

FILE COPY

July 8, 1998

File #C90115

Mark Pumford
State of California
Regional Water Quality Control Board, Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754

**UNDERGROUND TANK RELEASE AT FORMER EAST VENTURA COUNTY SHERIFF
SUBSTATION, 2201 EAST OLSEN ROAD, THOUSAND OAKS, CALIFORNIA**

The Ventura County Environmental Health Division (VCEHD) is submitting the above-referenced site to the Los Angeles Regional Water Quality Control Board (LARWQCB) for review and concurrence for case closure.

The site is located at the eastern boundary of the city of Thousand Oaks on the north side of Olsen Road. The site formerly was used as the East County Sheriff Substation which contained a service area and a fueling station for County vehicles. Four underground storage tanks (USTs) were removed from the site in August 1990.

This site is in the western portion of the Simi Valley Groundwater Basin and just north of the northern boundary of the Conejo Valley Groundwater Basin. The area is generally not groundwater-bearing; however, fractures or vugs within the Conejo Volcanics may transmit or store groundwater that is generally perched.

An unauthorized release of petroleum hydrocarbons at the site was reported after the four USTs were removed. Contaminated soil was excavated and aerated onsite. In April 1992, after verification samples were collected and analyzed, fuel hydrocarbon concentrations were below detection limits and the soil was used to backfill the excavations. A verification soil boring was located in the area of highest contamination in February 19, 1997. Concentrations of TPHg, toluene, ethylbenzene, and xylene were found to be present in the soil samples, but at concentrations below acceptable cleanup goals.

In addition to the excavation and onsite aeration of contaminated soil, the remedial efforts have consisted of the operation of both soil vapor extraction and groundwater extraction systems.

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Contaminated groundwater was detected in the perched zones but was restricted to the vicinity of the former tank locations. Results of the most recent groundwater sample analyses (October 3, 1997) indicate that no concentrations of benzene or MTBE are present above laboratory detection limits. Subsequent attempts to sample the groundwater failed because the monitoring wells were dry.

According to regulatory "common sense" guidelines when an underground fuel storage tank release has been stopped, the source has been removed or remediated, the site has been adequately characterized, the groundwater contamination plume is stable, the contaminated site may be ready for consideration for "low risk" closure.

The site specific conditions have been assessed using these guidelines to evaluate the risk to human health and the environment. There are no drinking water wells or aquifers affected.

Based upon our review of the data provided for the previous site assessment, the remediation activities conducted, and of the current site conditions, it is our opinion that this site meets the criteria for site closure.

If you have any questions, please contact me at (805)662-6510.



K. CRAIG KLEIN
UNDERGROUND TANK PROGRAM
ENVIRONMENTAL HEALTH DIVISION

KCK/sg/7v-shrif

Enclosures (LARWQCB only)

c: Tony Patton, Manager, VC GSA Fleet Services
Robert Quinn, Jr., Deputy Director, VC Public Works Agency

Case Closure Summary

Leaking Underground Fuel Storage Tank Program

I. Agency Information

Date: July 2, 1998

Agency Name: Ventura County Environmental Health Div.	Address: 800 South Victoria Avenue
City/State/ZIP: Ventura, CA. 93009-1730	Phone: (805) 662-6510
Responsible Staff Person: K. Craig Klein	Title: Project Manager

II. Case Information

Site facility name: Former East County Sheriff's Substation				
Site facility Address: 2201 East Olsen Rd., Thousand Oaks, CA				
RB LUSTIS Case No: C90115		Local Case No: C90115		LOP Case No: C90115
URF filing date: 09/25/90		SWEEPS No:		
Responsible Parties		Addresses		Phone No.
Tony M. Patton, Ventura County GSA Fleet Services		682 El Rio Dr. Oxnard, CA 93030		(805) 388-4570
Tank No	Size in Gallons	Contents	Closed in Place/Removed?	Date
1	12,000	Gasoline	Removed	08/21/90
2	10,000	Gasoline	Removed	08/21/90
3	300	Waste Oil	Removed	08/21/90
4	300	Motor oil	Removed	08/21/90

III. Release and Site Characterization Information

Cause and type of release: Overfill/overspill		
Site characterization complete? <u>Yes</u> No	Date approved by oversight agency: 12/16/97	
Monitoring Wells installed? <u>Yes</u> No	Number: 7	Proper screen <u>Yes</u> No
Highest GW depth below ground surface: 44.19 ft.	Lowest depth: 96.15 ft.	Flow direction: S-SW
Most sensitive current use: None		
Are drinking water wells affected? <u>Yes</u> <u>No</u>	Aquifer Name: Fractures in indurated sandstone and volcanics	
Is surface water affected <u>Yes</u> <u>No</u>	Nearest/affected SW name: Bard Reservoir	
Off-site beneficial use impacts (address/locations): None		
Reports on file? <u>Yes</u> No	Where is report(s) filed? VCEHD	

Treatment and Disposal of affected Material

Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	1 - 12,000 Gal., 1 - 10,000 Gal., 2 - 300 Gal.	Transported to Standard Ind. (Ventura) for recycling	06/21/90
Piping	various	Transported to Standard Ind. (Ventura) for recycling	06/21/90
Free Product			
Soil			
Groundwater			
Barrels			

Case Closure Summary

Leaking Underground Fuel Tank Program

III Release and Site Characterization Information (Continued)

Maximum Documented Contaminant Concentrations - - Before and After Cleanup									
Contaminant	Soil (ppm)		Water (ppm)		Contaminant	Soil (ppm)		Water (ppm)	
	before	after	before	after		before	after	before	after
TPH (gas) *	ND	8.0	67	ND	Xylene	24	0.47	18	ND
TPH (diesel) *	2,000	NA	NA	NA	Ethylbenzene	1.9	0.075	1.8	ND
Benzene	0.05	ND	2.3	ND	Oil & Grease				
Toluene	1.2	0.054	10	ND	Heavy metals (Pb)	17	NA	NA	ND
MTBE	NA	ND	NA	ND	Other (TRPH)	1700	NA	NA	NA

* The elevated diesel concentrations were shown to be degraded gasoline in samples collected during tank removal. No diesel USTs were ever present onsite. Soil was aerated onsite and used to backfill the existing excavations. The elevated contaminant concentrations in groundwater were found only in well MW-1, which has been dry since 1995. Contamination was found to be very localized in soil and groundwater.

IV. Closure

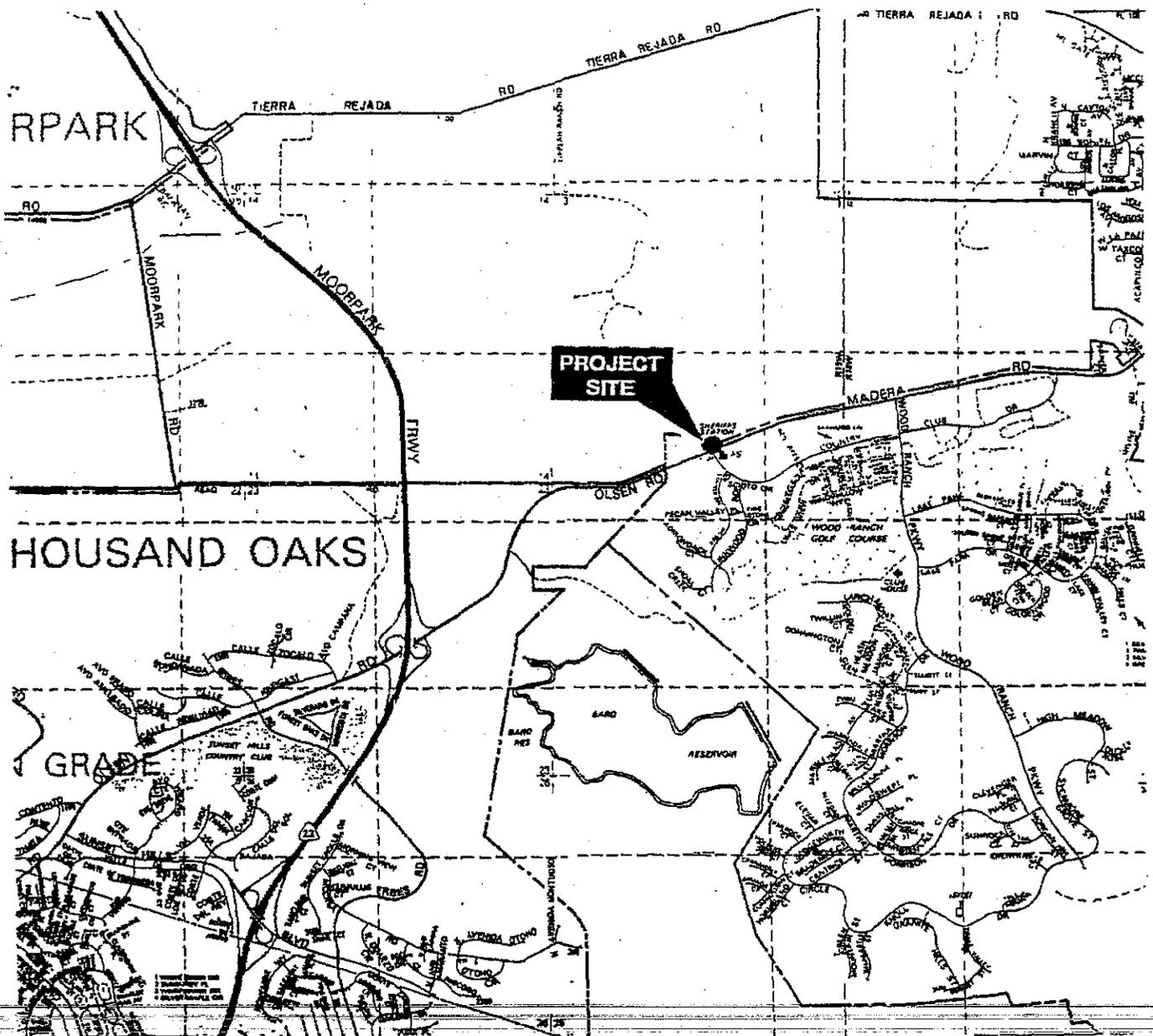
Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? <u>Yes</u> No	
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? <u>Yes</u> No	
Do Cleanup levels exceed Regional Board requirements? Yes <u>No</u>	Identify:
Rationale for exceeding RB requirements:	
Does corrective action protect public health for current land use? <u>Yes</u> No	
Site management requirements:	
Should corrective action be reviewed if land use changes? Yes <u>No</u>	
Monitoring wells decommissioned? Yes <u>No</u>	Number Decommissioned: Number Retained: 6
List enforcement action taken:	
List enforcement action rescinded:	

V. Local Agency Representative Data

Name: K. Craig Klein	Title: Project Manager
Signature: <i>K. Craig Klein</i>	Date: 07/07/98

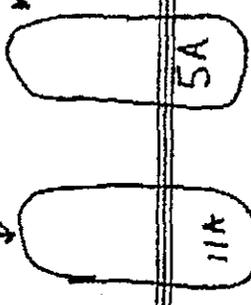
VI. RWQCB Notification

Date Submitted to RB Executive Officer	RB Response:	
RWQCB Staff Name:	Title	Date:
Additional Comments, Data, Etc.		

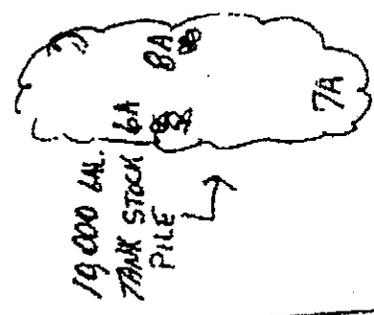
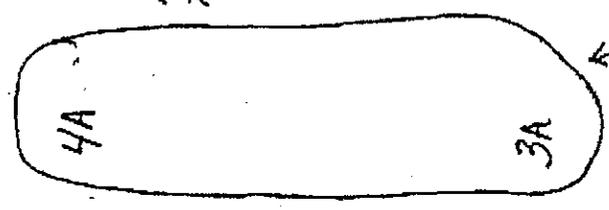
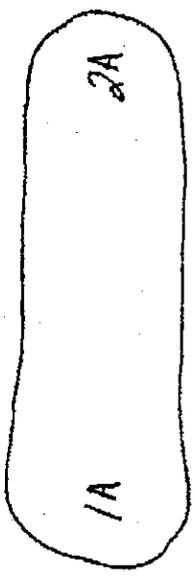
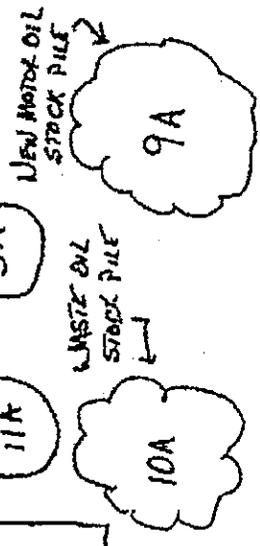


SITE LOCATION MAP
Former East County Sheriff Substation
2201 East Olsen Road, Thousand Oaks

NEW MOTOR OIL TANK
NEW MOTOR OIL TANK
WASTE OIL TANK



BUILDING



tank removal. This tank appeared to have had a leak problem and the soil from under the tank has been tested positive for Petroleum Hydrocarbons.

If this proposal meets with your approval, I will prepare a Work Order for Staal, Gardner and Dunne to continue with this work.

TABLE 1
TEST RESULTS*

Sample	Location	TPH 8015 G	TPH 8015D	Total Lead	TRPH 418.1
1A	10,000g Tank Bottom	ND<10ppm	180ppm	ND<1ppm	NA
2A	10,000g Tank Bottom	ND<100ppm	2000ppm	ND<1ppm	NA
3A	12,000g Tank Bottom	ND<1ppm	83ppm	ND<1ppm	NA
4A	12,000g Tank Bottom	ND<1ppm	ND<10ppm	ND<1ppm	NA
5A	New Oil Tank	NA	NA	NA	770ppm
6A	10,000g Stockpile	ND<10ppm	210ppm	1ppm	NA
7A	10,000g Stockpile	ND<10ppm	140ppm	ND<1ppm	NA
8A	10,000g Stockpile	ND<5ppm	ND<10ppm	ND<1ppm	NA
9A	New Oil Tank Stockpile	NA	NA	NA	1500ppm
10A	Waste Oil Tank Stockpile	NA	NA	NA	250ppm
11A	Waste Oil Tank Bottom	NA	NA	NA	7ppm
12A	12,000g Stockpile	ND<1ppm	ND<10ppm	2ppm	NA
13A	12,000g Stockpile	ND<5ppm	ND<10ppm	1.5ppm	NA

* Samples taken 8/21/90 by Petroleum Specialities and Analyzed by Enseco-CRL

cc. Rod Farrell
Staal, Gardner & Dunne

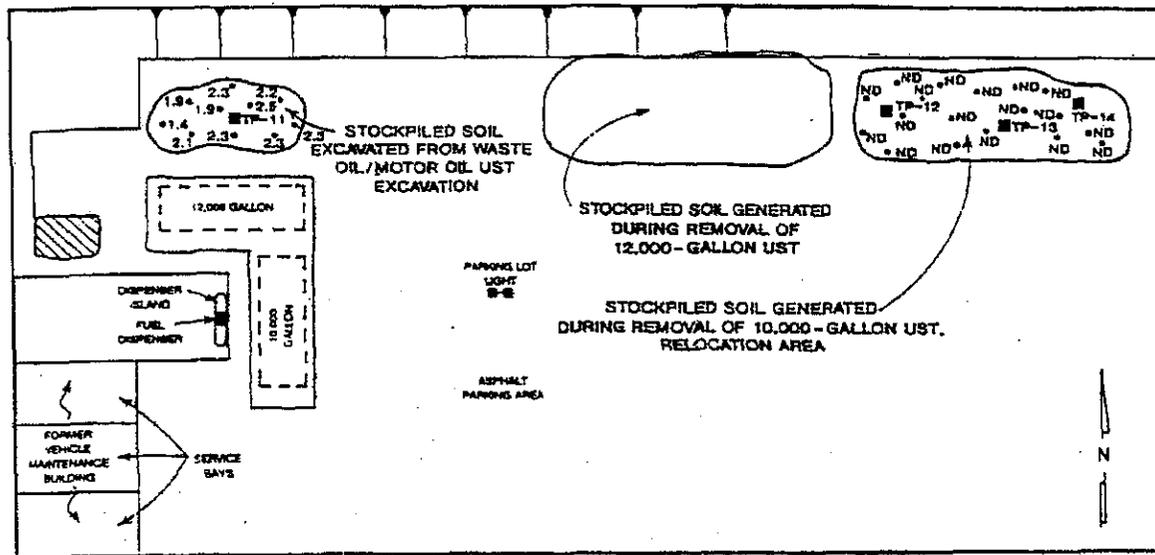
REC'D JAN 30 1992

SGD

11

County of Ventura
Public Works Agency
January 24, 1992 (V91035A)

FIGURE 3
VERIFICATION SOIL SAMPLE COLLECTION LOCATIONS



12,000 FORMER LOCATION OF UST WITH CAPACITY

CUT SLOPE

WASTE OIL/MOTOR OIL UST EXCAVATION

TP-11 LOCATION OF VERIFICATION SOIL SAMPLE

2.3 PID SCREENING LOCATION WITH CORRESPONDING VALUE IN PPM

ND PID VALUE NOT DETECTED

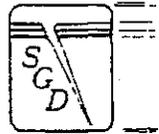


TABLE 2

ANALYTICAL RESULTS OF SOIL SAMPLES, INTERIM CORRECTIVE ACTION
(all results in parts per million [ppm])

EPA METHOD 418.1, CALDERON METALS SCAN, AND EPA METHOD 8240, FULL

Sample No.	Depth (feet)	Benzene	Toluene	Ethyl-benzene	Xylenes	TPH (8240, full)	TRPH (418.1)	Total Lead	Additional Constituents Analyzed For ¹
TP-1	7	ND	ND	ND	ND	ND	20	2	Varies, See Appendix B
TP-2	9	ND	ND	ND	ND	ND	10	2	
TP-3	9	ND	0.011	ND	ND	ND	1,700	4	
TP-4	SP*	ND	0.037	ND	ND	ND	160	9	
TP-5	SP*	ND	0.049	ND	ND	ND	260	8	
TP-6	SP*	ND	0.044	ND	ND	ND	250	3	
Detection Limit	—	0.005	0.005	0.005	0.005	0.5	10	1	Varies, See Appendix B
Applied Action Level**	—	0.001	0.10	0.68	1.75	10	1000	—	—

ND Not detected at or above practical quantitation limit

TPH Total Petroleum Hydrocarbons for gasoline and diesel fuels

TRPH Total Recoverable Purgeable Hydrocarbons

SP* Collected from stockpiled soil

** County of Ventura Environmental Health Division LUFT Program cleanup levels for soil, DOHS Drinking Water Standard/Maximum Contaminant Level

Concentrations in excess of applicable applied action level

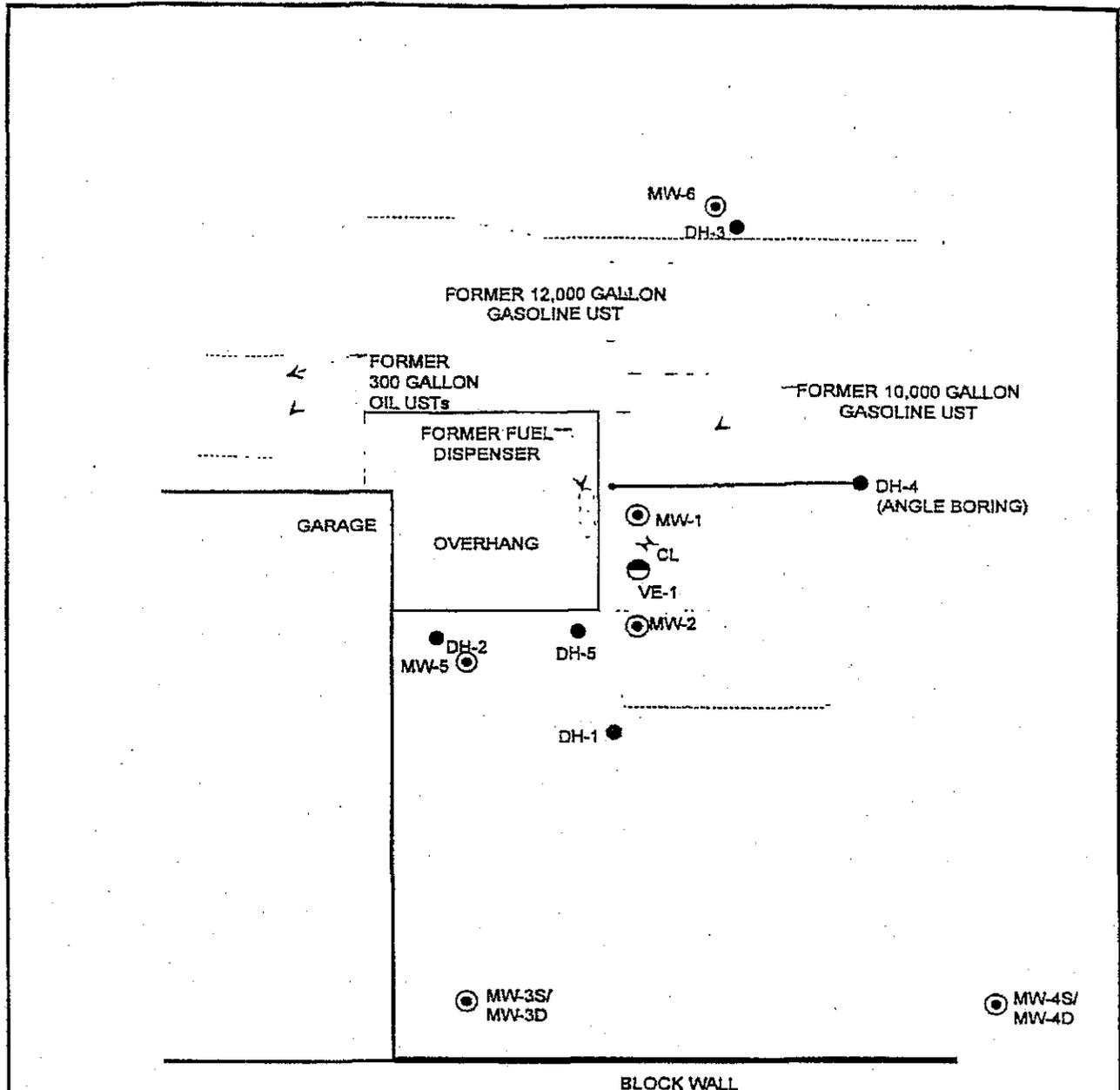
Acetone, Bromodichloromethane, Bromoform, Bromomethane, 2-butanone, Carbon Disulfide, Carbon Tetrachloride, Chlorobenzene, Chloroethane, Dibromochloromethane, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,1-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethene, 1,2-dichloropropane, 1,3-dichloropropane, 2-hexanone, Methyl Isobutyl Ketone, Methylene Chloride, Styrene, 1,1,2,2-tetrachloroethane, Tetrachloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane, Trichloroethene, Trichlorofluoromethane, Trichlorotrifluoroethene, Vinyl Acetate, Vinyl Chloride, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, and Zinc.

County of Ventura
 Public Works Agency
 January 24, 1992 (V91035A)

TABLE 1
 ANALYTICAL RESULTS OF VERIFICATION SOIL SAMPLES

Sample No.	Date Collected	Benzene	Toluene	Ethyl-benzene	Xylenes	EDC	EDB	PNAs*	TPH	Total Lead
TP-7	11/13/91	NA	NA	NA	NA	NA	NA	NA	70	NA
TP-8	11/13/91	NA	NA	NA	NA	NA	NA	NA	400	NA
TP-9	12/6/91	NA	NA	NA	NA	NA	NA	ND	320	10
TP-10	12/6/91	NA	NA	NA	NA	NA	NA	0.05 ¹	1,500	11
TP-11	1/8/92	NA	NA	NA	NA	NA	NA	0.14 ²	290	7
								0.08 ¹		
								0.07 ²		
								0.02 ³		
								0.05 ⁴		
								0.05 ⁵		
								0.02 ⁶		
								0.01 ⁷		
								0.03 ⁸		
								0.01 ⁹		
0.01 ¹⁰										
TP-12	1/8/92	ND	ND	ND	ND	ND	ND	NA	ND	6
TP-13	1/8/92	ND	ND	ND	ND	ND	ND	NA	ND	6
TP-14	1/8/92	ND	ND	ND	ND	ND	ND	NA	ND	7
Detection Limit		0.005	0.005	0.005	0.005	0.005	0.005	Varies**	1	1

- 1 Fluoranthene
- 2 Pyrene
- 3 Benzo(a) anthracene
- 4 Benzo(b) fluoranthene
- 5 Benzo(k) fluoranthene
- 6 Benzo(a) pyrene
- 7 Benzo(ghi) perylene
- 8 Chrysene
- 9 Indeno(1,2,3-cd) pyrene
- 10 Phenanthrene
- EDB Ethylene Dibromide
- EDC 1,2-dichloroethane
- NA Not analyzed for
- ND Not detected at or above practical quantitation limit (detection limit)
- TPH Total petroleum hydrocarbons
- PNAs Polynuclear aromatics
- * (PNAs analyzed for) acenaphthylene, acenaphthene, anthracene, benzo(a) anthracene, benzo(b) fluoranthene, benzo(k) fluoranthene, benzo(a) pyrene, benzo(ghi) perylene, chrysene, dibenzo(a,h) anthracene, fluoranthene, fluorene, indeno(1,2,3-cd) pyrene, naphthalene, phenanthrene, pyrene, methylnaphthalenes
- ** See Appendix A



LEGEND

Former UST Location

Former-UST-Excavation

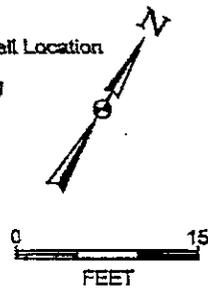
MW-2 Monitoring Well Location

DH-1 Soil Boring Location

Soil Vapor Extraction Well Location

Confirmation Soil Boring

CL Location Installed on February 18, 1997



ENSR

**FIGURE 2
SITE MAP**

Former East County Sheriff Substation
2201 East Olsen Road
Thousand Oaks, California

Drawn by: J. Cook	Date: 12/30/97	Project number
Figure Name:7020017.dwg	Checked by: M. Flack	7020-017-000



Table 1. Analytical Results of Soil Samples, SGD, May 1991

(all results in parts per million [ppm])

Sample No.	Depth (feet)	Benzene	Toluene	Ethylbenzene	Xylenes	EDC	EDB	Total Lead	TPH
DH-1-3	15	ND	0.049	ND	0.010	ND	ND	16	1
DH-1-5	25	ND	0.043	ND	0.007	ND	ND	17	ND
DH-2-3	16	ND	0.023	ND	0.008	ND	ND	11	ND
DH-2-5	25	ND	0.038	ND	0.018	ND	ND	13	1
DH-3-3	16	ND	0.022	ND	0.008	ND	ND	15	ND
DH-3-5	25	ND	0.034	ND	0.010	ND	ND	14	ND
DH-4-12	56 ¹	0.05	1.2	1.9	24	ND	ND	17	450
DH-4-14	62 ¹	0.025	0.140	0.029	0.320	ND	ND	10	3
DH-5-6	45	ND	0.089	ND	0.010	ND	ND	12	2
DH-5-11	70	ND	0.031	ND	0.009	ND	ND	17	1
Detection Limit		0.005	0.005	0.005	0.005	0.005	0.005	1	1

DH Drill hole
 EDB Ethylene dibromide
 EDC 1,2-dichloroethane
 ND Not detected at or above practical quantitation limit
 TPH Total petroleum hydrocarbons
¹ Calculated true vertical depth

Table 2. Analytical Results of Soil Samples from MW-1, August 1992

(results in milligrams per kilograms [mg/kg])

Sample No.	Depth (feet)	Benzene	Toluene	Ethylbenzene	Total Xylenes	TPH (gasoline)
7-2	10	0.36	0.49	0.21	10	400
7-5	25	1.1	10	3.2	69	640
7-8	40	2	55	25	160	1,300
7-10	50	2	53	18	120	850
7-11	55	2.9	53	24	170	2,000
7-12	60	0.55	2	0.48	5.3	140
7-13	70	ND	ND	ND	ND	ND
Detection Limit		0.005	0.005	0.005	0.015	10

ND Not detected at or above the practical quantitation limit
 TPH Total petroleum hydrocarbons
 Note: Benzene, toluene, ethylbenzene, and total xylenes by EPA method 8020. TPH as gasoline by EPA method 8015.



Table 3. Analytical Results of Soil Samples from MW-2, February 1993
 (results in milligrams per kilograms (mg/kg))

Sample No.	Depth (feet)	Benzene	Toluene	Ethylbenzene	Total Xylenes	TPH (gasoline)
2-20	20	ND	ND	ND	ND	ND
2-30	30	ND	ND	ND	ND	ND
2-40	40	ND	ND	ND	ND	ND
2-50	50	ND	ND	ND	ND	ND
2-60	60	ND	ND	ND	ND	ND
2-70	70	ND	ND	ND	ND	ND
Detection Limit		0.005	0.005	0.005	0.015	1.0

ND Not detected at or above the practical quantitation limit

Note: Benzene, toluene, ethylbenzene and xylenes by EPA method 8020, TPH as gasoline by EPA method 8015.
 Analysis by Del Mar

Table 4. Analytical Results of Soil Samples, July 1993
 (all data in milligrams per kilograms (mg/kg))

Well No.	Depth (feet)	TPH (gasoline)	EPA Method 8020			
			Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-3	10	ND	ND	ND	ND	ND
MW-3	60	ND	ND	0.005	ND	ND
MW-3	70	ND	ND	ND	ND	ND
MW-3	78	ND	ND	ND	ND	ND
MW-4	20	ND	ND	ND	ND	ND
MW-4	40	ND	ND	ND	ND	ND
MW-4	70	ND	ND	ND	ND	ND
MW-4	90	ND	ND	ND	ND	ND
Detection Limit		1.0	0.005	0.005	0.005	0.005

TPH Total petroleum hydrocarbons, EPA method 8015, modified
 ND Not detected



Table 5. Ground Water Elevation Data

Well No.	Date Measured	Depth to Ground Water	Ground Water Elevation
Shallow Perched Aquifer			
MW-1	03/03/93	44.19	970.81
	08/04/93	62.20	952.80
	01/25/94	63.90	951.10
MW-3S	08/04/93	dry	dry
	12/10/93	dry	dry
MW-4S	08/04/93	dry	dry
	12/10/93	dry	dry
MW-5	12/10/93	dry	dry
MW-6	12/10/93	55.62	958.78
Deep Perched Aquifer			
MW-1	08/11/92	76.58	938.42
MW-2	03/03/93	65.25	949.66
	08/04/93	78.59	936.32
	12/10/93	82.61	932.31
MW-3D	08/04/93	79.75	935.65
	12/10/93	83.51	931.90
MW-4D	08/04/93	77.86	936.05
	12/10/93	81.58	932.33

Table 6. Analytical Results of Soil Samples, December 1993

(all data in milligrams per kilograms [mg/kg])

Boring/ Well No.	Depth (feet)	TPH (gasoline)	EPA Method 8020			
			Benzene	Toluene	Ethylbenzene	Total Xylenes
DH-8	50	ND	ND	ND	ND	ND
DH-8	60	ND	ND	ND	ND	ND
DH-8	70	ND	ND	ND	ND	ND
MW-5	30	ND	ND	ND	ND	ND
MW-5	60	ND	ND	ND	ND	ND
MW-5A*	60	ND	ND	ND	ND	ND
MW-5	70	ND	ND	ND	ND	ND
MW-6	30	ND	ND	ND	ND	ND
MW-6	50	ND	ND	ND	ND	ND
MW-6	70	ND	ND	ND	ND	ND
Detection Limit		1.0	0.005	0.005	0.005	0.015

TPH Total petroleum hydrocarbons, EPA method 8015, modified
 ND Not detected
 * Duplicate Sample

TABLE 2
Confirmation Soil Boring CL
Analytical Results
(February 19, 1997)

Sample No.	Sample Depth	TPHg (gasoline) mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethyl-benzene mg/Kg	Total Xylenes mg/Kg	MTBE mg/Kg
CL-5	5	ND	ND	ND	ND	ND	ND
CL-10	10	ND	ND	ND	ND	ND	ND
CL-15	15	ND	ND	ND	ND	ND	ND
CL-20	20	ND	ND	ND	ND	ND	ND
CL-25	25	ND	ND	ND	ND	ND	ND
CL-30	30	ND	ND	ND	ND	ND	ND
CL-35	35	ND	ND	ND	ND	ND	ND
CL-40	40	ND	ND	ND	ND	ND	ND
CL-45	45	2.0	ND	0.054	0.075	0.100	ND
CL-50	50	18	ND	0.016	0.032	0.450	ND
CL-55	55	2.9	ND	ND	ND	0.078	ND
CL-60	60	8.0	ND	0.012	0.016	0.470	ND
CL-65	65	ND	ND	ND	ND	ND	ND
CL-70	70	ND	ND	ND	ND	ND	ND
CL-75	75	ND	ND	ND	ND	ND	ND
CL-80	80	ND	ND	ND	ND	ND	ND
CL-85	85	ND	ND	ND	ND	ND	ND
CL-90	90	ND	ND	ND	ND	ND	ND
Detection Limit		0.5	0.005	0.005	0.005	0.010	0.050
Soil Cleanup Goals ¹		100	0.3	0.3	1.0	1.0	NE

ND - Not detected at or below the practical quantitation limit

NE - Not established

¹ Fugro West, Inc., Remedial Action Plan, Former East County Sheriff Substation report dated February 28, 1995, Table 11 - Soil Cleanup Goals

