<2	<2
Trans-1,2-dichloroethene	ug/L	<2	<2
1,2-Dichloropropane	ug/L	<2	<2
Trans-1,3-dichloropropene	ug/L	<2	<2
cis-1,3-Dichloropropene	ug/L	<2	<2
Methylene Chloride	ug/L	<2	<2
Bromoform	ug/L	<2	<2
Bromodichloromethane	ug/L	<2	<2
Fluorotrichloromethane	ug/L	<2	<2
Chlorodibromomethane	ug/L	<2	<2
Tetrachloroethene	ug/L	<2	<2
Trichloroethene	ug/L	<2	<2
1,1,2-Trichloro-1,2,2-trifluoroethane(1)	ug/L	<2	<2

EM0109

Comments: Analysis by EPA Method 601, Purgeable Halocarbons.
Sample No. 84698 showed numerous unidentifiable peaks on the purgeables chromatogram.

cc: T. G. Erler, Kennedy/Jenks Engineers

Analyst JW

Manager Everett R. Smith

Table 2

Kennedy/Jenks Engineers, Laboratory Division
657 Howard Street
San Francisco, CA 94105
415-495-6627

Received 3/5/84
Reported 3/26/84

Soil Analysis Report

For Kennedy/Jenks Engineers
657 Howard Street, San Francisco, CA 94105
Attention: J. F. Norton

Lab.No.:		84698	84699
Source:		Boring #1 Groundwater	Off-site Well #1 Groundwater
Date Collected:		3/5/84	3/5/84
Time Collected:	Grab:	0945	1200
Collected by:		T. Holsen	

Analysis	Units *	Analytical Results	
PURGEABLES			
Benzene (1 and 2)	ug/L	29	<2
Chlorobenzene (2)	ug/L	<2	<2
1,2-Dichlorobenzene (2)	ug/L	<2	<2
1,3-Dichlorobenzene (2)	ug/L	<2	<2
1,4-Dichlorobenzene (2)	ug/L	<2	<2
Ethylbenzene (2)	ug/L	<2	<2
Toluene (1 and 2)	ug/L	<2	<2

EM0110

Comments: (1) Analysis by EPA Method 601 (Purgeable Halocarbons).
(2) Analysis by EPA Method 602 (Purgeable Aromatics).

cc: T. G. Erler, Kennedy/Jenks Engineers

Analyst JW

Manager Leverett R. Smith

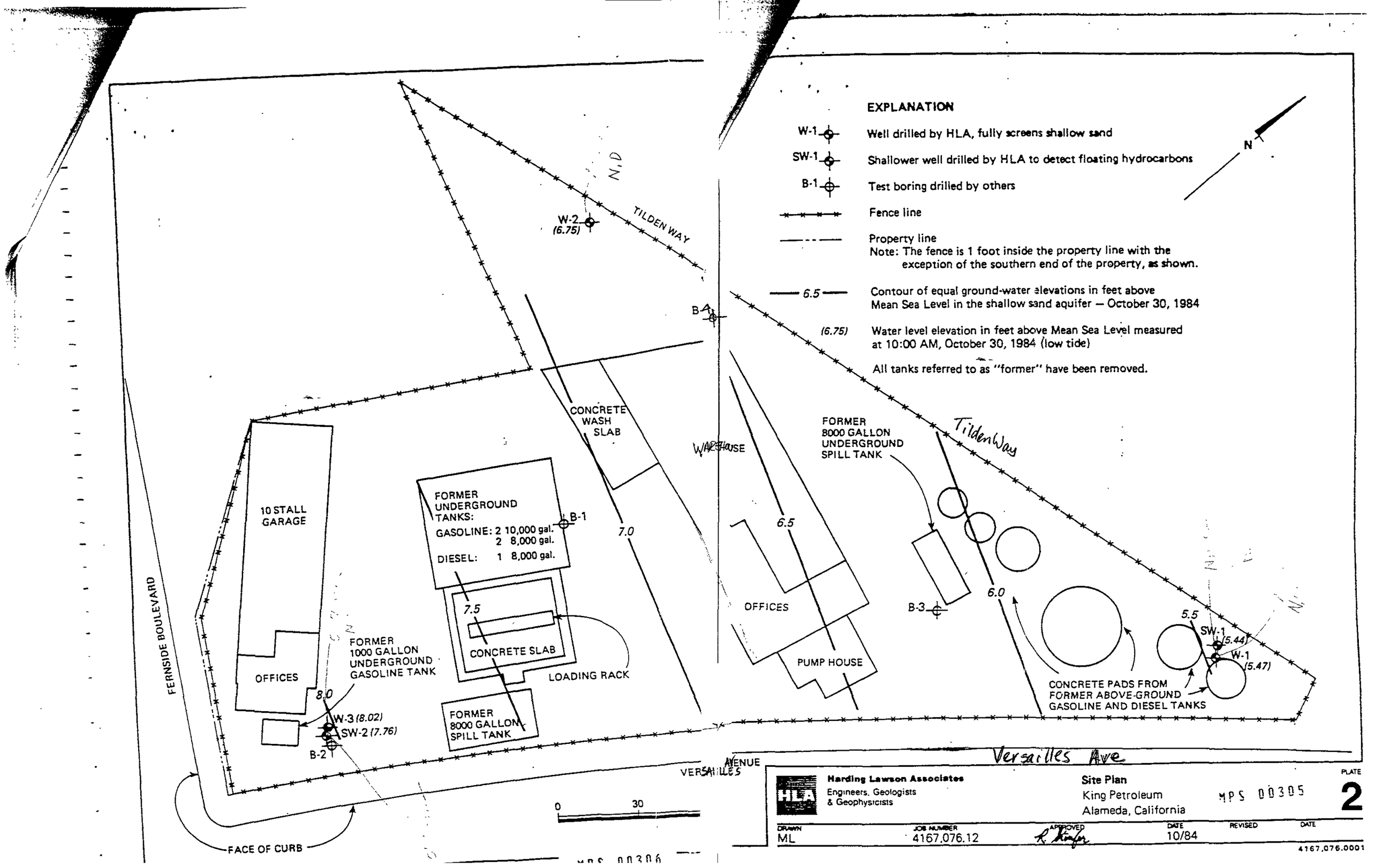

EXPLANATION
W-1 Well drilled by HLA, fully screens shallow sand
SW-1 Shallower well drilled by HLA to detect floating hydrocarbons
B-1 Test boring drilled by others
Fence line
Property line
Note: The fence is 1 foot inside the property line with the exception of the southern end of the property, as shown.
6.5 Contour of equal ground-water elevations in feet above Mean Sea Level in the shallow sand aquifer — October 30, 1984
(6.75) Water level elevation in feet above Mean Sea Level measured at 10:00 AM, October 30, 1984 (low tide)
All tanks referred to as "former" have been removed.
N
TILDEN WAY
W-2 (6.75)
B-4
CONCRETE WASH SLAB
WAREHOUSE
FORMER 8000 GALLON UNDERGROUND SPILL TANK
Tilden Way
10 STALL GARAGE
FORMER UNDERGROUND TANKS:
GASOLINE: 2 10,000 gal.
2 8,000 gal.
DIESEL: 1 8,000 gal.
B-1
7.0
6.5
OFFICES
PUMP HOUSE
B-3
6.0
5.5
SW-1 (5.44)
W-1 (5.47)
7.5
CONCRETE SLAB
LOADING RACK
FORMER 1000 GALLON UNDERGROUND GASOLINE TANK
8.0
W-3 (8.02)
SW-2 (7.76)
B-2
FORMER 8000 GALLON SPILL TANK
CONCRETE PADS FROM FORMER ABOVE-GROUND GASOLINE AND DIESEL TANKS
FERNSIDE BOULEVARD
VERSAILLES AVENUE
Versailles Ave
FACE OF CURB
0
30
MPS 00306
Harding Lawson Associates
Engineers, Geologists & Geophysicists
Site Plan
King Petroleum
Alameda, California
MPS 00305
PLATE 2
DRAWN ML
JOB NUMBER 4167.076.12
APPROVED
DATE 10/84
REVISED
DATE
4167.076.0001

Table 3. Concentrations of Benzenes, Toluene, and Xylenes in Soil and Ground-Water Samples

Sample Locations	Sample Type	Depth (ft)	Benzene (µg/kg)	Toluene (µg/kg)	Chlorobenzene (µg/kg)	Ethyl-benzene (µg/kg)	Total Xylenes (µg/kg)	Total Dichloro-benzene (µg/kg)
W-1	Soil	0.5-1.0	<50	<50	<50	<50	<50	<50
W-1	Soil	3.5-4.0	<50	<50	<50	<50	<50	<50
W-2	Soil	4.0-4.5	<100	<100	<100	<100	<100	<100
SW-2	Soil	5.0-5.5	<200	<200	<200	<500	<200	<200
			(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
W-1	Water		<5	<5	<5	<5	<5	<10
W-2	Water		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
W-3	Water		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SW-1	Water		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SW-2	Water		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

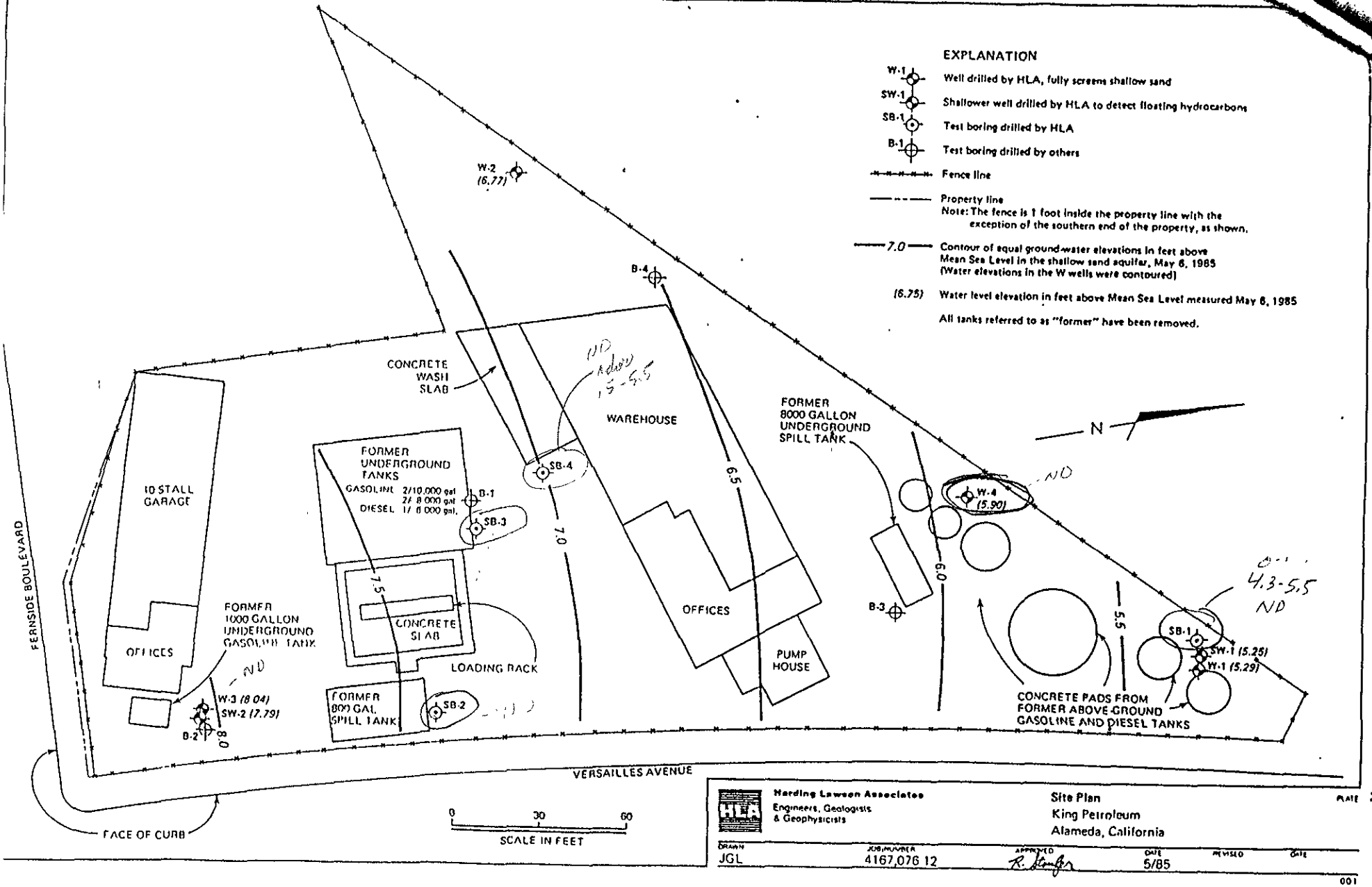
Note: The analyses of the soil sample from SW-2 (5.0-5.5 feet) and the water sample from W-1 were performed by EPA Methods 624 and 625. The rest of the analyses on this table were performed by EPA Method 602.
A concentration stated as <50 indicates that the concentration is less than the analytical detection limit of 50 µg/Kg.

volatiles

Table 4. Compounds Identified in Samples by GC/MS, EPA Methods 624 and 625 semivolatiles

Sample	Sample Type	Depth (ft)	Compound Identified	Concentration (µg/kg)*
W-1	Water	NA	None ✓	-
SW-2	Soil	5.0-5.5	Trimethyl cyclohexane	750
			Ethyl methyl cyclohexane	200
			Tetramethyl hexene	850
			Decahydromethyl naphthalene	7000
			Trimethyl octane	11,000
			Dimethyl naphthalene	13,000
			Heptadecane	20,000
			Dioctylester hexane dioicacid	86,000

* Approximately equivalent to parts per billion.



Harding Lawson Associates
Engineers, Geologists & Geophysicists

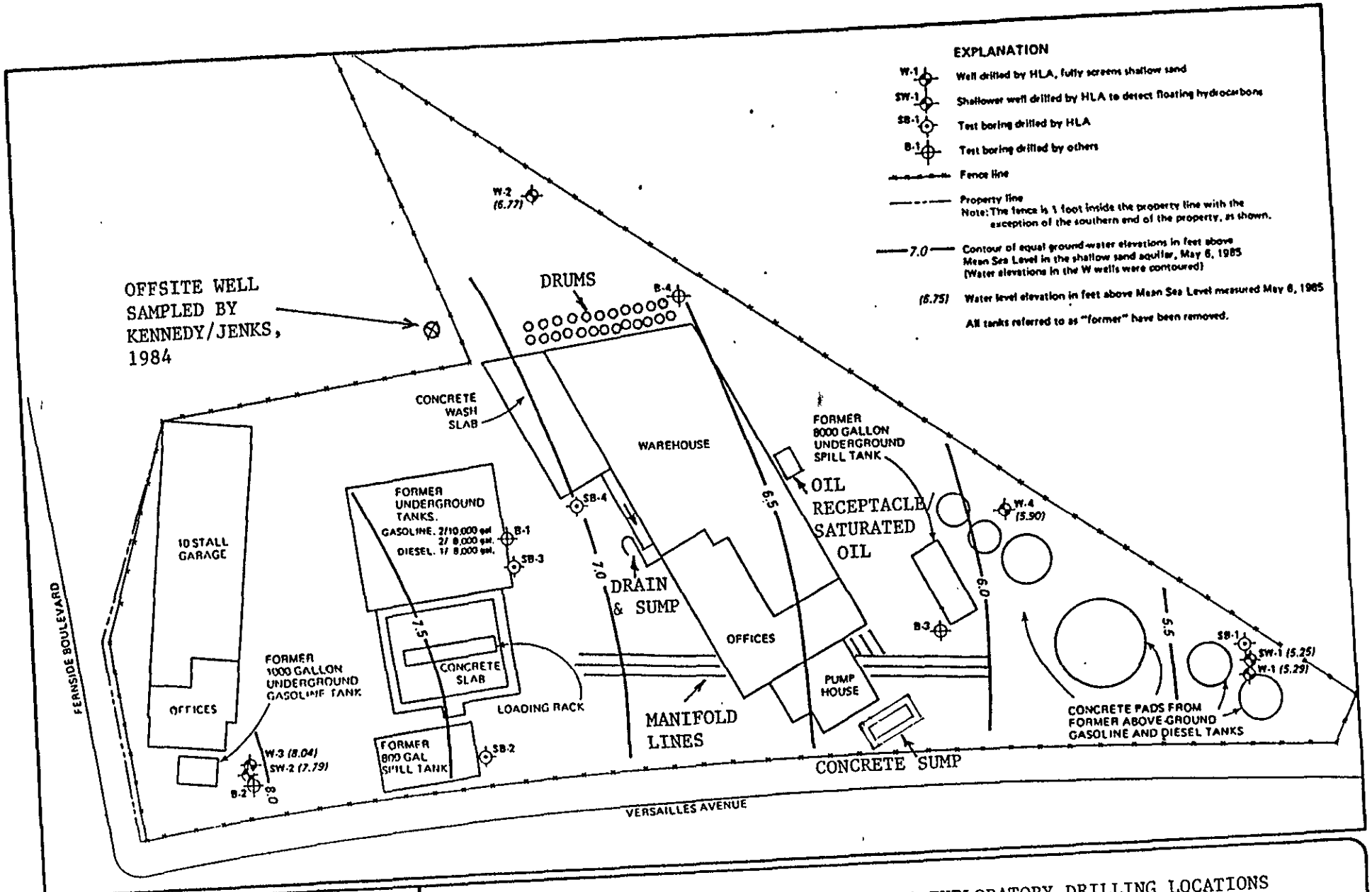
Site Plan
King Petroleum
Alameda, California

PLATE 3

DRAWN	JOB/MODEL	APPROVED	DATE	REVISED	DATE
JGL	4167,076 12	R. Stanley	5/85		

001

EM0121



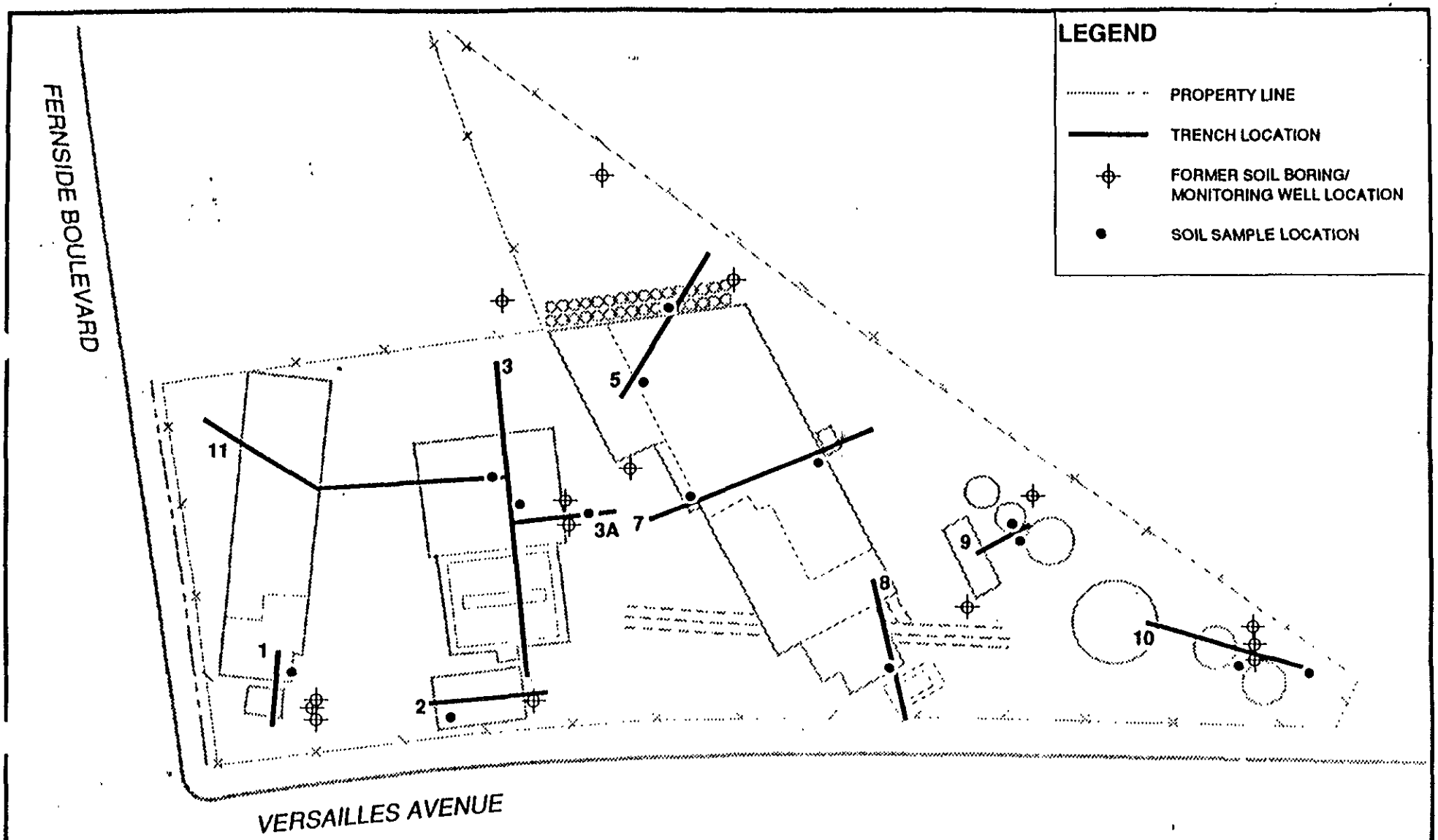
earth metrics

N

SCALE
1" = 45'

FIGURE 4. SITE PLAN SHOWING PREVIOUS EXPLORATORY DRILLING LOCATIONS AND HISTORICAL PETROLEUM BALK STROAGE FACILITIES

EM0008



N

50 0 50

Approximate Scale (feet)

BASE MAP: Modified from Earth Metrics

KLEINFELDER

DRAFTED BY: L. Sue	DATE: 8-21-90		
CHECKED BY: L. Larsen	DATE: 8-22-90		

SITE PLAN WITH TRENCH AND SOIL SAMPLE LOCATIONS

FORMER KING PETROLEUM PROPERTY
2001 VERSAILLES AVENUE
ALAMEDA, CALIFORNIA

PROJECT NO 10-2156-01

PLATE 4

TABLE 5

Summary of Analytical Results - Soils
Total Petroleum Hydrocarbons and Volatile Organic Compounds

			Method 8015 (ppm)			EPA Test Method8240 (ppb)				DHS Test Methold 503 d/e (ppm)
Sample #	Location	Depth[1]	TPH (gasoline)	TPH (diesel)	TPH (oil)	Benzene	Toluene	Total Xylenes	Ethylbenzene	Total Oil and Grease
47700	Trench 5	7.0	190	280	30	ND	ND	ND	ND	160
47701	Trench 5	1.5	NT	NT	NT	ND	ND	600	500	3,100
47712	Trench 7	4.5	1,100	6,100	1,200	ND	ND	ND	ND	7,200
47715	Trench 7	5.0	1,100	20	ND	630	5,500	63,000	14,000	50
47703	Trench 8	7.0	8,200	570	ND	ND	ND	2,000	ND	1,200
47699	Trench 9	7.5	940	880	ND	490	ND	1,700	2,300	NT
47698	Trench 9	1.0	NT	NT	NT	NT	NT	NT	NT	ND
47707	Trench 10	2.5	NT	NT	NT	NT	NT	NT	NT	20
47704	Trench 10	8.0	600	110	30	ND	ND	ND	ND	NT
47708	Trench 11	7.5	670	320	20	2,900	ND	11,000	7,000	NT
47721	Trench 1	4.0	ND	2,600	260	2	6	ND	ND	2,400
47702	Trench 2	9.0	NT	ND	ND	ND	ND	ND	ND	NT
47720	Trench 3	6.0	9.2	ND	ND	3	4	28	43	NT
47717	Trench 3a	4.0	0.2	ND	ND	ND	ND	5	1	NT

TPH = Total Petroleum Hydrocarbons (PPM)
ppm = Parts per million
ppb = Parts per billion
NT = Not tested
ND = None detected at or above analytical detection limits
1 = Approximate depth, feet below grade

TABLE 6

Analytical Summary - Soils
13 Priority Pollutant Metals
(Concentrations in mg/kg)*

Metalic Element	Sample Number 47700	47701	47712	47698	47707	47721	47703	STLC	TTLC
Silver	ND	ND	ND	ND	ND	ND	ND	5	500
Arsenic	5	3	ND	7	5	8	6	5	500
Beryllium	0.3	0.2	0.2	0.2	0.3	0.5	0.4	0.75	75
Cadmium	ND	ND	ND	ND	ND	ND	ND	1	100
Total Chromium	35	25	25	22	26	67	33	560	2500
Chromium (VI)	NT	NT	NT	NT	NT	NT	NT	5	500
Copper	15	10	39	6	6	46	21	25	2500
Mercury	ND	ND	ND	ND	ND	ND	ND	0.2	20
Nickel	40	9	8	11	15	59	42	20	2000
Lead	ND	8	3	3	ND	ND	ND	5.0	1000
Antimony	ND	ND	ND	ND	ND	ND	ND	15	500
Selenium	ND	ND	ND	ND	ND	ND	ND	1.0	100
Thallium	13	9	8	5	12	31	20	7.0	700
Zinc	20	10	21	7	12	31	24	250	500

STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration
ND = Not detected at or above Analytical Detection Limits
NT = Not tested
* = Concentrations reported as mg/kg are approximately equal to parts per million

TABLE 7

Summary of Analytical Results - Soils
Semivolatile Organic Compounds
(EPA Test Method 8270)

Sample Number	Location	Depth	Flourene	2-Methylnapthalene	Phenanthrene	Other Method 8270 Compounds
47712	Trench 7	4.5	ND	ND	ND	ND
47703	Trench 8	7.0	ND	ND	ND	ND
47704	Trench 10	8.0	540 ppb	740 ppb	430 ppb	ND

ND = Not detected at or above analytical detection limits

ppb = Parts per billion ($\mu g/mg$)

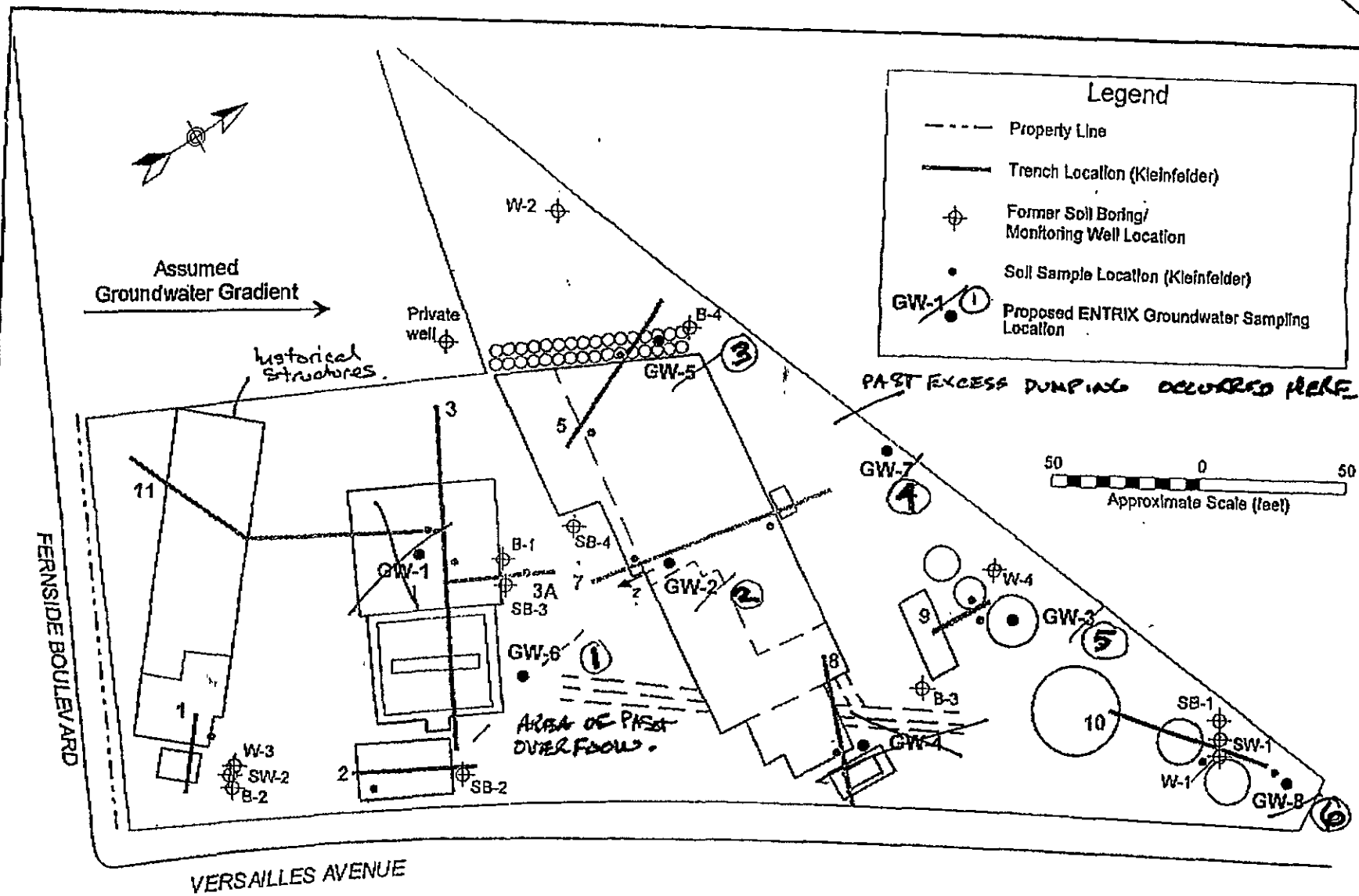


Figure 5 Proposed Groundwater Sampling Locations

MW-1

Boring ID: 1 Page __ of __ | SOIL BORING LOG | ENTRIX

CLIENT: MAPES
SITE ADDRESS: 2001 VERSAILLES AVE
Project #: 55100
DATE: 5/25 to
CONTRACTOR:
RIG TYPE: MOBILE 61 DRILLING METHOD: HSA SAMPLING METHOD: SPLIT SPOON
DRILLER:
ASSISTANT:
GEOLOGIST(S): JOSEPH BARRETT
SIGNATURE:

ft bgs	Sample Interval/ Recovery	Blow Counts	Instrument Reading	Lithological Description (Munsell/moisture/grain type/cement/roundness/details/USCS sorting/plasticity)	USCS Soil Symbols	Remarks (odor/visible/sample ID etc.)
		9/7/8	1/0	10YR 4/3 SW DAMP		BREATHING ZONE
1	1.2			NO PETRL. ODOR LOOSE		SOIL (UNU
2						BREATHING ZO
3	1.2	8/10/15	20/0	10YR 5/1 SW/CL/ML		STRONG GAS
4						ODOR
5	1.5	11/15/19	2000/0	10YR 5/1 SW WET PETROL ODOR SAMPLE 1		GRADUAL BUT RAPID TRANSITIO TO CLAY
6		7/9/13	1000/50	10YR 5/1 CL DAMP ODOR OF PETROL · LOCALLY WET.		
7	1.2			10YR 4/1 SW DAMP. LOOSE		HUGER STEM = "40 PPM.
8	1.5	6/12/20	15/0	10YR 6/1 ML DAMP MOTTLED 5/6 STIFF		PETRL ODOR LEST PETRL ODOR
9	1.5	3/10/5	0.5/0	10YR 6/1 (6/6) MOTTLES AS ABOVE STIFF/V. FAINT ODOR		ROOTS IN MOTTLING
10	1.5	5/2/21	0.5/0	10YR 5/2 SW VERY WET		30 PPM IN AUGER ~ 30% FINE SAND
11				LOOSE NO ODOR (F. SAND) SAMPLE 2 AT 11-11.5		GETTING CLOSE T WATER
12	1.5	12/16/26	2.3	10YR 5/3 SW SATURATED		1ST WATER
13				SOME CL BEDS (0.1') NO ODOR SOFT. LOWER 0.5' STIFF		
14	1.0	15/18/33	0.1/0	MOD. WET (NOT SATURATED) 10YR 5/3 SW SATURATED		5 PPM IN AUGER SAND & SMELLS
15	0.6	23/50 (4")	0/0	SOFT. MEDIUM SAND 10YR 5/3 SP SATURATED (FLOWING) NO ODOR		"SWEET" (NOT PETROLEUM) (e.g. LICORICE) (COULD B
16				MEDIUM SAND		BACKGROUND ALSO
17	1.2	37/35/50 (5")	0/0	10YR 5/3 SW SATURATED SOME SILT & STIFF		NO ODOR IRON STAINING
18	0.5	16/50 (5")	0/0	10YR 5/3 SP MED SAND LOOSE SATURATED (FLOWING) NO ODOR AT 18' STIFF		3 PPM IN AUGER
19		29/50 (5")	0/0	10YR 5/2 SP MED SAND AS ABOVE STIFF		4 PPM IN AUGER
20						

20' BGS TO 16'00
SAND FLOWS TO 11' BGS

MW-2

Boring ID: 2 Page 1 of __ **SOIL BORING LOG** **ENTRIX**

CLIENT: MAPES Project #: 351100

SITE ADDRESS: 2001 VERSAILLES AVE

DATE: 5/25 to __ CONTRACTOR: KULLMAN

RIG TYPE: H 61 DRILLING METHOD: HSA SAMPLING METHOD: SPLIT SPOON

DRILLER: __ ASSISTANT: GEORGE

GEOLOGIST(S): JEREMY BARTLETT

SIGNATURE: Jeremy Bartlett

ft bgs	Sample ID / Interval / Recovery	Blow Counts	Instrument Reading	Lithological Description (Munsell/moisture/%/grain/USCS sorting/plasticity/grain type/cement/roundness/details)	USCS Soil Symbol	Remarks (odor/wet/preample Data)
				(ML SOIL 10YR 3/2 WITH GRASS		HNU BREATHING ZONE / SOIL
1	0.1	8/9/9	0/0.8	ML 10YR 3/2 DAMP		2.5 ppm IN AUGER
2				NO ODOR 20% GRASS + ROOTS LOOSE		
3	0.6	1/1/1	0/0	GC 10YR 4/4 SATURATED		1.0 ppm IN AUGER
4				LOOSE NO ODOR 10% ROOTS PROBABLY FILL		
5	0.6	1/2/3	0/0.8	10 YR 2/0 SC SATURATED LOOSE. FAINT PETROL ODOR		0 ppm IN AUGER.
6	0.4	9/15/29	0/0.9	5% GRAVEL. AS ABOVE		0.5 IN AUGER
7						
8	1.5	5/20/35	0/0	AS ABOVE (JOE MELO AGREES WITH ODOR)		0 IN AUGER
9	0.4	25/28/32	0/0	10 YR 4/2 SC FAINT ODOR STIFF WET.		0 IN AUGER
10						
11	0.5	7/28 50/4"	0/0	10 YR 3/0 SC SATURATED LOOSE FAINT ODOR OF PETROL 5% GRAVEL		0 IN AUGER SAMPLE 3
12	1.5	12/29/37	0/0	10Y 5/4 SP WET STIFF NO ODOR FINE SAND		0.5 ppm
13						
14	1.2	23/50 (3")	0/0	10 YR 5/3 SP WET/SATURATED (FELL WHEN VIBRATED) BUT STIFF NO ODOR FINE SAND		0.5 ppm IN AUGER
15	1.5	24/40/50	0/0.3	AS ABOVE		0 IN AUGER
16	0.7	24/50 (5")	0/0	AS ABOVE V. FAINT		0.5 IN AUGER
17						
18	0.0	50 (5")	0/NA	—	—	0.0 IN AUGER
19						
20	0.0	50/5"	0/NA	—	—	—

MW-3

Boring ID: 3 Page 1 of 2

SOIL BORING LOG | ENTRIX

CLIENT: MAPES

SITE ADDRESS: 2001 VERSAILLES AVE

Project #: 351100

DATE: 5/27 to

CONTRACTOR: KUILMAN

RIG TYPE: B61

DRILLING METHOD: HSA

SAMPLING METHOD: SPLIT SPOON

DRILLER: KEITH

ASSISTANT: GEORGE

GEOLOGIST(S): SERENE BARTLETT

SIGNATURE:

ft bgs	Sample Interval/ Recovery	Blow Counts	Instrument Reading	Lithological Description (Munsell/moisture/log unit/USCS/sorting/plasticity/ grain type/cement/roundness/details)	USCS Soil Symbol	Remarks (Odor/Meter/Sample ID/etc.)
1						HNU BREAKING 20
	0.6	18/50 (4")	0/0	10YR 4/1 SC (SOIL) ~ 20'.		SOIL
2				GRASS DRY NO ODOR		MINOR CONCRETE CHIPS
				LOOSE		
3	1.2	15/23/24	0/0	10 YR 3/2 SC NO ODOR DRY		
				LOOSE, FINE SAND		0 IN AUGER
4						
	1.3	8/11/16	0/0	10 YR 5/2 CL (70% FINE SAND)		
5				DAMP, STIFF NO ODOR		0 ppm IN AUGER
						MOTTLING
6	1.3	13/15/18	0/100	10 YR 5/4 SC DAMP NO ODOR		
				UNTIL BASAL 0.5' THEN PETRL		13 ppm IN AUGER
7				MED-FINE SAND. (10YR 5/1 AT BASE)		SAMPLE 7
	1.5	3/9/15	0/260	10 YR 5/1 SP DAMP/WET		6-6.5'
8				SOFT F-M SAND V. STRONG PETRL		40 ppm IN AUGER
		MISSED				SAMPLE 8
9	1.3	21/13/9	0/50	10YR 5/1 SC DAMP V. STIFF		7.5-8
		11/14/8		PETRL ODOR SOFT		100 ppm IN AUGER
10						MOTTLING AND
	1.6	11/13/5	0/5	10YR 5/2 SC DAMP UPPER 5'		ROOTS.
11				PETRL ODOR SAMPLE 9 F-M SAND		ABUNDANT ORANGE MO
				STIFF		10 ppm IN AUGER
12	1.5	9/10/13	0/18.5	10YR 5/2 SC/SP WET PETRL		(SOIL OPEN AT BASE)
				ODOR (HNU 5-8 ppm) SOFT.		MOTTLING & ROOTS
13				BORDERING ON SATURATED		
	1.4	11/8/22	0/0.2	10YR 5/1 SC WET LOOSE,		
14				CRUMBLY/STIFF PARTS DRY		COMMON ORANGE
						MOTTLES ROOTS
15	1.5	7/8/36	0/0	10 YR 5/2 SC/SP WET SOFT		
				NO PETRL ODOR BUT A SWEET		50 ppm IN AUGER
16				SMELL (SP AT BASAL 0.4')		
	0.8	29/50 (5")	0/0	10 YR 5/6 SP MED-F SAND		
17				NO ODOR SATURATED.		20 ppm IN AUGER
18	0.7	19/50 (5")	0/0	AS ABOVE... SATURATED		
19						25 ppm IN AUGER
	0.4	29/50 (3")	0/0	AS ABOVE		
20						5 ppm IN AUGER
21						

Boring ID: 3 Page 2 of 2 **SOIL BORING LOG** ENTRIX

CLIENT: MAPES

SITE ADDRESS: 2681 VERSAILLES Project #: 35400

DATE: 5/27/94 to

RIG TYPE: B61 CONTRACTOR: KNIGHAUG

DRILLER: CHRIST DRILLING METHOD: HSA SAMPLING METHOD: SPLIT SPOON

GEOLOGIST(S): JEREMY BARTLETT ASSISTANT: GEORGE

SIGNATURE:

ft bgs	Sample Interval/ Recovery	Blow Counts	Instrument Reading	Lithological Description (Munsell/moisture/log/state/USCS/Acronym/plasticity/grain type/cementation/roundness/details/etc.)	USCS Soil Symbol	Remarks (color/smell/sample ID/etc.)
21	0.0	50/5"	0/0	NO SAMPLE RECOVERY		20 IN AUGER
22						SANDS STARTING TO FLOW INTO AUGER
23						
24						
25						

MW-4

Boring ID: 4 Page 1 of

SOIL BORING LOG — ENTRIX

CLIENT: MAPES
SITE ADDRESS: 2001 VERSAILLES AVE
Project #: 351100
DATE: 5/27/04 to
CONTRACTOR: KULLHAUG
RIG TYPE: B61
DRILLING METHOD: HSA
SAMPLING METHOD: SPLIT SPOONS
DRILLER: KEITH
ASSISTANT: GEORGE
GEOLOGIST(S): JEREMY BARRETT
SIGNATURE:

ft bgs	Sample Interval/ Recovery	Blow Counts	Instrument Reading	Lithological Description (Munsell/texture/%gravel/USCS coding/plasticity/ grain type/cement/roundness/details)	USCS Soil Symbol	Remarks (odor/stain/petroleum type)
1		24/50 (5")	0/	10YR 4/4 GC DRY NO ODOR LOOSE		HNU BREATHING ZON SOIL CONCRETE RUBBLE ON SOIL
2						
3	0.9	5/8/11	0/80	10YR 3/2 ML (20% M-F SAND) LOOSE DAMP PETROL ODOR		
4	1.0	6/5/13	0/200	10YR 3/1 ML (20% F-M SAND) STRONG ODOR OF PETROL DAMP		POOR SAMPLE INTEGRITY ID IN AUGER
5						
6	1.1	8/13/15	0/300	STIFF BASE 0.5 IS LOWER 5/1 UPPER 0.3 FT AS ABOVE		SAMPLE ID 5-5.5 SO IN AUGER
7	1.5	6/12/20	0/200	10YR 5/1 SP MED-FINE SAND LOOSE DAMP STRONG ODOR OF PETROL		SAMPLER
8				UPPER 0.5' AS ABOVE (PETROL ODOR) LOWER 1.0' 10YR 6/1 ML		ID IN AUGER
9	1.5	10/17/17	/50	STIFF DAMP, PETROL ODOR TO HNU.		MOTTLING & ROOTS IN
10	1.5	8/15/18	0/3	10YR 6/2 WITH MOTTLING ML, SLIGHT PETROL ODOR, STIFF DAMP		COMMON MOTTLING AND ROOTS
11				UPPER 0.5 AS ABOVE SLIGHT PETROL ODOR.		(SAMPLE 11) 9-9.5
12	1.4	5/11/16	0/3-0	10YR 5/3 SC WET, SLIGHT PETROL ODOR. 10YR 5/4 SC (ML AT TOP 0.3')		GRADUAL CHANGE (BORDERS ON SM)
13	1.5	13/18/29	0/0.2	STIFF TO LOOSE WET (NOT QUITE SATURATED) HNU DECREASES 10YR 5/2 SC STIFF NO ODOR		ABUNDANT IRON STAINING PATCHES OF GREY (ML AT BASE)
14				MOIST. LOWER 0.5' SW F-M SAND		2 ppm IN AUGER
15	0.5	18/50 (5")	0/0	10YR 5/4 SP SATURATED NO ODOR LOOSE.		ND. 0 ppm IN AUGER
16	1.0	12/30/38	0/0	10YR 5/4 SP SATURATED ABOVE M-F SAND LOOSE.		30 ppm IN AUGER
17						
18	1.1 (2)	18/50 5"	0/0	AS ABOVE SC/ML LENSE IN BASAL 0.4, STIFF MOIST/WET		5 ppm IN AUGER
19						
20						

MW-5

Boring ID: 5 Page 1 of

SOIL BORING LOG | **ENTRIX**

CLIENT: MAPES

Project #: 355160

SITE ADDRESS: 2651 VERSAILLES AVE

DATE: 5/26/99 to

CONTRACTOR: KUSTAUG

RIG TYPE: B61 DRILLING METHOD: HSA SAMPLING METHOD: SPLIT SPOON

DRILLER: ASSISTANT: GEORGE

GEOLOGIST(S): JEREMY BARTLETT

SIGNATURE: Jeremy J. Bartlett

ft bgs	Sample Interval/ Recovery	Blow Counts	Instrument Reading	Lithological Description (Munsell/moisture/degree/USCS/cohesion/plasticity/grain type/cementation/roundness/details)	USCS Soil Symbol	Remarks (odor/water/sample ID etc.)
1	0.9	28/50 (4")	0/-	10YR 3/2 SC (SOIL) ~ 20% GRASS		HIGH BREATHING ZONE / SOIL.
2				NO ODOR DRY		CONCRETE RUBBLE FRAGMENTS
3	0.6	19/21/25	0/0	10YR 3/1 CL DRY/DAMP. VERY STIFF (10% SAND) NO ODOR		0" IN AUGER
4	0.8	7/15/21	0/0.2 -0	10YR 5/2 ML (NO % SAND)		0 IN AUGER
5				STIFF DAMP. NO ODOR.		UP TO 30% SAND AT BASE ROOTS
6	1.1	8/12/20	0/40	10YR 5/1 ML DAMP STIFF STRONG PETROL ODOR.		1 MOTTLING
7	1.5	6/12/18	100/ 10"	SAMPLE 5 (LIKE GASOLINE AS ABOVE MORE MOTTLING		9 ppm IN AUGER
8				ROOTS.		NO MOTTLING ROOTS
9	1.5	2/9 14	-/5	(0.5) AS ABOVE BOT WET IN LOWER 0.5' SAMPLE 6 FROM 9-9.5 9-10 SC 10YR 5/1		UPPER 0.5 HAS H2S RESPONSE COMET SOME MOTTLING
10	1.5	5/9/13	0/0.2	5Y 4/2 ML (BORDERLINE ON SC.) SATURATED SOFT. SC		LESS TO NO ODOR DEEPER
11				ZONE IN CENTER NO ODOR		11 IN AUGER DRIER AT BASE
12	1.1	7/17/19	0/0	10YR 5/2 SLIS SATURATED. LOOSE NO ODOR.		STIFF ML AT BASE 5 IN AUGER
13						
14	1.1	17/50 (5")	0/0	10YR 5/2 SP FINE SAND NO ODOR SATURATED LOOSE		8 ppm IN AUGER.
15	1.0	20/50/5	0/0	10YR 5/2 SP FINE TO MEDIUM SAND NO ODOR, SATURATED		2 ppm IN AUGER
16				LOOSE		
17	0.4	5/5/10	0/0	AS ABOVE		2 IN AUGER
18	0.8	24/50/3"	0/0	UPPER 0.5 FT AS ABOVE. LOWER 0.3 FT 10YR 5/3 CL		
19				LENSES WITH SP		LENSE OF CL
20						TD AT 20 FT BG
21						
22						

MW-6

Boring ID: 6 Page ___ of ___ **SOIL BORING LOG** ENTRIX

CLIENT: MAPES

SITE ADDRESS: 2001 VERSAILLES AVE Project #: 351100

DATE: 5/20 to ___ CONTRACTOR: ___

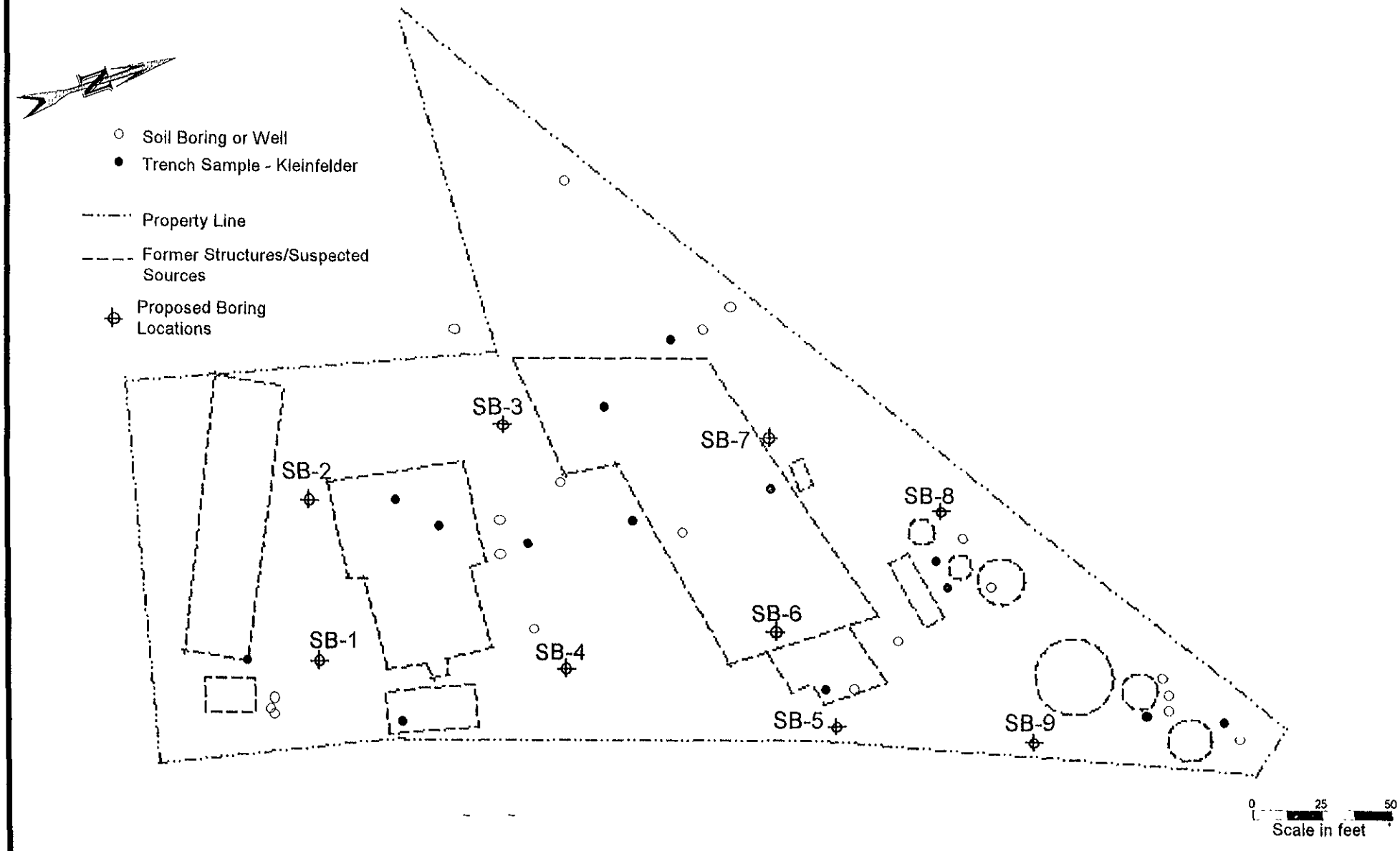
RIG TYPE: M61 DRILLING METHOD: HSA SAMPLING METHOD: SPLIT SPOON

DRILLER: ___ ASSISTANT: GEOLOGIST

GEOLOGIST(S): JEREMY BARTLETT

SIGNATURE: Jeremy Bartlett

ft bgs	Sample Interval/ Recovery	Blow Counts	Instrument Reading	Lithological Description (Munsell/moisture/type/relative/USCS/sorting/plasticity/grain type/cement/roundness/details)	USCS Soil Symbols	Remarks (PID/Water/sample ID etc)
1						HNU:
	0.1	28/50 (4")	0/0	10YR 4/4 GC DRY (SOIL)		BREATHING ZONE / SOIL (9:30 SAM
2				LOOSE (CONCRETE RUBBLE IN CATCHER.		
3	0.4	17/19/24	0/0	10YR 4/4 ML (40% SILT) STIFF NO ODOR.		DRIFTER
4						
	0.5	27/30/50 (4")	0/0	10YR 3/1 CL V. STIFF DRY/MOIST NO ODOR. (V. BLACK)		DRIVER STICKING / JAMMING POOR / BLOW COUNTS.
5						
6	1.5	6/12/27	0/0	DIFFICULT TO CUT/BREAK. AS ABOVE (<10% FINE SAND)		
7						GRADUAL TRANSITION
	1.5	12/18/30	0/0	2.5YR 5/2 ML SOME ROOTS STAIN NO ODOR		OVER 0.5'
8				AS ABOVE		
9	1.5	8/15/28	-/0	5Y 5/1 SP LOOSE/SOFT MOIST NO ODOR		GRADUAL RAPID OVER 3 CM
				5Y 5/1 SC SATURATED NO ODOR		SAMPLE 4 AS COLLECTED
10				2.5YR 4/2 ML MOIST SOFT/FIRM		
	1.2	9/17/33	0/0	10YR 6/1 SP FINE TO MEDIUM SAND NO ODOR		ROOTS & IRON STAINS
11				LOOSE/SOFT DAMP TO WET		IRON STAINS & ROOTS UPPER 0.5'
12	1.3	10/19/24	0/0	10YR 5/3 SM FINE SAND MOIST SOFT NO ODOR LOWER LS		(→ SC) LOWER 0.5 IS MEDIUM SAND SC.
13				COARSER. (ALL BORDERS AS SC		
	1.1	9/16/32	0/0	10YR 5Y 5/1 SC NO ODOR DAMP SHEET INTO 10YR 5Y 5/3		COMMON IRON STAINING
14				SP NO ODOR WET/SATURATED.		
15	1.1	5/7/20	0/0	10YR 5/3 SP FINE SAND WET NO ODOR. SOFT/LOOSE		
16						SOME SC/POSSIBLE SMEARED
	0.8	5/9/17	0/0	10YR 5/4 SW SATURATED NO ODOR.		COMPLETE IRON STAINING
17						
18	1.0	24/50 5"	0/0	10YR 5/3 SW SATURATED NO ODOR FROM MEDIUM POINT CORE.		
19						
20						



Touchstone Developments
Environmental Management

BORING LOCATIONS - JUNE 29, 1995
FORMER ALAMEDA BULK PLANT
2001 VERSAILLES AVENUE
ALAMEDA, CALIFORNIA

FIGURE 6

PROJECT NO.	DRAWN BY:	DATE	BASE MAP:
chev-1	AMD	7/95	KLEINFELDER

TABLE A
SOIL SAMPLE RESULTS
Former Chevron Alameda Bulk Plant

PETROLEUM HYDROCARBONS

Boring Number	Depth (feet)	Lab	Date	TPH - gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Xylene (ppm)
SB-1	3	Sequoia	6/29/95	ND	ND	ND	ND	ND
SB-1	5	Sequoia	6/29/95	ND	ND	ND	ND	ND
SB-2	3.5	Sequoia	6/29/95	ND	ND	ND	ND	ND
SB-2	5	Sequoia	6/29/95	ND	ND	ND	ND	ND
SB-3	3	Sequoia	6/29/95	ND	ND	ND	ND	ND
SB-3	5	Sequoia	6/29/95	ND	ND	ND	ND	ND
SB-4	2.5	Sequoia	6/29/95	ND	ND	ND	ND	ND
SB-4	5.5	Sequoia	6/29/95	ND	ND	ND	ND	ND
SB-5	2.5	Sequoia	6/29/95	ND	ND	ND	ND	ND
SB-5	6	Sequoia	6/29/95	76	ND	ND	ND	0.97
SB-6	2.5	Sequoia	6/29/95	27	ND	ND	0.13	0.18
SB-6	5.5	Sequoia	6/29/95	380	1.1	1.2	2.4	1.6
SB-6	10	Sequoia	6/29/95	ND	ND	ND	ND	ND
SB-7	2.5	Sequoia	6/29/95	98	ND	0.61	0.52	0.73
SB-7	5	Sequoia	6/29/95	470	ND	5.2	3.7	7.8
SB-8	2	Sequoia	6/29/95	ND	ND	0.010	ND	0.021
SB-8	5.5	Sequoia	6/29/95	ND	ND	ND	ND	ND
SB-9	4.0	Sequoia	6/29/95	ND	ND	ND	ND	ND
SB-9	5.5	Sequoia	6/29/95	ND	ND	ND	ND	ND
SB-9	10.0	Sequoia	6/29/95	ND	ND	ND	ND	ND

TABLE B

Cumulative Table of Well Data and Analytical Results

Vertical Measurements are in feet. Analytical results are in parts per billion (ppb).

DATE	Well Head Elev.	Ground Water Elev.	Depth To Water	Notes	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylene	TPH-Diesel	TDS(ppm)	MTBE	TOG
TRIP BLANK													
08/31/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--
10/27/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--
01/26/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	<2.5	--
05/21/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	<2.5	--
12/12/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	<2.5	--
06/03/97	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	<2.5	--

Note: Blaine Tech Services, Inc. began routine monitoring of the groundwater wells at this site on August 31, 1995. Earlier field data and analytical results are drawn from Chromalab, Inc. and GeoAnalytical Laboratories, Inc.

ABBREVIATIONS:
TPH = Total Petroleum Hydrocarbons
ND = Not detected at or above the minimum quantitation limit. See laboratory reports for minimum quantitation limits.
TDS = Total Dissolved Solids
MTBE = Methyl t-Butyl Ether
TOG= Total Oil and Grease

Figure 7
Benzene Concentration Versus Sample Location

Former Signal Bulk Plant
2001 Versailles Avenue
Alameda, California

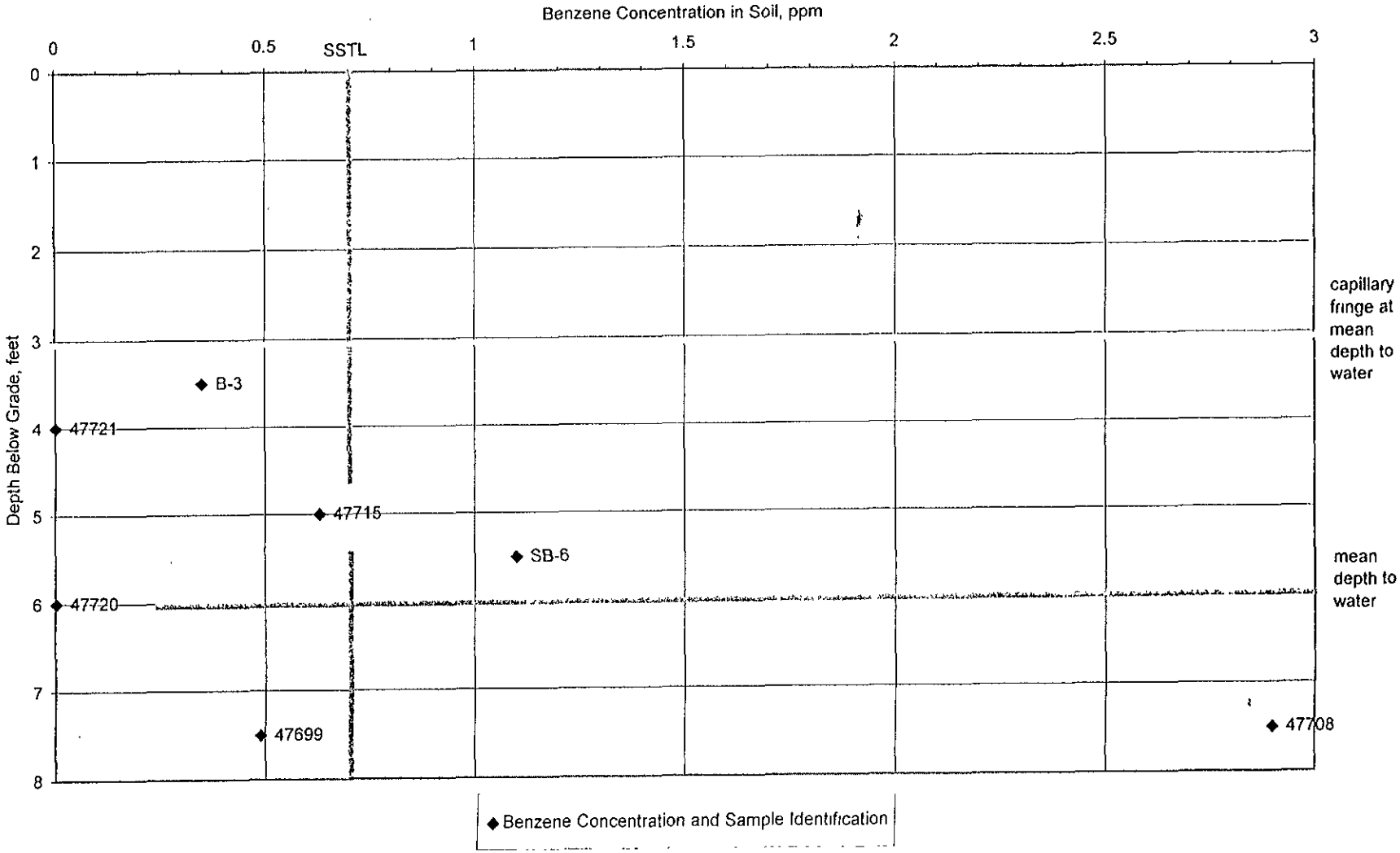


Table 8

Area Specific Average Benzene Concentration in Soil Compared to SSTLs and RBSLs

Former Signal Bulk Plant
2001 Versailles Avenue
Alameda, California

for 10^{-5}

Area	Average Benzene Concentration (ppm)	SSTL Atmospheric Inhalation (ppm)				SSTL Enclosed Inhalation (ppm)						RBSL Ingestion/Dermal/Soil Inhalation (ppm)			
		Residential		Commercial		Residential			Commercial			Residential		Commercial	
		1.00E-04	1.00E-06	1.00E-04	1.00E-06	1.00E-04	1.00E-05	1.00E-06	1.00E-04	1.00E-05	1.00E-06	1.00E-04	1.00E-06	1.00E-04	1.00E-06
1	0.002	N	54	N	N	7	0.7	0.07	21	2.1	0.21	168.8	1.69	290	2.9
2	0.32	N	54	N	N	7	0.7	0.07	21	2.1	0.21	168.8	1.69	290	2.9
3	0.0025	N	54	N	N	7	0.7	0.07	21	2.1	0.21	168.8	1.69	290	2.9
4	0.08	N	54	N	N	7	0.7	0.07	21	2.1	0.21	168.8	1.69	290	2.9
5	0.21	N	54	N	N	7	0.7	0.07	21	2.1	0.21	168.8	1.69	290	2.9
6	0.047	N	54	N	N	7	0.7	0.07	21	2.1	0.21	168.8	1.69	290	2.9

Notes

ppm = parts per million, milligrams per kilogram
SSTL = site specific target level
RBSL = risk-based screening level
N = not necessary, most stringent SSTL not exceeded
= average benzene concentration exceeds SSTL

TABLE A (continued)
SOIL SAMPLE RESULTS
Former Alameda Bulk Plant

DIESEL, OIL AND GREASE and SOLVENTS (as applicable)

Boring Number	Depth (feet)	Lab	Date	TPH - diesel (ppm)	Oil and Grease (ppm)	8010 (ppb)	8270 (ppb)
SB-2	3.5	Sequoia	6/29/95	ND	ND	ND	ND
SB-2	5	Sequoia	6/29/95	ND	ND	ND	ND
SB-3	3	Sequoia	6/29/95	3.1	ND	ND	ND
SB-3	5	Sequoia	6/29/95	ND	ND	ND	ND
SB-5	2.5	Sequoia	6/29/95	53	NA	NA	NA
SB-5	6	Sequoia	6/29/95	23	NA	NA	NA
SB-6	2.5	Sequoia	6/29/95	94	ND	ND	ND
SB-6	5.5	Sequoia	6/29/95	460	300	NA	NA
SB-6	10	Sequoia	6/29/95	ND	ND	ND	ND
SB-7	2.5	Sequoia	6/29/95	25	ND	NA	NA
SB-7	5	Sequoia	6/29/95	490	140	NA	NA
SB-8	2	Sequoia	6/29/95	110	NA	NA	NA
SB-8	5.5	Sequoia	6/29/95	ND	NA	NA	NA
SB-9	4.0	Sequoia	6/29/95	1.2	NA	NA	NA
SB-9	5.5	Sequoia	6/29/95	580	NA	NA	NA
SB-9	10	Sequoia	6/29/95	ND	NA	NA	NA

TABLE A (continued)
SOIL SAMPLE RESULTS
Former Alameda Bulk Plant

METALS (as applicable)

Boring Number	Depth (feet)	Lab	Date	Cadmium (ppm)	Chromium (ppm)	Lead (ppm)	Nickel (ppm)	Organic Lead (ppm)	Zinc (ppm)
SB-2	3.5	Sequoia	6/29/95	ND	27	5.3	8.0	ND	13
SB-2	5	Sequoia	6/29/95	ND	40	8.7	50	ND	25
SB-3	3	Sequoia	6/29/95	ND	26	15	10	ND	20
SB-3	5	Sequoia	6/29/95	ND	41	9	46	ND	31
SB-7	2.5	Sequoia	6/29/95	ND	38	8.4	55	ND	27
SB-7	5	Sequoia	6/29/95	ND	35	7.8	34	ND	26

TPH-Gasoline = Total petroleum hydrocarbons calculated as gasoline
TPH-diesel = Total petroleum hydrocarbons calculated as diesel
Oil and Grease = Total recoverable petroleum hydrocarbons per EPA method 5520
8010 = EPA Method 8010 for chlorinated solvents
8270 = EPA Method 8270 for semi-volatile solvents
ND=Not detected at or above the laboratory detection limits
NA = Analysis not requested
ppm = parts per million
ppb = parts per billion

TABLE B

Cumulative Table of Well Data and Analytical Results

Vertical Measurements are in feet. Analytical results are in parts per billion (ppb)

DATE	Well Head Elev.	Ground Water Elev.	Depth To Water	Notes	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylene	TPH-Diesel	TDS(ppm)	MTBE	TOG
MW-1													
06/01/94	--	--	--	--	600	43	ND	8.9	3.5	340*	740	--	--
08/31/95	13.60	6.57	7.03	--	78	<0.5	<0.5	<0.5	<0.5	1200*	--	--	--
10/27/95	13.60	6.21	7.39	--	<50	<0.5	<0.5	<0.5	<0.5	1100*	--	<2.5	--
01/26/96	13.60	7.48	6.12	--	<50	5.6	<0.5	<0.5	<0.5	920*	--	<2.5	--
02/23/96	13.60	10.30	3.30	--	--	--	--	--	--	--	--	--	<5000
05/21/96	13.60	8.08	5.52	--	<50	<0.5	<0.5	<0.5	<0.5	580	--	<2.5	--
12/12/96	13.60	8.02	5.58	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	<2.5	--
06/03/97	13.60	6.91	6.69	--	<50	<0.5	<0.5	<0.5	<0.5	890*	--	<2.5	--
MW-2													
06/01/94	--	--	--	--	ND	ND	ND	ND	ND	270*	--	--	--
08/31/95	12.22	6.20	6.02	--	<50	<0.5	<0.5	<0.5	<0.5	700*	--	--	--
10/27/95	12.22	5.75	6.47	--	<50	<0.5	<0.5	<0.5	<0.5	710*	--	<2.5	--
01/26/96	--	--	--	Inaccessible	--	--	--	--	--	--	--	--	--
02/23/96	--	--	--	Inaccessible	--	--	--	--	--	--	--	--	--
05/21/96	12.22	8.97	3.25	--	<50	<0.5	<0.5	<0.5	<0.5	580*	--	<2.5	<5000
12/12/96	12.22	6.71	5.51	--	<50	<0.5	<0.5	<0.5	<0.5	510*	--	<2.5	<5000
06/03/97	12.22	6.54	5.68	--	<50	<0.5	<0.5	<0.5	<0.5	470*	--	<2.5	--
MW-3													
06/01/94	--	--	--	--	360	0.70	ND	ND	0.50	190*	760	--	--
08/31/95	14.41	6.32	8.09	--	56	<0.5	<0.5	<0.5	<0.5	860*	--	--	--
10/27/95	14.41	5.58	8.83	--	<50	<0.5	<0.5	<0.5	<0.5	870*	--	<2.5	--
01/26/96	14.41	8.68	5.73	--	<50	<0.5	<0.5	<0.5	<0.5	530*	--	<2.5	--
02/23/96	14.41	9.47	4.94	--	--	--	--	--	--	--	--	--	<5000
05/21/96	14.41	7.43	6.98	--	<50	<0.5	<0.5	<0.5	<0.5	1000*	--	<2.5	--
12/12/96	14.41	8.20	6.21	--	<50	<0.5	<0.5	<0.5	<0.5	640*	--	<2.5	--
06/03/97	14.41	6.47	7.94	--	<50	<0.5	<0.5	<0.5	<0.5	720*	--	<2.5	--
MW-4													
05/31/94	--	--	--	--	170	ND	ND	ND	ND	160*	--	--	--
08/31/95	13.70	5.48	8.22	--	<50	<0.5	<0.5	<0.5	<0.5	940*	--	--	--
10/27/95	13.70	5.05	8.65	--	<50	<0.5	<0.5	<0.5	<0.5	570*	--	<2.5	--
01/26/96	13.70	8.35	5.35	--	<50	<0.5	<0.5	<0.5	<0.5	730*	--	<2.5	--
02/23/96	13.70	9.36	4.34	--	--	--	--	--	--	--	--	--	<5000
05/21/96	13.70	6.92	6.78	--	<50	<0.5	<0.5	<0.5	<0.5	500*	--	<2.5	--
12/12/96	13.70	6.46	7.24	--	<50	<0.5	<0.5	<0.5	<0.5	650*	--	<2.5	--
06/03/97	13.70	6.06	7.64	--	<50	<0.5	<0.5	<0.5	<0.5	460*	--	<2.5	--

* Chromatogram pattern indicates an unidentified hydrocarbon.

TABLE B

Cumulative Table of Well Data and Analytical Results

Vertical Measurements are in feet. Analytical results are in parts per billion (ppb)

DATE	Well Head Elev.	Ground Water Elev.	Depth To Water	Notes	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylene	TPH-Diesel	TDS(ppm)	MTBE	TOG
MW-5													
05/31/94	--	--	--	--	140	ND	ND	1.2	ND	620*	--	--	--
08/31/95	12.63	5.37	7.26	--	<50	<0.5	<0.5	<0.5	<0.5	<50	--	--	--
10/27/95	12.63	4.85	7.78	--	<50	<0.5	<0.5	<0.5	<0.5	<50	--	<2.5	--
01/26/96	12.63	8.30	4.33	--	<50	<0.5	<0.5	<0.5	<0.5	1000*	--	<2.5	--
02/23/96	12.63	9.33	3.30	--	--	--	--	--	--	--	--	--	<5000
05/21/96	12.63	6.83	5.80	--	<50	<0.5	<0.5	<0.5	<0.5	160*	--	<2.5	--
12/12/96	12.63	7.39	5.24	--	<50	<0.5	<0.5	<0.5	<0.5	<50	--	<2.5	--
06/03/97	12.63	5.98	6.65	--	<50	<0.5	<0.5	<0.5	<0.5	150*	--	<2.5	--
MW-6													
05/31/94	--	--	--	--	ND	ND	ND	ND	ND	ND	550	--	550
08/31/95	13.06	4.38	8.68	--	<50	<0.5	<0.5	<0.5	<0.5	<50	--	--	--
10/27/95	13.06	3.94	9.12	--	<50	<0.5	<0.5	<0.5	<0.5	<50	--	<2.5	--
01/26/96	13.06	7.16	5.90	--	<50	<0.5	<0.5	<0.5	<0.5	78*	--	<2.5	--
02/23/96	13.06	8.44	4.62	--	--	--	--	--	--	--	--	--	<5000
05/21/96	13.06	5.73	7.33	--	<50	<0.5	<0.5	<0.5	<0.5	53*	--	<2.5	--
12/12/96	13.06	6.35	6.71	--	<50	<0.5	<0.5	<0.5	<0.5	<50	--	<2.5	--
06/03/97	13.06	5.02	8.04	--	<50	<0.5	<0.5	<0.5	<0.5	67*	--	<2.5	--
TAP HOSE													
06/01/94	--	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--
WELL													
06/02/94	--	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--

* Chromatogram pattern indicates an unidentified hydrocarbon.

Review of Former Signal Bulk Plant, 2001 Versailles Avenue, Alameda, CA

Barney.

12/23/97 - I reviewed the 10/97 risk assessment and spoke to Mr. Gitattino. He asked him for the following changes:

Submit table comparing the site concentrations for different areas with the calculated SSTL's for 10-5.
A rationale for using the cappillary fringe values for volumetric air content rather than using the vadoze zone values.

He sent a response in the 1/30/98 letter showing the depths at which the soil samples are collected. According to this information soil samples were collected between 3.5 and 7.5 feet and the it is mentioned that gw fluctuates between 2 to 9 feet. Hence, he claims that most of the samples were collected in the capillary zone and hence he used the capillary fringe values for volumetric air content.

The exposure pathway they evaluated in Tier 2 :
Soil to indoor air
Soil to atmospheric air
Ingestion/Dermal/Inhalation pathway for construction workers

The site is not a problem for a risk of 10-5

Groundwater to indoor air passed the Tier 1, since the max benzne found in gw according to report is 5. 6 ppb (given in table D of 6/1/3 96 Tier 1 report)

Madhulla