ALAMEDA COUNTY . HEALTH CARE SERVICES





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

REMEDIAL ACTION COMPLETION CERTIFICATION

November 13, 1996

Attn: Tara Lynch Mobile Oil Corporation 3225 Gallows Rd., Rm. 6W319 Fairfax VA 22037

Dear Ms. Lynch:

UNDERGROUND STORAGE TANK (UST) CASE Former Mobile S/S No. 10-L1X 15884 Hesperian Blvd. San Lorenzo CA 94580 SITE NO. 4217

This letter confirms the completion of site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Enclosed is the Case Closure Summary for the referenced site for your records.

Based upon the available information, including the current land use, 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 storage tank-release is required.

This notice is issued pursuant to a regulation contained in Title 23, California Code of Regulations, Division 3, Chapter 16, Section 2721 (e). If a change in land use, structural configuration, or site activities are proposed such that more conservative exposure scenarios should be evaluated, the owner must promptly notify this agency.

Please telephone Amy Leech at (510)567-6700 if you have any questions regarding this matter.

Sincerely,

Mee Ling Tung, Director of Environmental Health Services

ATTACHMENT

c: Attn: Ron Scheele, Alton Geoscience, 30A Lindbergh Ave., Livermore CA 94550 Kevin Graves, RWQCB Lori Casias, SWRCB w/attachment

Acting Chief of Environmental Protection Division

ALL/Files

CASE CLOSURE SUMMARY Leaking Underground Fuel Storage Tank Program Page 1 of 4

AGENCY INFORMATION

Agency name: Alameda County-HazMat

Date:City/State/Zip: Alameda, CA 94502

Responsible staff person: Amy Leech

Date: June 10, 1996

Address: 1131 Harbor Bay Pkwy

Phone: (510) 567-6700

Title: Hazardous Materials Spec.

II. CASE INFORMATION

Site facility name: Former Mobile S/S No. 10-L1X

Site facility address: 15884 Hesperian Blvd., San Lorenzo CA 94580

RB LUSTIS Case No: N/A

Local Case No./LOP Case No.: 4217

URF filing date: 03/06/86

SWEEPS No: N/A

Address:

Phone Numbers:

Attn: Michele Fear -

3225 Gallows Rd., Rm 2M211

3225 Yallows Rd, Rm6W319

Mobile Oil Corporation

Fairfax VA 22037

Fairfox Va 22037

Tank No:	Size in gal.:	Contents:	Closed in-place or removed?:	<u>Date:</u>	
110.		G 1:		2.00	• ~
1	unknown	Gasoline	removed	3/86	, ,
2	11	II .	71	11	
3	71	11	11	n	
4	FF	Waste oil	tt	11	<u>ਨ</u>
5	10,000	Gasoline	**	12/87	25 C
6	10,000	li .	11	ti .	
7	12,000	11	11	n	တ္ င္း
8	1,000	Waste oil	u	н	2

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: Unknown

Site characterization complete? Yes

Date approved by oversight agency: 03/28/96

Monitoring Wells installed? Yes

Number: 8

Proper screened interval? Yes

Highest GW depth below ground surface: 9.73 ft Lowest depth: 15.29 ft (MW-2)

Flow direction: Southwest

Most sensitive current use: Commercial (Parking lot for a shopping center.)

Are drinking water wells affected? No

Aquifer name: N/A

Is surface water affected? No Nearest affected SW name: N/A

Off-site beneficial use impacts (addresses/locations): Not Known

Report(s) on file? YES Where is report(s) filed?

Alameda County, 1131 Harbor Bay Pkwy, Alameda, CA 94502

III. RELEASE AND SITE CHARACTERIZATION INFORMATION (cont'd)

Treatment and Disposal of Affected Material:

<u>Material</u>	<u>Amount</u>	Action (Treatment	<u>Date</u>
	(include units)	or Disposal w/destination)	
USTs	4 (size not known)	unknown	3/86
USTs	4 (2-10,000 gal., 1-12,000 gal., and 1-1,000 gal.)	unknown	12/87
Soil	620 cubic yards		1987-1988

Stockpiled soil was reportedly aerated on-site to "non-detectable" levels of TPH-G and BTEX and then returned to the former gasoline UST pit.

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (pp	m)	Water (ppb)
	Before1	After ²	Before ³	After ⁴
TPH (Gasoline)	1,100	ND	58,000	ND
TPH (Diesel)	22	22	ND	ND
Benzene	4.7	ND	4,300	ND
Toluene	39	ND	390	ND
Ethylbenzene	15	ND	NT	2.6
Xylene	47	ND	1,800	1.5
Oil & Grease	360	86	ND	ND
Heavy Metals	NT	see footnote	ND	see footnote
HVOC	NT	ND	ND	ND
SVOC	NT	NT	NT	ND

ND=non-detect

NT=not tested

- 1 "Before" soil samples were collected from the UST pits in 12/87 after the second set of USTs were excavated and removed.
- 2 "After" soil samples were collected at 6 & 11 ft bgs from boring B-7 within the former gasoline after overexcavation activities and boring B-5 located downgradient of the former waste oil UST pit. Trace concentrations of Cd, Cr, Ni, and Zn were detected in boring B-5. TPH-D and O&G results are from samples collected within the waste oil pit after excavation and removal of the second waste oil tank.
- 3 "Before" water samples were collected from monitoring well MW-2 in 8/86 and MW-5 in 2/92.
- 4 "After" water samples were collected from MW-2 in 8/95 and MW-5 in 8/92. 12 ppb Zn was detected in groundwater sample from MW-5.

Comments (Depth of Remediation, etc.):

See comments under Additional Comments section.

IV. CLOSURE

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

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

Does corrective action protect public health for current land use? YES Site management requirements: N/A

Should corrective action be reviewed if land use changes? YES

CASE CLOSURE SUMMARY Underground Fuel Storage Tank Page 3 of 4

IV. CLOSURE (cont'd)

Monitoring wells Decommissioned: No, pending case closure review.

Number Decommissioned: 2

Number Retained: 4

(Monitoring wells MW-1 and MW-4 were never re-located after the site had been paved over and turned into a parking lot.)

List enforcement actions taken: n/a
List enforcement actions rescinded: n/a

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Amy Leech

Signature: /

Reviewed by

Name: Jennifer Eberle

Signature: /

Name: Thomas Peacock

Signature:

VI. RWOCB NOTIFICATION

Date Submitted to RB:

RWQCB Staff Name: Kevin Graves, P.E.

Title: Assoc. Water Resources Control Engineer

Title: Hazardous Materials Specialist

Date: 6-10-96

Title: Hazardous Materials Specialist

Date: 6-10-96

Title: Supervising, Hazardous Materials Spec.

Date

RB Response:

Signature:

Date: フ/. / a

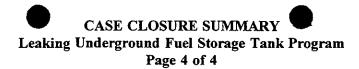
VII. ADDITIONAL COMMENTS

In March 1986, three gasoline underground storage tanks (USTs) and one waste oil UST were removed from a retail gasoline station located at 15884 Hesperian Blvd., San Lorenzo, CA. (See attachment 1 for site location.) Soil samples collected from beneath the gasoline tanks were analyzed for TPH-G and BTEX. The sample from beneath the waste oil tank was analyzed for TPH-D, BTEX, TOG, and 8010 constituents. Samples from beneath the gasoline tanks had TPH-G levels ranging form 37 to 1,100 ppm. The sample from the waste oil pit had 360 ppm waste oil. (See attachment 2 for 3/86 UST removal soil results.) The gasoline tanks and waste oil tank were replaced with four fiberglass USTs which were installed in the same location.

After the UST replacement in 1986, four monitoring wells (MW-1 through MW-4) were installed in July 1986. (See attachment 3 for well locations and attachment 6 for boring logs.) Soil samples were reportedly not collected during well installation.

In December 1987, the four fiberglass USTs were removed and 620 cubic yards of contaminated soil was excavated and removed from the former gasoline UST pit in preparation for abandoning the site. (See attachment 4 for the 12/87 UST removal soil results.) The excavated soil was reportedly aerated to non-detectable levels and returned to the excavation. (See attachment 5 for stockpile soil results.) During excavation activities, monitoring well MW-2 was destroyed; however, it was replaced in the approximate location and renamed MW-2.

Groundwater was sampled five times from 1986 through 1988. The analytical results of groundwater samples from these four wells indicated that groundwater flow was to the southwest and contamination to groundwater was evident downgradient from the former gasoline UST pit. A marked decrease of TPH-G and BTEX concentrations in groundwater occurred at the site subsequent to overexcavation of contaminated soil from the gasoline UST pit. (See attachment 8 for historical groundwater results for 8/86 through 8/88.)



VII. ADDITIONAL COMMENTS (cont'd)

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Subsequent to closing down the gasoline station in 1988, the area was paved over to serve as a shopping mall parking lot. It appears that environmental investigations did not occur between August 1988 until October 1991. During an October 1991 site investigation, monitoring well MW-3 was found to be broken and filled with debris, and MW-1 and MW-4 could not be located.

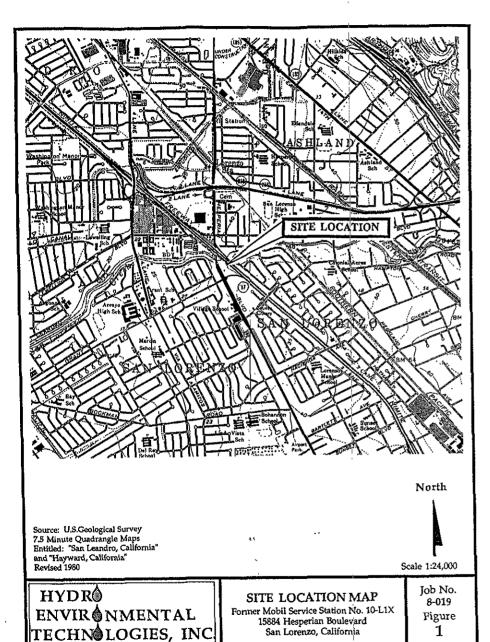
In January 1992, four soil borings (B-5 through B-7) were advanced and three additional monitoring wells (MW-5 through MW-7) were installed to further define the lateral extent of hydrocarbon impacted soil and groundwater. MW-3 was also properly destroyed during this phase of investigations. (See attachment 6 for boring logs and attachment 7 for soil results.)

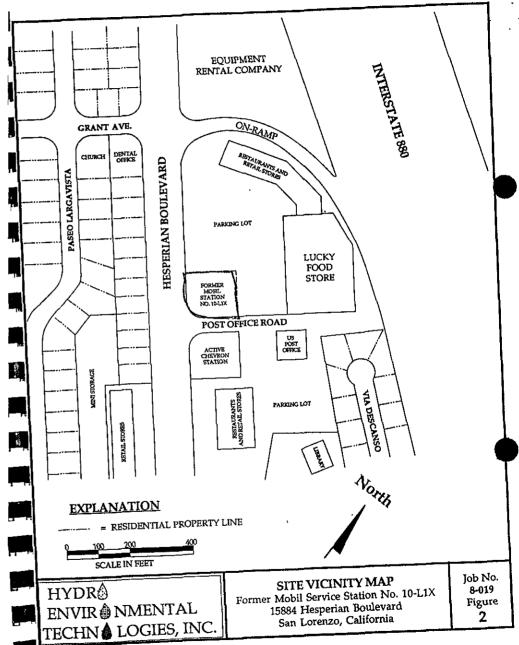
In September 1993, monitoring well MW-8 was installed downgradient of the gasoline UST and upgradient of residential properties located across Hesperian Boulevard. TPH-G or BTEX were not detected in soil samples collected from MW-8.

Groundwater was monitored in monitoring wells MW-2, MW-5, MW-6, MW-7, and MW-8 twelve (13) times from 1992 through 1995. TPH-G and BTEX have not been detected in any of the wells for at least the last four quarters of sampling, except for MW-7 where ethylbenzene and xylenes were detected at 2.6 and 1.5 ppb, respectively, during the last sampling event in August 1995. In addition to TPH-g and BTEX, groundwater collected from monitoring well MW-5, located just downgradient from the former location of the waste oil tank, was analyzed for TPH-D, TOG, HVOC, SVOC, and metals. All analytical results for these constituents were unremarkable. (See attachment 8 for historical groundwater results.)

It appears that soil samples were not collected from the pump island area during tank removal/site abandonment activities. However, boring B-6 (monitoring well MW-6) was located within approximately 10 feet and cross gradient of the pump islands. Soil samples collected from boring B-6 were non-detect for TPH-G and BTEX. Analytical results of groundwater sampled from this well have been non-detect during the last twelve sampling events from 5/92 through 8/95.

The overexcavation of contaminated soil at this site appears to have been effective in reducing the impact of petroleum hydrocarbons to groundwater. No further investigations are recommended.









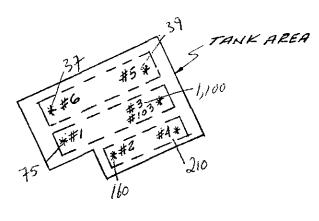
KAPREALIAN ENGINEERING, INC.

Consulting Engineers 535 Main Street Martinez, Ca. 94553 (415) 372-5444



WASTE OIL TANK





DRIVEWAY TO SHOPPING CENTER

SOIL SAMPLING LOCATION

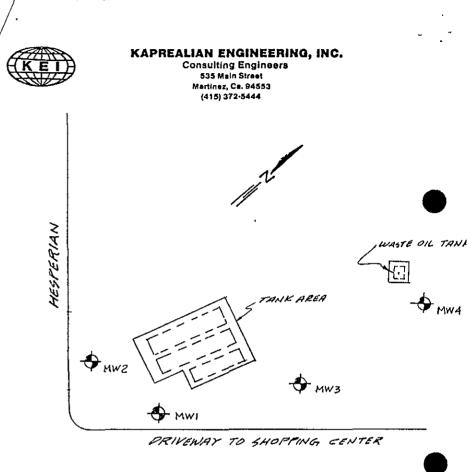
SAMPLE No	DEPTH (FT.)	THC (PPM)
# 1	14.0	75.0
# 2	14.0	160.0
# 3	15.0	1100.0
# 103	16.0	7.0
# 4	. 14.0	210.0
# 5	14.0	39.0
#6	14.0	37.0
WASTE OIL	10.0	360.0

KEI-P86-0310A September 15, 1986

TABLE - 1
Results of Groundwater Analysis

<u>Parameter</u>	MW #1	MW #2	MW #3	MW #4
Petroleum Total Hydrocarbons (ppm)	<0.05	58	<0.05	<0.05
Benzene (ppm)	<0.001	4.3	<0.001	<0.001
Toluene (ppm)	<0.001	0.39	<0.001	<0.001
Xylene (ppm)	<0.001	1.8	<0.001	<0.001
Depth (feet)	14.2	13.5	14.0	14.1
Free Product (inches)	0.0	0.0	0.0	0.0
Odor	ND	Slight	N D	ир
Sheen	ND	ND	ND	ND

ND = None Detected



LOCATION PLAN

MW (MONITORING WELL)

(U)



KAPREALIAN ENGINEERING, INC., Consulting Engineers

MW2

MW2

MW2

MW2

MW2

MW2

MW3

(87.646)

MW3

(87.776)

PRIVEWAY TO SHOPFING CENTER

LOCATION PLAN

▲ Soil sample location

MW (MONITORING WELL)

MOBIL \$/S #10-LIX 15884 Hesperian Blvd. San Lorenzo, California

() ELEVATION OF GROUNDWATER (FT.)

* SURFACE ELEV. OF MWZ ASSUMED 100 FT. (DATUM)

GENERAL DIRECTION OF GROUND WATER FLOW

KEI-J87-128 January 15, 1988 Page 5

TABLE 1
SUMMARY OF LABORATORY ANALYSES
(all analyses are in parts per million)

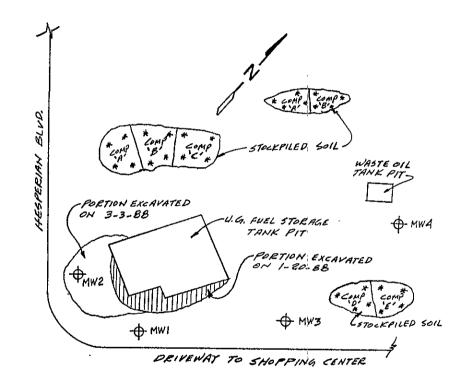
Sample #	TPH as <u>Gasoline</u>	TPH as <u>Diesel</u>	<u>Benzene</u>	Toluene	Xylene	Ethylbenzene
Al	1100		4.7	39	47	15
A2	110		1.8	0.36	5.7	1.9
B1	79		1.7	0.90	8.5	1.7
B2	1.6		<0.1	<0.1	0.60	0.85
C1	82		4.3	8.3	. 10	4.2
C2	65		1.7	2.1	4.4	1.7
W.O1*	7.6	22	<0.1	<0.1		<0.1
W.O2*	1.6	<1				

^{*} Total Oil and Grease W.O.-1 86 ppm W.O.-1 <30 ppm





KAPREALIAN ENGINEERING, INC.
Consulting Engineers
P. O. BOX 913 BENICIA, CA 94510 (415) 676 - 9100 (707) 746 - 6915



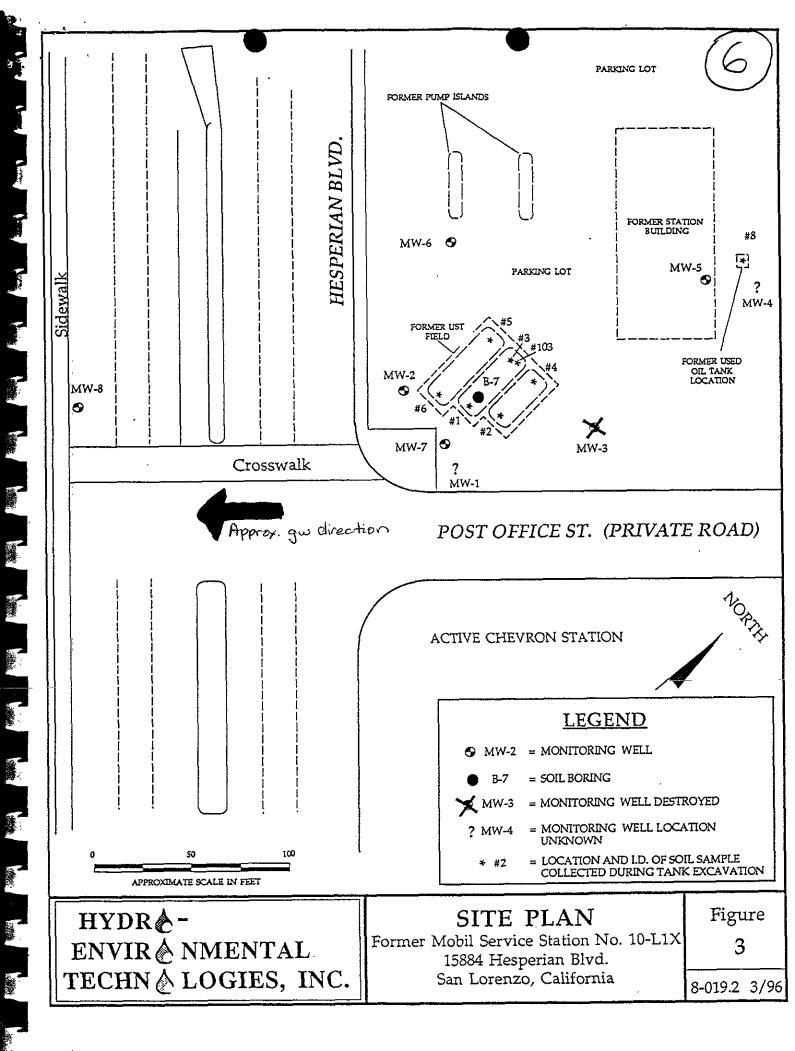
LOCATION PLAN

+ MONITORING WELL * SOIL SAMPLE LOCATION MOBL 3/5 #10-LIX 15884 HESPERIAN BLVD. SAN LORENZO, CALIF.

KEI-J87-128SD March 11, 1988 Page 3

Table -1 Summary of Laboratory Analyses (parts per million)

<u>Date</u>	<u>Sample</u>	Type	ТРН	Benzene	Toluene	Xylene	Ethyl- benzene
1/27/88	Comp A Comp B	Soil Soil	6.9 20	0.1 0.1	.0.7 2.8	4.1 4.8	0.5 1.0
2/17/88	Comp W	Water	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
3/08/88	Comp A Comp B Comp C Comp D Comp E	Soil Soil Soil Soil Soil	<1 <1 1.5 3.8 9.5	<0.1 <0.1 <0.1 <0.1 0.1	<0.1 <0.1 <0.1 <0.1 0.2	<0.1 <0.1 0.1 0.1 3.0	<0.1 <0.1 <0.1 <0.1 0.4



					_	Т				
DRILL RIG Hollow Stem			LEVATION			+	LOGGED		JCW	
DEPTH TO GROUNDWATER AS Noted	BOR	ING DI	AMETER	8''	r	<u> </u>	DATE DE		7/29/	
DESCRIPTION AND CLASSIFIC	ATIC	ON	_		DEPTH	LER	FINED ESSIVI VGTH	E E	5) (5)	ATION ANCE S/FT.
DESCRIPTION AND REMARKS	CC	OLOR	CONSIST.	SOIL TYPE	(FEET)	SAMPLER	UNCONFINED COMPRESSIVE STRENGTH (KSF)	WATER CONTENT (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT.)
ASPHALT AND BASE ROCK			'		}					
SILTY SAND; damp	1	rk own	loose to medium dense	SM						
CLAYEY SAND; damp to moist Faint product odor		lue-	medium dense	SC						***************************************
A second of the								s	黑 水 **	-
Moist to wet			dense							
		· .				74	3 ()			
			EXP	LOR	ATOR	/ B	ORIN	G LO	 G	
	•			10BI	L OIL	CC	RPOR	ATIO		
		PF	ROJECT NO.	<u> </u>	DA			BORING	<u></u>	
		H1	82-22		8/	86		NO.	MW-1	L

DRILL RIG Hollow Stem	SURFACE E	LEVATION	~		\perp	LOGGED	BY J	ICW	
DEPTH TO GROUNDWATER As Noted	BORING DI	AMETER	811			DATE DRILLED		7/29/86	
DESCRIPTION AND CLASS	IFICATION			DEPTH	SAMPLER	FINED ESSIVE VGTH (F)	TER NT (%)	317 317 317 317	S/FT
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE	(FEET)	SAME	UNCON COMPRI STREI	WATER CONTENT	DRY DENSIT (PCF)	PENETI RESIS
CLAYEY SAND (CONTD)	blue- gray	dense	SC	- - -					
SILTY CLAY; damp to dry	tan	very stiff	CL						
TOTAL DEPTH = 25.0 feet									-
	BIL OIL (' ORPORA'	TION	•	•	ı	,		
SAN	LORENZO,	CALIF	ORN I.	A				##48, ************************************	
	MW-	-1							
Well completed to 2									
160 PVC casing, flu									
inch slot) set from									
sand placed from 4.									
placed from 4.0 to		, and c	oner	ete s	ea	l plac	ed	Company of the compan	
from 0 to 4.0 feet.									
		EX	PLOF	RATOR	Y E	BORIN	G LC	G	
				L OIL				N	
	}	PROJECT NO).		TE		BORING		7
	Н	182-22		8/	86	1	140.	MW-	<u>+</u>

									
DRILL RIG Hollow Stem	SURFACE	ELEVATION			L	OGGED	вү Ј	CW	
DEPTH TO GROUNDWATER As Noted	BORING D	IAMETER	8"			ATE DR	ILLED	7/29/	/86
DESCRIPTION AND CLASSIFIC	ATION			DEPTH	FR S	SSIVE	₩. \$	* _	NOE P
DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	(FEET)	SAMPLER	COMPRESSIVE STRENGTH (KSF)	WATER CONTENT (%)	DRY DENSITY (PCF)	PENETRA RESISTA (BLOWS/
ASPHALT AND BASE ROCK									
CLAYEY SAND, grading to sandy clay; damp to moist No product odor	dark brown dark gray	loose to medium dense medium dense	SC- CL				7		
Increasing sand at 13 feet		dense		-10			∇		
		e e		-20 -					
		EXPL	ORA	TORY E	3OR	ING	LOG		
	_	МО		OIL C					
	PRO	JECT NO.	J.Au	DATE	120		RING		
	H18	2-22		8/86				MW-2	

									.1
DRILLRIG Hollow Stem	SURFACE E	LEVATION				LOGGED	ву Ј(CW	•
DEPTH TO GROUNDWATER As Noted	BORING DI	AMETER	8"			DATE OR	ILLED	7/29/	/86
DESCRIPTION AND CLASSIFIC	CATION			DEPTH	LER	FINED ESSIVE 4GTH 3F)	NT (%)	¥ ¥ €	TATION TANCE S/FT.)
DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	(FEET)	SAMPLER	UNCONFINED COMPRESSIVE STRENGTH (KSF)	WATER CONTENT (DRY DENSITY (PCF)	PENETE RESIST (BLOW
CLAYEY SAND (CONTD), grading to sandy clay			SC- CL						
SILTY CLAY; damp to dry	tan to brown	stiff to very stiff	CL						
TOTAL DEPTH = 25.0 feet				25					
				- - - -					17
МС	BIL OII	ORPO	RAT I	ON					
SAN	LORENZ	ZO, CAL	I FOR	NIA					
	Λ	√W – 2							
Well completed to 2	25.0 fee	et in d	enth	with	2.	-inch	Cl a:	5 S	

Well completed to 25.0 feet in depth with 2-inch Class 160 PVC casing, flush-threaded joints. Screen (.020-inch slot) set from 7.0 to 25.0 feet. 6 X 12 Monterey sand placed from 5.0 to 25.0 feet, bentonite pellets placed from 4.5 to 5.0 feet, and concrete seal placed from 0 to 4.5 feet.

. EXP	LORATORY	BORII	NG LO	G	
]	MOBIL OIL SAN LOF			N	
PROJECT NO. DATE BORING					
H182-22	8/86	5	NO.	MW-2	

DRILL AIG Hollow Stem	SURF	ACE E	LEVATION				LOGGED	вү јо	:W	
DEPTH TO GROUNDWATER As Noted	BOR	ING DI	AMETER	811			DATE DE		7/29	/86
DESCRIPTION AND CLASSIFIC	CATIC	DN			ДЕРТН	SAMPLER	COMPRESSIVE STRENGTH (KSF)	TER NT (%)		Z
DESCRIPTION AND REMARKS	co	LOR	CONSIST.	SOIL TYPE	(FEET)	SAMI	COMPR STRE	WATER CONTENT (%)	DRY DENSITY (PCF)	PENET! RESIS
ASPHALT AND BASE ROCK		:								
SILTY SAND	gr	rk ay	loose to medium dense	SM						
	br	own			5					, and a second s
SANDY CLAY No product odor	ta	ın	stiff	CL						
Increasing sand; grading to to clayey sand	den	ıse	stiff- medium dense (sand)		15-			<u>\</u>		
· · · · · · · · · · · · · · · · · · ·	<u>'</u>		·		ATORY				<u> </u>	
					OIL (EN2			<u></u>	
			82-22		DAT 8,	E /86		NO.	MW <u>-3</u>	

STE/LOCATION	orien Dles	J C I		BEGUN		BORING DIAMETER		BORING NO	4	
15884 Hespe	erian biv	d, San I	Lorenzo, CA	1/27 COMPU		10 inches FIRST ENCOUNTERED W	90°	B-6	(MW-6)	
Bayland D	rilling				7/92	18 feet	A LEK DEPIH			
OPERATOR				LOGGED		STATIC WATER DEPTH/	DATE			
Robert Rog		····		H. H	Urkmans NG METHOD	13 feet				
CME 75						fied Split-Spoon (2.5" OD)	BOTTOM OF 23 feet		
WELL MATERIAL		SLOT SIZE		WELLS	EAL	-		WELL NO.		
4" SCH 40 F	VC	0.010			cement ove	r bentonite		MW-6		
HEADSPACE *	DEPIH	KAMPI TEA		GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION					
	1 —	Ħ		VVV	ASPHALT	and BASEROCK				
	2 —	Ħ								
	з —	+								
0.0 ppm	4 —				Gravelly SA	ND (SW): tan loos	e, dry, well graded, r	madium a		
olo ppin	5 —	日			sub-angul	ar to sub-rounded, 1	0-15% sub-rounded	pebble gr	rameu, avel.	
	6	Ц			Ū	•	 	F 0		
	7 —									
	0 _								··	
6.0 ppm					Siles Of AV	CI): dook brown 6-	m, damp, low plastici	ton 10 15m	• • • •	
	10 —	П			trace root	holes (1-4 mm in dia	in, damp, iow piastici meter).	ty, 10-15%	sut,	
	11					•				
	12 —	⇈▗				<u> </u>				
11 ppm 15 16 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18										
11 ppm	14 —									
Joppin	15	\exists			Silty CLAY	(CI): alive green sti	ff damn low plactic	hr 10 15m		
	16 —	H			Silty CLAY (CL); olive green, stiff, damp, low plasticity, 10-15% silt.					
	17 —	 								
	18	∏Ÿ								
	19	\sqcup								
	20				A + 20 C		<i>?</i> :	_		
	21 —				At 20 reet; a	is above, tan, wet, tr	ace fine pebble grave	d.		
	22									
	- 23	П.			-				-	
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	25	H								
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HY	DR)				SOIL BORIN	GIOGR4	PI	ATE	
B 1		=	MENT	A T				1	Δ_3	
Ets /	A TTZ 6	₩ T.A.T.	ATCIN I	AL	11 WELL CONSTRUCTION MW-6 1				n3	
TEC	HN	LO	GIES,	IN	NC.					
					Former Mobil Service Station No. 10-L1X JOB NO.				B NO.	
DATE					15884 Hesperian Boulevard					
APPROVED BY:	Frederick	G. Moss	, PE No. 3516	2		San Lorenzo,	California	'	3-019	

3

Bayland I OPERATOR ROBERT RO DRILL MAKE & M CME 75 WELL MATERIAL NA HELD HEADSPACE	gers IODEL	FILTER PACK NA	I/IOGGE H. I SAMPI. Cali BORIN Near	Hurkmans ING METHOD fornia Modi	10 inches FIRST ENCOUNTERED W Not encounts STATIC WATER DEPTH/I	med .	B-7				
Robert Ro- DRILL MAKE & M CME 75 WELL MATERIAL NA HELD HEADSPACE	SLOT SIZ NA DEPTH E WAT	ZE FILTER PACK NA	H. I SAMPI. Cali BORIN Neat	EDBY Hurkmans ING METHOD fornia Modi	STATIC WATER DEPTH/I	med .					
WELL MATERIAL NA FIELD HEADSPACE	NA DEPTH E WAT	ZE FILTER PACK NA	Cali BORIN Neat	ING METHOD fornia Modi IG SEAL	INA	~15					
WELL MATERIAL NA HELD HEADSPACE	DEPTH E WAT	ZE FILTER PACK NA	Cali BORIN Neat	fornia Modi	California Modified Split-Spoon (2.5" OD) BOTTOM (15 fee						
HELD HEADSPACE •	DEPTH E WAT	TER WELL	Neat RAPHIO	Neat cement (2.5" OD) 15 feet WELL NO.							
	T	TER WELL	RAPHIC	NA							
	T	ä		MATERIA	AT CT LOCAL		NA				
	2	. ∤ R≦	ali-ali-ar	MATERIA	AL CLASSIFICATI	ON & PHYSIC	AL DESCRIPTION				
	3										
	· - -		***** ****	ASPHALT a	and BASEROCK						
	4										
14 ppm	5					·					
Lierr	6 —	I NE									
	7 +	No Well									
	8 —	Installed		Gravelly CLA	Y(CI): henre-						
	10			fine pebble	(CL); brown, very gravel, trace to 5% s	suit, damp, low pl	asticity, 10-15%				
183 ppm	11					me Branie	w sand.				
	12										
	13	/	4	·	·· ·						
110 ppm	14	00		GRAVEL (GP): brown dense d						
110 ppm 15 00											
	16										
	17										
1	18										
ļ	20										
	21										
	2										
2	23 —										
2	4 ——										
25	5 —										
24	5 —										
27		}									
28	77										
PID 30											
				7	•						
HVD	D A			Ţ							
HYD	K 🕲		}		,		Dr A				
ENVIR	R & NME	NTAI		00	Mr no		PLATE				
FCH				SC	OIL BORING LO	OG B-7	A-4				
	V&LOGI	ES, IN	$\mathbf{C} $								
			=	Former M	lobil Service Static	n No. 10-L1x	JOB NO.				
ED BY: Freder	ick G. Moss, PE N	Vo. 35162	Former Mobil Service Station No. 10-L1X JOB NO. 15884 Hesperian Boulevard San Lorenzo, California 8-019								

G.

			<u> </u>	·					
ste/location 15884 Hesperian Bl	,a s	an I or	enzo CA	BEGUN 1/28	2/92	BORING DIAMETER 10 inches	ANGLE/BEARING 90°	BORING NO	
DRILLING CONTRACTOR	. <u></u>		, CA	COMPLE	TED	FIRST ENCOUNTERED W		B-8 (MW-7	
Bayland Drilling					3/92	19_feet			
Robert Rogers				LOGGED H. H	urkmans	STATIC WATER DEPTH/I	DATE		
DRILL MAKE & MODEL CME 75			·	SAMPLI	NG METHOD			OTTOM OF BORING	
WELL MATERIAL	SO	T SIZE	FILTER PACK	Califo WELLS	ornia Modi:	fied Split-Spoon (23.5 feet	
4" SCH 40 PVC	0.	010"	#2/12		cement over	bentonite		WELL NO. MW-7	
HEADSPACE * DEPIH	SAMPLE	WATER LEVEL	WELL CONSTR	GRAPHIC LOG	MATERIA	AL CLASSIFICAT	ION & PHYSICAL	DESCRIPTION	
1 — 2 — 3 — 4 —					ASPHALT (and BASEROCK	74. VI		
0.0 ppm 5					Silty SAND grained, s root fragm	ub-rounded, 10-15%	oose, damp, moderates silt, trace fine pebble	ely graded, fine gravel, trace	
0.0 ppm 10					Silty CLAY (trace root	CL); dark brown, fii holes (1-4 mm in di	rm, damp, low plastici ameter).	ty, 10-15% silt,	
575 ppm 16 — 17 — 18 —		¥ :-			Silty CLAY (laminae of	CL); olive green, sti very fine sand (<1 i	ff, damp, low plasticit mm).	y, 10-15% silt,	
19 20 21 22 23	-	Ş			At 20 feet; as	s above, olive-tan, w	vet, trace fine pebble (gravel.	
24					ż	•			
HYDR ENVIR	1				C WE	SOIL BORIN AN ILL CONSTRU		PLATE A-5	
TECHNOLOGIES, INC DATE: APPROVED BY: Frederick G. Moss, PE No. 35162						Former Mobil Service Station No. 10-L1X JOB NO. 15884 Hesperian Boulevard San Lorenzo, California 8-019			

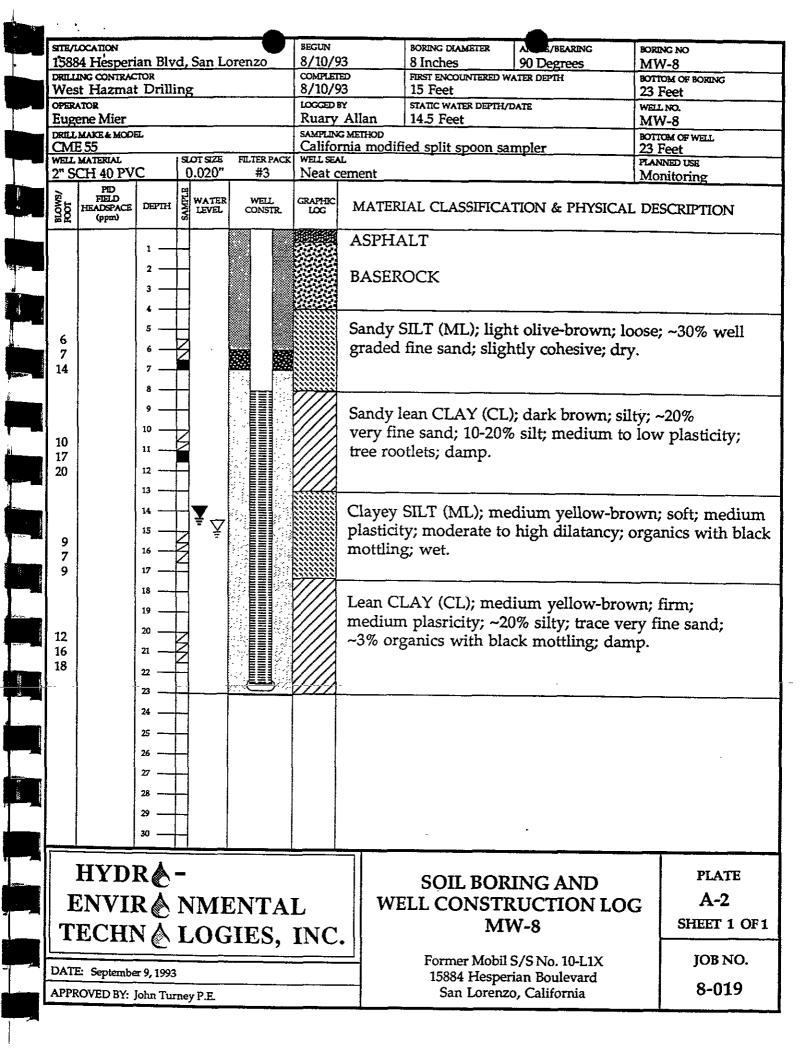


Table 2

GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS

MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHd (µg/L)	TPHg (μg/L)	Β (μg/L)	Τ (μg/L)	E (µg/L)	X (μg/L)
MW-3	4/25/87	87.77	13.35	74.42		ND<50	ND<0.5	ND<0.5		ND<0.5
	9/2/87	87.77				ND<50	ND<0.5	ND<0.5		ND<0.5
	8/25/88	87.77					<i></i> -			
MW-4	8/18/86	87.82				ND<50	ND<0.5	ND<0.5		ND<0.5
10144-4	12/23/86	87.82	13.48	74.34		ND<50	ND<0.5	ND<0.5		ND<0.5
	4/25/87	87.82	13.40	74.73		ND<50	ND<0.5	ND<0.5		ND<0.5
	9/2/87	87.82	10.07	74.75		ND<50	ND<0.5	ND<0.5	***	ND<0.5
	8/25/88	87.82								
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,									
MW-5	2/12/92	32.92	13.59	19.33	ND<50	0.3	ND<0.3	ND<0.3	ND<0.3	ND<0.3
	5/4/92	32.92	12.25	20.67	ND<50	ND<30	ND<0.3	ND<0.3	ND<0.3	·ND<0.3
	8/20/92	32.92	14.62	18.30		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	11/27/92	32.92	15.14	17.78		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	2/24/93	32.92	10.57	22.35		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	5/19/93	32.92	11.66	21.26		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	8/19/93	32.92	13.01	19.91		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	11/19/93	32.92	13.69	19.23		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	2/18/94 (2)	32.92	11.10	21.82						
	5/24/94	32.92	12.03	20.89		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	8/24/94	32.92	13.59	19.33						
	2/17/95	32.92	10.87	22.05		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	8/1/95	32.92	12.06	20.86	MT	ND550	ND<0.5	ND(0.5	ND<0.5	ND <0.5
MW-6	2/12/92	32.68	13.57	19.11		2,700	14	3.5	27	39
	5/4/92	32.68	12.23	20.45		ND<30	ND<0.3	ND<0.3	ND<0.3	ND<0.3
	8/20/92	32.68	14.64	18.04		ND<50	ND<0.5	ND<0.5	ND<0.5	3.8

Table 2

GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS

MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHd (μg/L)	TPHg (μg/L)	B (μg/L)	Τ (μg/L)	E (μg/L)	X (μg/L)
MW-6	11/27/92	32.68	15.14	17.54		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
17777 0	2/24/93	32.68	10.62	22.06		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	5/19/93	32.68	11.66	21.02		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	8/19/93	32.68	13.06	19.62		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	11/19/93	32.68	13.73	18.95		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	2/18/94(2)	32.68	11.20	21.48						
	5/24/94	32.68	12.11	20.57		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	8/24/94	32.68	13.60	19.08						
	2/17/95	32.68 32.68	10.85 /a.05	21.83 20 .63	ÑT	ND<50 ND< 50	ND<0.5 ND<0.5	0.5 AN	ND<0.5 NO<0.5	ND<0.5 ND<0.s
MW-7	2/12/92	33.08	13.90	19.18		ND<30	ND<0.3	ND<0.3	ND<0.3	ND<0.3
*****	5/4/92	33.08	12.60	20.48		640	4.5	ND<0.6	11	14
	8/20/92	33.08	14.96	18.12		220	1.2	ND<0.5	3.8	4.3
	11/27/92	33.08	15.49	17.59		82	1.6	ND<0.5	4.3	3.6
	2/24/93	33.08	10.97	22.11		82	1.5	ND<0.5	6.0	4.0
	5/19/93	33.08	12.09	20.99		67	0.85	ND<0.5	6.4	3.8
	8/19/93	33.08	13.48	19.60		88	1.7	ND<0.5	9.0	4.8
	11/19/93	33.08	14.10	18.98		50	ND<0.5	ND<0.5	1.5	ND<0.5
	2/18/94 (2)	33.08	11.55	21.53		61	1.2	ND<0.5	8.0	3.2
	5/24/94	33.08	12.48	20.60		83	0.95	ND<0.5	10	4.0
	8/24/94	33.08	13.98	19.10		77	0.57	ND<0.5	6.9	2.8
	2/17/95	33.08	11.25	21.83		71	ND<0.5	ND<0.5	4.3	2.2
	8/1/95	33.08	12.46	20.62	NΤ	NO450	NO<0.5	NO <0.5	02.60	1.5
MW-8	8/19/93	31.31	12.21	19.10		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	11/19/93	31.31	12.84	18.47	+	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	2/18/94 (2)	31.31	10.41	20.90		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	5/24/94	31.31	11.21	20.10		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5

Table 2

GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS

MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHd (µg/L)	TPHg (µg/L)	Β (μg/L)	Τ (μg/L)	Ε (μg/L)	X (μg/L)
MW-8	8/24/94 2/17/95 8/1/95	31.31 31.31 31.31	12.71 9.94 (1.15	18.60 · 21.37 &0.76	 NT	ND<50 ND< 50	ND<0.5 ND<0.5	ND<0.5 ND<0.5	 ND<0.5 ND<0.5	ND<0.5 ND<0.5
MW-No.	Date	TOG (mg/L)	HVO (μg/L)	SVO (µg/L)	PCB (µg/L)	Cd (mg/L)	Cr (mg/L)	Ni (mg/L)	Zn (mg/L)	O-Pb (mg/L)
MW-5	2/12/92 5/4/92 8/20/92	ND<1.0 ND<1.0 ND<1.0	ND<0.5-5.0 ND<0.5-5.0 ND<0.5-5.0	 ND<2-10	 ND<0.5-2.0	ND<0.010 ND<0.010 ND<0.010	ND<0.010 ND<0.010 ND<0.010	ND<0.050 ND<0.050 ND<0.050	ND<0.010 ND<0.010 0.012	ND<0.050 ND<0.050 ND<0.050

Notes:

MW No.: Monitoring well number.

Date: Ground water sample collection date.

TOC: Elevation at the north side of the top of the well casing referenced to approximate mean sea level.

DTW: Depth to water.

GWE: Ground water elevation.

TPHd: Total petroleum hydrocarbons as diesel by EPA Method 8015.

TPHg: Total petroleum hydrocarbons as gasoline by EPA Method 8015.

BTEX: Benzene, Toluene, Ethylbenzene and total Xylenes by EPA Method 8020.

TOG: Total oil and grease by EPA Method 413.2 (I.R.).

HVO: Halogenated volatile organics by EPA Method 8010.

SVO: Semi-volatile organics by EPA Method 8270 GC/MS.

PCB: Polychlorinated biphenyls by EPA Method 8080.

Table 2

GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS

Former Mobil Station No. 10-L1X 15884 Hesperian Boulevard San Lorenzo, California

Notes (con't):

Cd, Cr,

Ni, Zn: Cadmium, chromium, nickel and zinc by EPA Method 6000.

O-Pb Organic lead by California LUFT Manual (revised).

μg/L: Micrograms per liter.mg/L: Milligrams per liter.

Not measured, not analyzed or not known to HETI.

ND: Not detected in concentrations exceeding the indicated laboratory method detection limit.

(1): Monitoring well MW-2 destroyed during tank excavation; well replaced on 8/8/88.

(2): Wells gauged on 2/24/94.

Table 2

GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS

MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHd (µg/L)	TPHg (µg/L)	Β (μg/L)	Τ (μg/L)	Έ (μg/L)	X (μg/L)
2 (147 1	0 /10 /0/	97.60				ND<50	ND<1.0	ND<1.0		ND<1.0
MW-1	8/18/86	87.60 87.60	13.5	74.10		77	32	4.7		2.0
	12/23/86 4/25/87	87.60	13.1	74.10 74.50		ND<50	ND<1.0	ND<1.0		ND<1.0
	4/25/87 9/2/87	87.60	10.1	74.50		ND<50	ND<1.0	ND<1.0	 -	ND<1.0
	8/25/88	87.60	~~~	,						
	07 237 00	07.00		•						
MW-2	8/18/86	87.64		~-~		58,000	4,300	390		1,800
	12/23/86	87.64	12.92	74.72		4,100	970	96		750
	4/25/87	87.64	12.35	75.29		660	2.2	ND<1.0		9.2
	9/2/87	87.64				710,000	980	3,000		33,000
	8/25/88 (1)	87.64	14.70	72.94		2,300	63	3.3	ND<0.5	240
	11/1/88	87.64	15.29	72.35		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	2/12/92	31.81	12.74	19.07	,	190	4.4	ND<0.3	4.7	3.8
	5/4/92	31.81	11.36	20.45		480	9.1	1.4	4.4	2.3
	8/20/92	31.81	13.80	18.01		ND<50	0.99	ND<0.5	ND<0.5	ND<0.5
	11/27/92	31.81	14.30	17.51		56	3.2	ND<0.5	0.87	2.1
	2/24/93	31.81	9.73	22.08		330	14	ND<0.5	ND<0.5	ND<0.5
	5/19/93	31.81	11.82	19.99		100	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	8/19/93	31.81	12.27	19.54		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	11/19/93	31.81	12.91	18.90		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	2/18/94(2)	31.81	10.30	21.51		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	5/24/94	31.81	11.25	20.56		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	8/24/94	31.81	12.77	19.04						
	2/17/95	31.81	9.99	21.82		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	8/1/95	31,81	11,20	20.61	NT	NDS50	ND<0.5	ND40.5	ND<0.5	NDC0.5
MW-3	8/18/86	87.77		••••		ND<50	ND<0.5	ND<0.5		ND<0.5
***************************************	12/23/86	87.77	13.75	74.02		ND<50	ND<0.5	ND<0.5		ND<0.5



TABLE 1

SOIL SAMPLE ANALYTICAL RESULTS

Former Mobil Service Station No. 10-L1X 15884 Hesperian Boulevard San Lorenzo, CA

Sample	Sampling	Sampling	W.O.	TPHd	TPHg	B	T	E	X
No.	Depth	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
B-8-11' B-8-16'	11.0 16.0	1/28/92 1/28/92	an est ha		ND<1.0 ND<1.0	ND<0.005 ND<0.005	ND<0.005 ND<0.005	ND<0.005 ND<0.005	ND<0.005 ND<0.005
Sample	Depth	Sampling	TOG	HVO	O-Pb	Cd	Cr	Ni	Zn
No.	(feet)	Date	(mg/kg)	(μg/kg)	(µg/kg)	(µg/kg)	(μg/kg)	(μg/kg)	(µg/kg)

Notes:

Sample No.: Sample designation.

Depth: Depth at which soil sample was collected.

Date: Date sample was collected.

W.O.: Waste oil using EPA Method 3510 (modified).

TPHd: Total petroleum hydrocarbons as gasoline using EPA Method 8015 (modified).
TPHg: Total petroleum hydrocarbons as gasoline using EPA Method 8015 (modified).

BTEX: Benzene, Toluene, Ethylbenzene and total Xylenes using EPA Method 8020 (modified).

mg/kg: Millograms per kilogram.

ND: Not detected in concentrations exceeding the indicated laboratory method detection limit

TOG: Total oil and grease by EPA Method 413.2 (I.R.)

HVO: Halogenated volatile organics by EPA Method 8010

O-Pb: Organic lead by California LUFT Manual, 12/87

Cd, Cr,

Ni, Zn: Cadmium, Chromium, Nickel and Zinc by EPA Method 6000 series

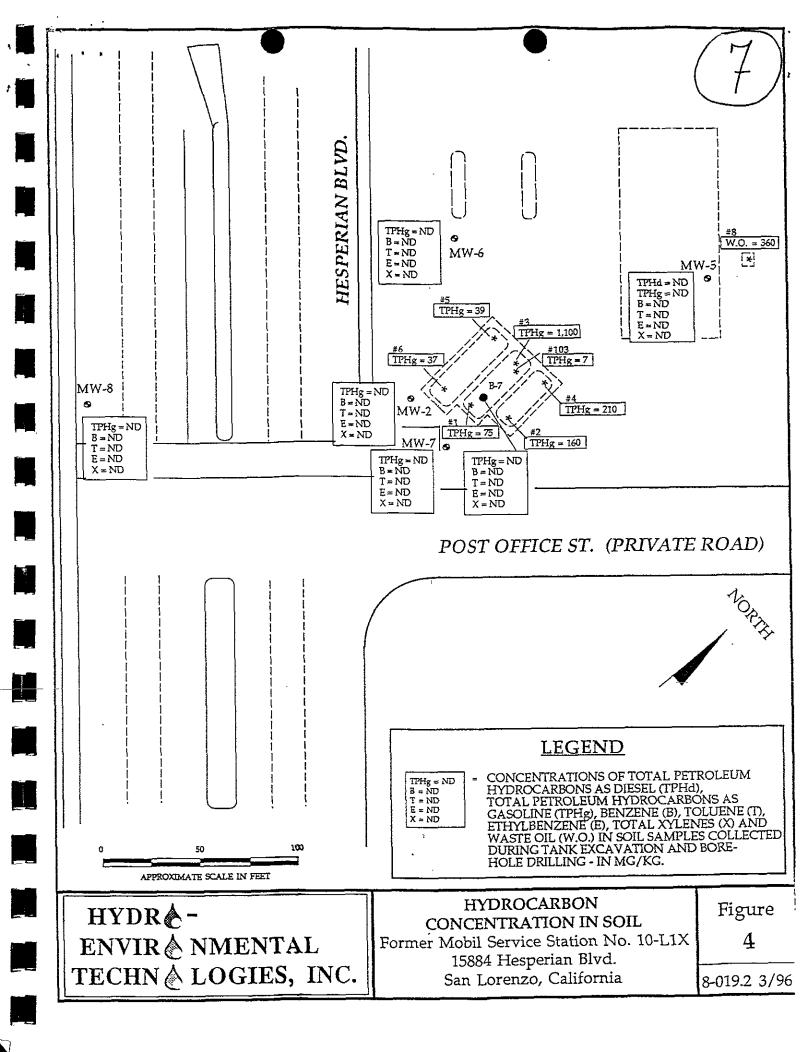


TABLE 1

SOIL SAMPLE ANALYTICAL RESULTS

Former Mobil Service Station No. 10-L1X 15884 Hesperian Boulevard San Lorenzo, CA

Sample No.	Sampling Depth	Sampling Date	W.O. (mg/kg)	TPHd (mg/kg)	TPHg (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)
			The state of the s						
1	14.0	3/25/86			7 5	***			
2	14.0	3/25/86	<u></u> '		160			** **	
3	15.0	3/25/86		~~~	1,100	,	***		
4	16.0	3/25/86		Arr 100	210	مدعه مه			
5	14.0	3/25/86		Pair 444 -449	39				
6	14.0	3/25/86	****		37			~~~	
103	14.0	3/25/86			7.0				
8	10.0	3/25/86	360				and also made		
-	,,								
MW-2-5'	5.0	8/8/88			ND<1.0	ND<0.05	ND<0.1	ND<0.1	ND<0.1
MW-2-10'	10.0	8/8/88			ND<1.0	ND<0.05	ND<0.1	ND<0.1	ND<0.1
B-5-5'	5.0	1/27/92	,	ND<1.0	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B-5-10'	10.0	1/27/92	44 et an	ND<1.0	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B-5-15'	15.0	1/27/92	****	ND<1.0	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B-6-4.5'	4.5	1/27/92	,		ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B-6-9.5'	9.5	1/27/92	~~~		ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B-6-14.5'	14.5	1/27/92	,		ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005
		• ,							
B-7-6'	6.0	1/28/92	100 ere reg		ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B-7-11'	11.0	1/28/92		In 40.00	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005
2		• •	1						
B-8-6'	6.0	1/28/92	f on earth		ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005

Page 1 of 2