

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

**REMEDIAL ACTION COMPLETION CERTIFICATION**

December 5, 1996

Attn: Manuel Marques, Jr.  
J & M, Inc.  
PO Box 128  
Hayward CA 94543

Dear Mr. Marques:

**UNDERGROUND STORAGE TANK (UST) CASE**  
**J & M, Inc.**  
**3826 Depot Rd**  
**Hayward CA 94545**  
**SITE NO. 2673**

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). Prior to commencing with construction and/or excavation at this site, the appropriate regulatory agencies must be notified and an assessment of potential safety hazards/risks from exposure to residual contamination left in place should be completed. In addition, 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.

This Department recommends that a site management plan be developed for this site and recorded with the deed for this property. The following items should be included in the site management plan:

- Mitigate any potential negative impacts, as necessary, posed by the residual contamination remaining on site, by capping the site to the extent possible, use of vapor barriers beneath the buildings, etc..
- Develop a strategy to address any risk posed to construction or utility workers during earth moving activities, etc..
- Implement precautions to avoid making vertical or lateral conduits like wells, drainage lines, water supply lines, etc. that may cause cross-contamination between the shallow and deeper aquifers.

Marques  
Re: 3826 Depot Rd.  
December 5, 1996  
Page 2 of 2

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: Kent Reynolds, Golder Associates, Inc., 1451 Harbor Bay Pkwy, Alameda CA 94502  
Kevin Graves, RWQCB  
Lori Casias, SWRCB w/attachment  
Dave Deaner, SWRCB Cleanup Fund  
Wyman Hong, AlCo Zone 7 QIC 80201  
Gordon Coleman, Acting Chief of Environmental Protection Division  
ALL/Files

01-0865

**CASE CLOSURE SUMMARY**  
**Leaking Underground Fuel Storage Tank Program**  
**Page 1 of 5**

**I. AGENCY INFORMATION**

Agency name: **Alameda County-HazMat**  
Date:City/State/Zip: **Alameda, CA 94502**  
Responsible staff person: **Amy Leech**

Date: **March 22, 1996**  
Address: **1131 Harbor Bay Pkwy**  
Phone: **(510) 567-6700**  
Title: **Hazardous Materials Spec.**

CALIFORNIA REGIONAL WATER  
MAR 29 1996  
QUALITY CONTROL BOARD

**II. CASE INFORMATION**

Site facility name: **J&M, Inc.**  
Site facility address: **3826 Depot Road, Hayward, CA 94545**  
RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: **2673**  
URF filing date: **11/27/90** SWEEPS No: **N/A**

Responsible Parties: Address: Phone Numbers:  
Attn: **Manuel Marques, Jr.** PO Box 128 (510)782-3434  
J&M, Inc. Hayward CA 94543

<u>Tank No:</u>	<u>Size in gal.:</u>	<u>Contents:</u>	<u>Closed in-place or removed?:</u>	<u>Date:</u>
1	4,000	Diesel	removed	6/90
2	7,000	"	"	"
3	1,000	Gasoline	"	7/25/94
4	550	"	"	"

**III. RELEASE AND SITE CHARACTERIZATION INFORMATION**

Cause and type of release: **Unknown**

Site characterization complete? **Yes**  
Date approved by oversight agency: **01/22/96**

Monitoring Wells installed? **Yes** Number: **3**

Proper screened interval? **Possibly** (5' -14.5' bgs) Groundwater was encountered at 10 feet during well construction; therefore, groundwater may be under semi-confined conditions.

Highest GW depth below ground surface: **1.96 ft** Lowest depth: **3.53 ft** (MW-2)

Flow direction: **Northwest**

Most sensitive current use: **Commercial**

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**

96 APR 18 PM 1:25  
ENVIRONMENTAL PROTECTION

**CASE CLOSURE SUMMARY**  
**Leaking Underground Fuel Storage Tank Program**  
**Page 2 of 5**

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

**Treatment and Disposal of Affected Material:**

<u>Material</u>	<u>Amount (include units)</u>	<u>Action (Treatment or Disposal w/destination)</u>	<u>Date</u>
Tanks	2 - USTs	Removed without permits and disposed of without manifests.	1990
Tanks	2 - USTs	Erickson 255 Parr Blvd., Richmond, CA	07/25/94
Soil	70 c.y.	Stockpile is still located on site. Plan to dispose of it at B.F.I. located at Vasco Rd., Livermore	
Rinsate	80 gallons	Gibson Environmental 4 75 Seaport Blvd., Redwood City, CA	08/02/94

**Maximum Documented Contaminant Concentrations - - Before and After Cleanup**

<u>Contaminant</u>	<u>Soil (ppm)</u>		<u>Water (ppb)</u>		
	<u>Before<sup>1</sup></u>	<u>After</u>	<u>Before<sup>4</sup></u>	<u>After<sup>5</sup></u>	<u>After<sup>6</sup></u>
TPH (Gasoline)	550	81 <sup>2</sup>	ND	730	ND
TPH (Diesel)	110	3,000 <sup>2</sup>	8,100	5,200	ND
Benzene	1.5	0.25 <sup>3</sup>	4.7	6.9	ND
Toluene	2.1	0.41 <sup>2</sup>	9.1	0.5	ND
Ethylbenzene	7.1	0.70 <sup>3</sup>	6	1.0	ND
Xylene	26	1.4 <sup>2</sup>	22	13.0	ND
Total Lead	6.4	NA	NA	NA	NA

1 Maximum conc. from soil samples collected from the gasoline or diesel pits.

2 Result of soil sample DPL-2 collected at 5 ft bgs along a diesel product line located southeast of the former diesel pit.

3 Result of soil sample at 5 feet bgs from boring B-9.

4 "Grab" groundwater sample collected from diesel UST pit.

5 "Grab" groundwater sample collected from boring B-2 located at the north end of the gasoline UST pit.

6 Analytical results from monitoring wells MW-1 through MW-3 have been non-detect for petroleum hydrocarbons during 6 quarters of sampling from 1991-1995, except for 57 ppb of TPHd detected during July 1992.

**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**

**CASE CLOSURE SUMMARY**  
**Leaking Underground Fuel Storage Tank Program**  
**Page 3 of 5**

**IV. CLOSURE (cont'd)**

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

**A risk analysis was completed which evaluated the current commercial/industrial exposure pathways to benzene and benzo(a)pyrene. The cancer risk of 1 in 10,000 was not exceeded for the expected concentrations of benzene and benzo(a)pyrene on site in soil and groundwater. See the Additional Comments section for further discussion.**

Site management requirements:

**A safety assessment for potential exposure risks should be completed and the appropriate regulatory agencies must be notified prior to construction and/or excavation at this site. See attachment 11 for the estimated areal extent of TPHd affected soil left in place at the site from 4 - 12 feet bgs.**

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

Monitoring wells Decommissioned: **No**

Number Decommissioned: **0**                      Number Retained: **3**

List enforcement actions taken: **NOV's issued 7/29/91, 9/18/91, 9/2/93, 7/20/94.**

List enforcement actions rescinded: **All enforcement actions rescinded.**

**V. LOCAL AGENCY REPRESENTATIVE DATA**

Name: Amy Leech

Title: Hazardous Materials Spec.

Signature: *A. Leech*

Date: *3/22/96*

Reviewed by

Name: Juliet Shin

Title: Sr. Hazardous Materials Spec.

Signature: *Juliet Shin*

Date: *3/22/96*

Name: Eva Chu

Title: Hazardous Materials Spec.

Signature: *E. Chu*

Date: *3/22/96*

**VI. RWQCB NOTIFICATION**

Date Submitted to RB:

RB Response: *Approved*

RWQCB Staff Name: Kevin Graves, P.E.

Signature: *K. Graves*

Title: Assoc. Water Resources Control Engineer

Date: *4/19/96*

**VII. ADDITIONAL COMMENTS**

In June 1990, two diesel underground storage tanks (USTs) were excavated at J&M, Inc. located at 3826 Depot Road in Hayward without permit approval or inspections from this office. (See Attachment 1 for site location.) Once excavated, the tanks were reportedly cleaned by disposing the remaining contents and rinsate on the ground at the south side of the property and then were cut into scrap metal. On direction from ACDEH, the abandoned diesel UST pit was re-excavated and soil and groundwater were sampled on August 20, 1990. Groundwater was encountered at 6 feet bgs during this excavation. Soil samples were also collected from the areas where the tanks were "cleaned" prior to scrapping. Diesel impacted soil (>100 ppm) and groundwater (>8,000 ppb) were identified in the abandoned diesel tank pit and cleaning areas. (See Attachment 2 for sample locations and results.)

**CASE CLOSURE SUMMARY**  
**Leaking Underground Fuel Storage Tank Program**  
**Page 4 of 5**

**VII. ADDITIONAL COMMENTS (cont'd)**

Six soil samples were collected from 0 - 0.5 feet bgs in the UST cleaning areas in April 1991. TPHd was below 100 ppm in all samples; therefore, no further work was performed in these areas. Three monitoring wells were installed in proximity of the former diesel tanks. Groundwater was reportedly encountered at 10 feet bgs and results of soil and groundwater samples collected from monitoring wells MW-1 through MW-3 were unremarkable. (See Attachment 2 for results and Attachment 3 for boring/well construction logs.)

On July 25, 1994, two gasoline USTs, located south of the former diesel tank pit, were removed from the site. During removal activities, a pipe was discovered leading to the former diesel tank pit. Approximately 70 c.y. of petroleum impacted soil was over-excavated from the gasoline UST pit, and test trenches were emplaced out from the excavation at the north, south, and west sides of the pit to help further define the extent of contamination. (See Attachment 4 for sample locations and Attachment 5 for results.)

On May 22, 1995, an investigation was conducted to further delineate the extent of soil and groundwater contamination. The investigation included the soil and/or groundwater sampling from nine exploratory borings (B1 through B9) and removal of and sample collection along the length of the newly discovered diesel pipe. Up to 81 and 3,100 ppm of TPHg and TPHd, respectively were identified in the soil samples while only trace concentrations of BTEX (ND to <1 ppm for benzene) were found. (See Attachment 6 for boring locations and Attachment 7 for soil results.) A stiff clay was encountered from approximately 4.5 feet to 14.0 feet bgs and groundwater was slow to recharge in all borings. On May 24, 1995, "grab" groundwater samples were collected from borings B-1, B-2, B-5, and B-8. Elevated levels of TPHg, TPHd, and BTEX (up to 5,200 ppb TPHd, 730 ppb TPHg, and 6.9 ppb benzene) were identified in the "grab" groundwater samples collected from borings B-1, B-2, and B-8 located northwest, north, and south of the gasoline pit, respectively. (See Attachment 8 for groundwater results.)

Groundwater flow direction is toward the northwest. Monitoring well MW-3 is located approximately 30 feet in the downgradient direction from the abandoned diesel pit, and MW-1 is located approximately 45 feet in the downgradient direction from the abandoned gasoline pit. Groundwater from monitoring wells MW-1 through MW-3 have been sampled and analyzed six times (4/91, 7/91, 1/92, 3/93, 9/93, and 5/95) for TPHg, TPHd and BTEX since 1991. Analytical results of groundwater samples collected from the monitoring wells have been non-detect for all constituents sought, except for 57 ppb TPHd detected in MW-2 in January 1992. (See Attachment 9 and 10 for historical groundwater result.)

There is a water supply well (W-1) located approximately 45 feet upgradient and southwest from the source of contamination. This well reportedly is used for J&M, Inc.'s facility operations including equipment wash water and water used for hand washing and toilets, but it is not used as a source of drinking water. There are no construction records/boring logs on file with the Alameda County Public Works Department for well W-1. Golder Associates reports that well W-1 has a 6-inch diameter PVC casing and is estimated to extend to 40 feet bgs. Analytical results of a sample collected from this well in September 1994 were non-detect for TPHg, TPHd, and BTEX. At this time, there is not a municipal supply of water at this site.

Although analytical results of soil and "grab" groundwater samples collected from the vicinity of the abandoned gasoline and diesel pits have identified impact to soil and groundwater, it appears that the extent of the impact has been contained within the fine grained sediments (stiff clays) in this area as evidenced by the unremarkable historical groundwater results collected from the three on-site monitoring wells to date.

The maximum concentrations of benzene detected at the site in soil is 0.25 ppm and groundwater is 6.9 ppb. Although soil samples were not analyzed for benzo(a)pyrene, the maximum expected concentration of benzo(a)pyrene at this site would be  $2.1 \times 10^{-4}$  ppm; this is based on the maximum concentration of TPHd found in soil at the site (3,000 ppm), if diesel consists of 0.07 mg/kg of benzo(a)pyrene (LUFT Manual).

**CASE CLOSURE SUMMARY**  
**Leaking Underground Fuel Storage Tank Program**  
**Page 5 of 5**

**VII. ADDITIONAL COMMENTS (cont'd)**

The potential exposure pathways with the most sensitive risk for these contaminants are:

1. Soil Vapor Intrusion from Soil to Buildings
2. Soil Leachate to Protect Groundwater Ingestion
3. Groundwater Ingestion
4. Groundwater Vapor Intrusion from Groundwater to Buildings

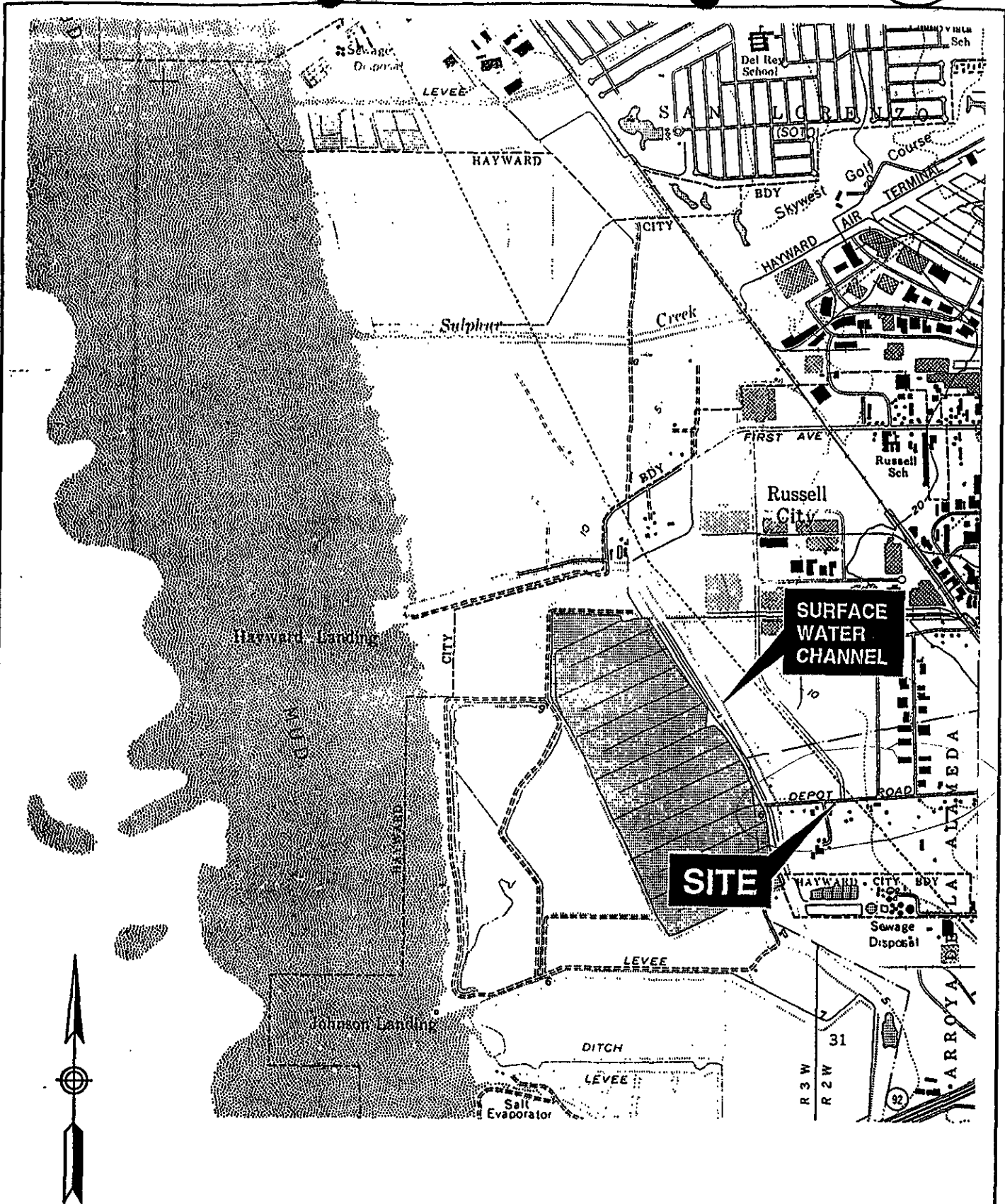
ASTM's Tier 1 Risk-Based Screening Level Look-Up Table with values corrected for CalEPA's toxicity value do *not* indicate an increase cancer risk for  $1 \times 10^{-4}$  for commercial/industrial exposures from: 1) soil vapor intrusion from soil to buildings up to 0.49 ppm benzene in soil, 2) soil leachate to protect groundwater from contaminated soil up to 1.68 ppm benzene in soil, and 3) groundwater ingestion up to 290 ppb benzene in groundwater. The maximum concentrations of benzene in soil and groundwater at the site exceeds the cancer risk for  $1 \times 10^{-5}$  for the previously stated exposure routes, and the State's maximum contaminant level for benzene in drinking water is 1 ppb. However, based on the plume definition data, it is unlikely that detectable benzene concentrations in soil would be found under any of the established building structures on this site and groundwater from the on-site water supply well is located upgradient from the source of contamination and was non-detect on September 1994 for TPHg, TPHd, and BTEX.

ASTM's Tier 1 Risk-Based Screening Level Look-Up Table indicates there is no increase in cancer risk of  $1 \times 10^{-6}$  for commercial/industrial exposures to vapor intrusion from groundwater into buildings up to 74 ppb benzene in groundwater. In addition, the Look-up Table indicates there is no increase in cancer risk of  $1 \times 10^{-6}$  for commercial/industrial exposures for all exposure pathways for the maximum expected concentration of benzo(a)pyrene of  $2.1 \times 10^{-4}$  ppm at this site.

Based on the analytical data of the subsurface investigation conducted at this site, the petroleum contaminated soil and groundwater left in place does not appear to pose a human health risk for commercial/industrial exposure for a cancer risk of  $1 \times 10^{-4}$  with the current building layout on this site. (See attachment 11 for map of current site layout and estimated areal view of soil contamination.) However, a risk evaluation of potential exposure pathways would need to be performed and the appropriate regulatory agencies should be notified prior to any construction and/or excavation activities at this site.

The contaminant plume appears to be localized and stable, and based on ASTM's risk-based screening, there appears to be no significant risk to human health or the environment for the current land use; therefore, no further action at this site is warranted at this time.

1



Scale 1 : 24000

Reference: Base map modified from USGS, San Leandro Quadrangle, 7.5 Minute Series (Topographic), Photorevised 1980.

Figure 1  
**SITE LOCATION MAP**  
J & M INC./UST CLOSURE/CA



August 1990 Investigation

Table 2 - Summary of Previous Analyses (see Appendix A for locations)

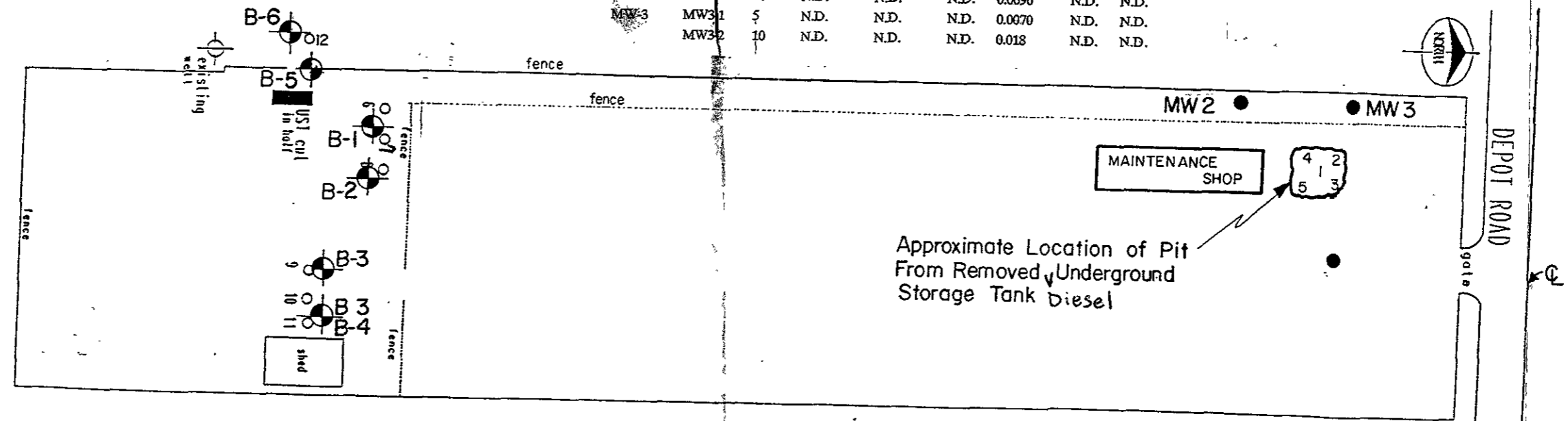
Diesel Tanks Excavation					
Sample	TPHd	Benzene	Toluene	Xylenes	Ethylbenzene
Water Sample # 1	8,100 µg/l	4.7 µg/l	9.1 µg/l	22 µg/l	6.0 µg/l
Soil Sample # 2	<3,000 µg/kg	<50 µg/kg	<50 µg/kg	<200 µg/kg	<50 µg/kg
Soil Sample # 3	<3,000 µg/kg	<50 µg/kg	<50 µg/kg	<200 µg/kg	<50 µg/kg
Soil Sample # 4	110,000 µg/kg	<700 µg/kg	6,200 µg/kg	<4,700 µg/kg	<1,300 µg/kg
Soil Sample # 5	<3,000 µg/kg	<50 µg/kg	<50 µg/kg	<200 µg/kg	<50 µg/kg

Torch Cut and Wash Areas (diesel tanks)					
Composite	TPHd	Benzene	Toluene	Xylenes	Ethylbenzene
Soil Sample # 6,7,8	230,000 µg/kg	<50 µg/kg	210 µg/kg	1,200 µg/kg	130 µg/kg
Soil Sample # 9,10,11	190,000 µg/kg	<50 µg/kg	<50 µg/kg	<200 µg/kg	<50 µg/kg
Soil Sample # 12	110,000 µg/kg	<50 µg/kg	<50 µg/kg	<200 µg/kg	<50 µg/kg

April 1991 Investigation

TABLE 1 - SUMMARY OF SOIL ANALYSIS  
parts per million ("ppm")

Boring No.	Sample No.	Depth (foot)	parts per million ("ppm")					
			TPHg	TPHd	B	T	X	E
B-1	B-1	0.2	1.8	23	0.040	0.060	0.020	0.021
B-2	B-2	0.2	N.D.	23	N.D.	0.026	N.D.	N.D.
B-3	B-3	0.2	N.D.	18	N.D.	0.018	N.D.	N.D.
B-4	B-4	0.2	N.D.	23	N.D.	0.0070	N.D.	N.D.
B-5	B-5	0.2	N.D.	30	N.D.	0.055	N.D.	N.D.
B-6	B-6	0.2	N.D.	3.8	N.D.	N.D.	N.D.	N.D.
MW-1	MW-1	7	N.D.	N.D.	N.D.	0.018	N.D.	N.D.
	MW-2	11	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW-2	MW2-1	5	N.D.	N.D.	N.D.	0.0090	N.D.	N.D.
	MW2-2	10	N.D.	N.D.	N.D.	0.0090	N.D.	N.D.
MW-3	MW3-1	5	N.D.	N.D.	N.D.	0.0070	N.D.	N.D.
	MW3-2	10	N.D.	N.D.	N.D.	0.018	N.D.	N.D.



LEGEND

- = Approximate Location of Monitoring Well
- ⊙ = Approximate Location of Soil Boring
- = Sample Locations April 1990

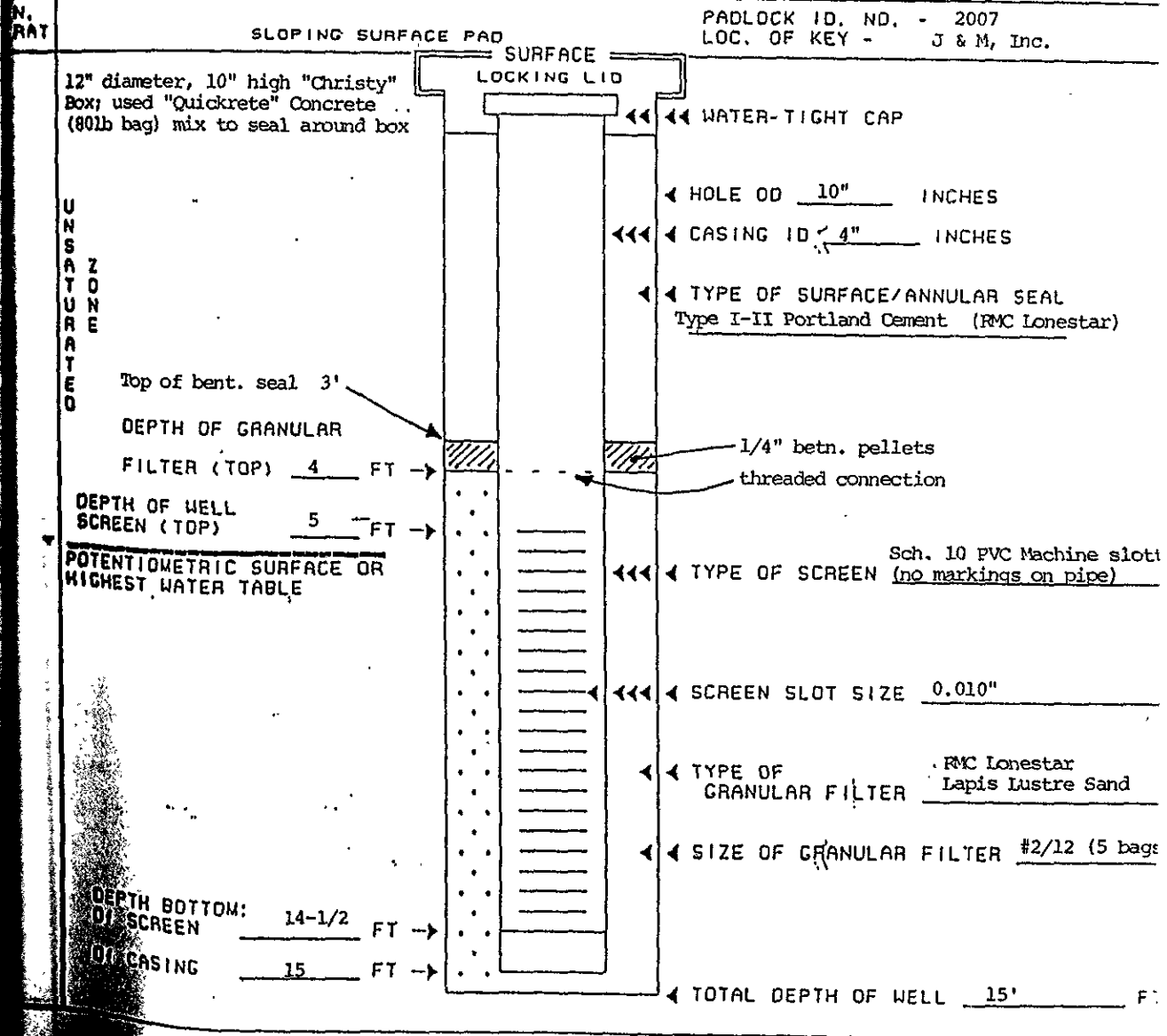


AS-BUILT WELL SKETCH

SHEET 1 OF 1

	<b>PROJECT INFORMATION</b> NO.: E6301.001 NAME: Soil & Geologic Invest. LOCATION: Depot Road, Hayward	CLIENT: J & M Construction WELL NO. MW1 INSTALLED DATE/TIME START 4/19/91 101 END 4/19/91 144
	DRILLING CO./FOREMAN HEN Drilling/ Anibal DRILLING METHOD/RIG MODEL 10" HSA CM255	ELEVATION - DATUM - top of pavement TOTAL DEPTH - 15' SEC - TOWNSHP - RANG
SURFACE CONDITIONS: GROUNDWATER DATE TIME 4/19/91 @ 0935 GEOLOGIST Neddal Ali-Adeeb	GEOPHYS. LOGS: None	

DEVELOPMENT METHOD TYPE OF WELL (circle) MONITOR DOMESTIC	PUMP TEST VAPOR	OBSERVATION OTHER	INJECTION
CASING VOLUME	REMARKS: ACPONCD - Zone 7 Permit No. 91183		



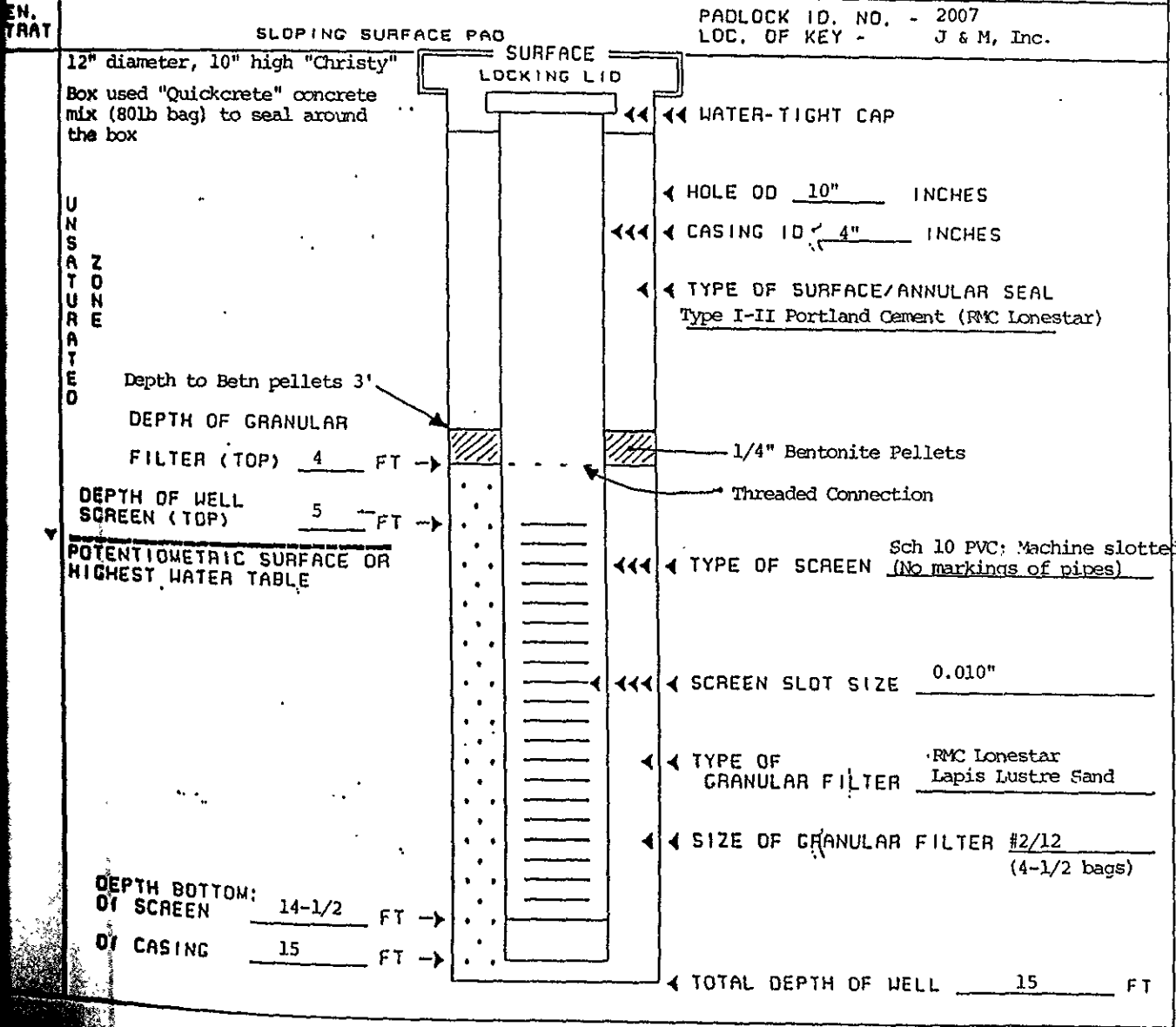


AS-BUILT WELL SKETCH

LOCATION OF BORING: 	<b>PROJECT INFORMATION</b> NO.: E6301.001 NAME: Soil & Groundwater Invest. LOCATION: Depot Road, Hayward		CLIENT: J & M, Inc.
	DRILLING CO./FOREMAN HEW Drilling / Anibal		WELL NO. M32
SURFACE CONDITIONS: DEPT GROUNDWATER DATE TIME 10' 4/19/91 @ 11:50	DRILLING METHOD/RIG MODEL 10" HSA/CMB55		INSTALLED DATE/TIME START 4/19/91 1210 END 4/19/91 1445
	GEOLOGIST Neddal Ali-Adel		ELEVATION - DATUM - Top of pavement TOTAL DEPTH - 15'
DEVELOPMENT METHOD		GEOPHYS. LOGS: None	
TYPE OF WELL (circle) <input checked="" type="checkbox"/> MONITOR <input type="checkbox"/> DOMESTIC		PUMP TEST VAPOR	
OBSERVATION OTHER		INJECTION	

REMARKS: ACFSWCD - Zone 7 Permit No. 91183
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PADLOCK ID. NO. - 2007 LOC. OF KEY - J & M, Inc.
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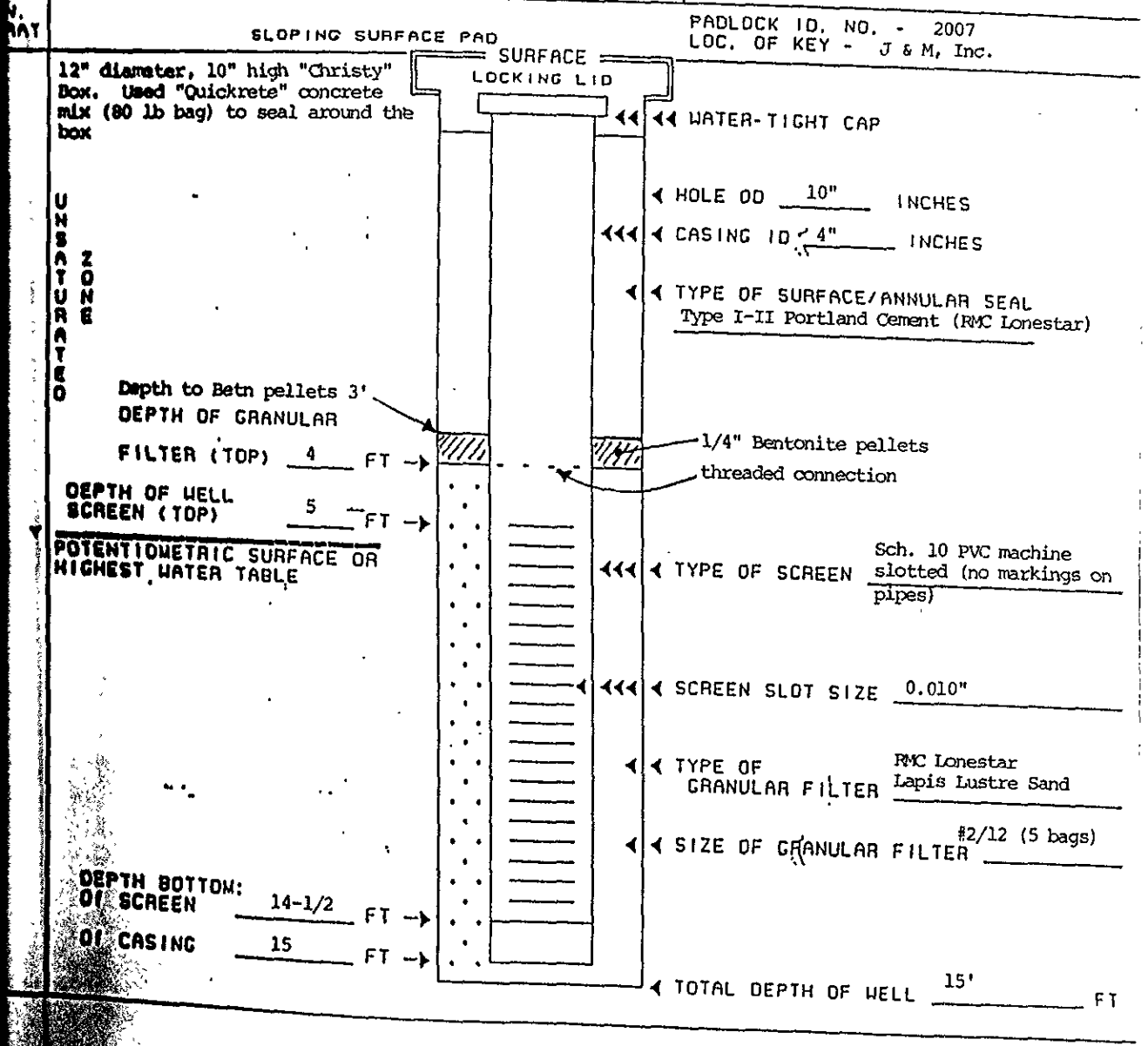


AS-BUILT WELL SKETCH

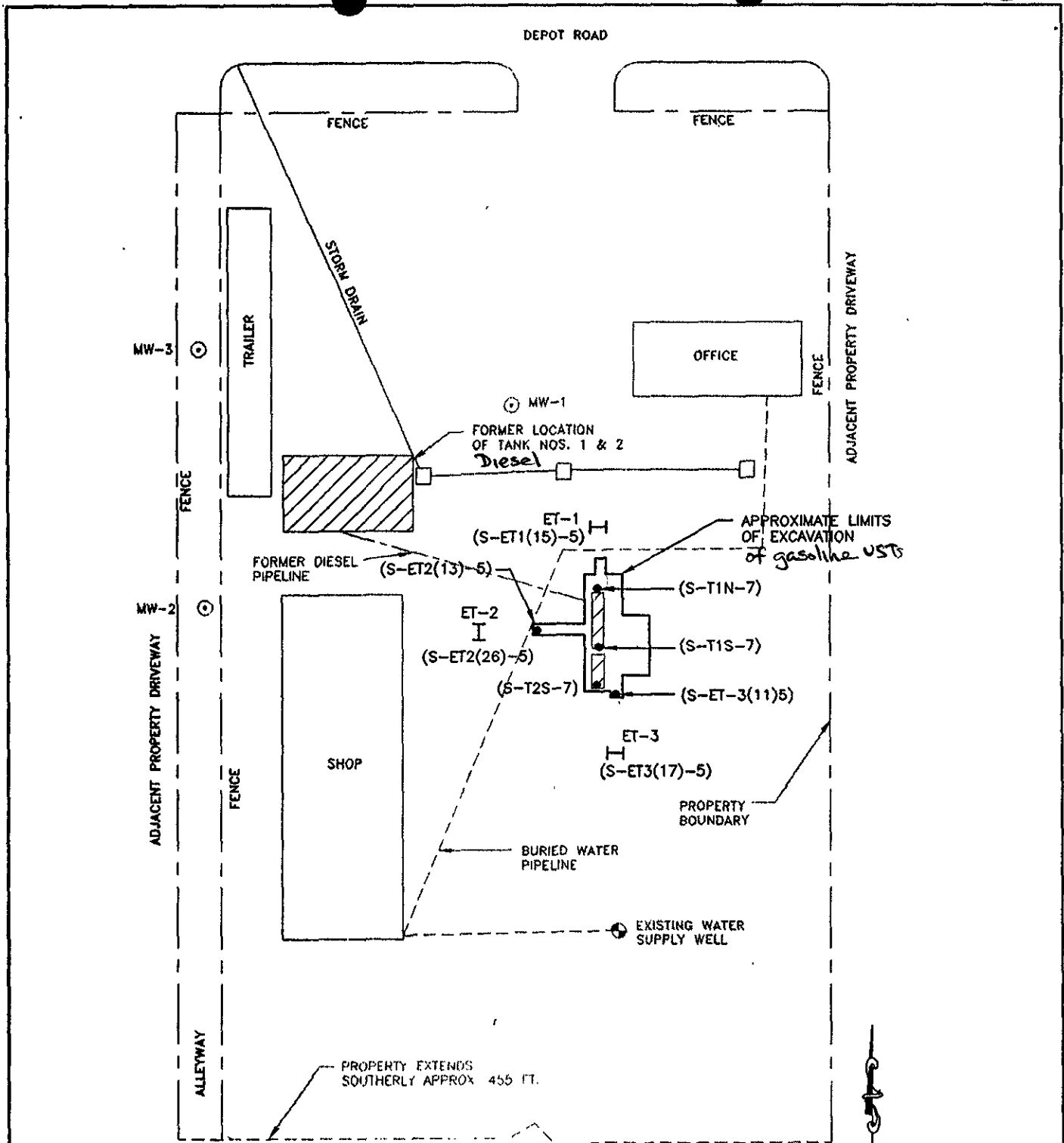
SHEET 1 OF 1

LOCATION OF BORING 	PROJECT INFORMATION NO.: E6301.001 NAME: Soil & Groundwater Invest. LOCATION: Depot Road, Hayward		CLIENT: J & M Inc.
	DRILLING CO./FOREMAN HEW Drilling/Anibal		WELL NO. MW3 INSTALLED DATE/TIME START 4/19/91 140 END 4/19/91 144
SURFACE CONDITIONS: GROUNDWATER DATE TIME 4/19/91 13:45	GEOLOGIST Neddal Ali-Adeel	DRILLING METHOD/RIG MODEL 10" HSA/CMS5	ELEVATION - DATUM - Top of pavement TOTAL DEPTH - 15' SEC - TOWNSHP - RANGE
DEVELOPMENT METHOD		TYPE OF WELL (circle) MONITOR DOMESTIC	PUMP TEST VAPOR OBSERVATION OTHER INJECTION

CASING VOLUME	REMARKS: ACFOWCD - Zone 7 Permit No. 91183
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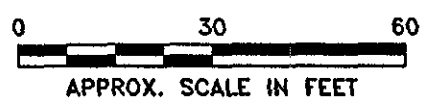


PADLOCK ID. NO. - 2007  
LOC. OF KEY - J & M, Inc.



EXPLANATION:

- NW-3 ○ EXISTING GROUNDWATER MONITORING WELL
- STORM DRAIN
- - - BURIED WATER PIPELINE
- H ET-1 (S-ET1(15)-5) EXPLORATORY TRENCH AND (SAMPLE I.D.)
- (S-T1N-7) EXCAVATION SOIL SAMPLE AND (SAMPLE I.D.)



**FIGURE 3**  
**EXCAVATION AND SOIL SAMPLING LOCATIONS**  
 J & M INC./UST CLOSURE/CA

NOTE: Base map modified from Geoenvironmental and Geologic Services.



**Table 1**  
**Summary of Soil Chemical Analysis Results**  
**J & M Inc. Facility - Hayward, California**

Sample I.D.	TPH-G	TPH-D	Benzene	Toluene	Ethylbenzene	Xylenes	Total Lead
S-T1N-7	210	NA	1.4	2.5	2.8	14	4.2
S-T1S-7	550	NA	1.5	2.1	7.1	26	5.9
S-T2S-7	370	NA	0.84	0.83	4.4	8.9	6.4
S-ET1(15)-5	37*	1600	0.013	0.12	0.083	0.57	NA
S-ET2(13)-5	65*	1700	0.041	0.17	0.11	0.84	NA
S-ET2(26)-5	38*	340	0.16	0.13	0.14	0.49	NA
S-ET3(11)-5	ND<1	NA	ND<.005	ND<.005	ND<.005	ND<.005	NA
S-ET3(17)-5	ND<1	NA	ND<.005	ND<.005	ND<.005	ND<.005	NA

**Notes:**

All concentrations reported in milligrams per kilogram (mg/kg).

ND<1 = not detected at detection limit of 1 mg/kg.

TPH-G; TPH-D = Total petroleum hydrocarbons (TPH) as gasoline (G) or diesel (D).

TPH-G and BTEX analyzed by EPA Method 5030/8015 modified and 8020.

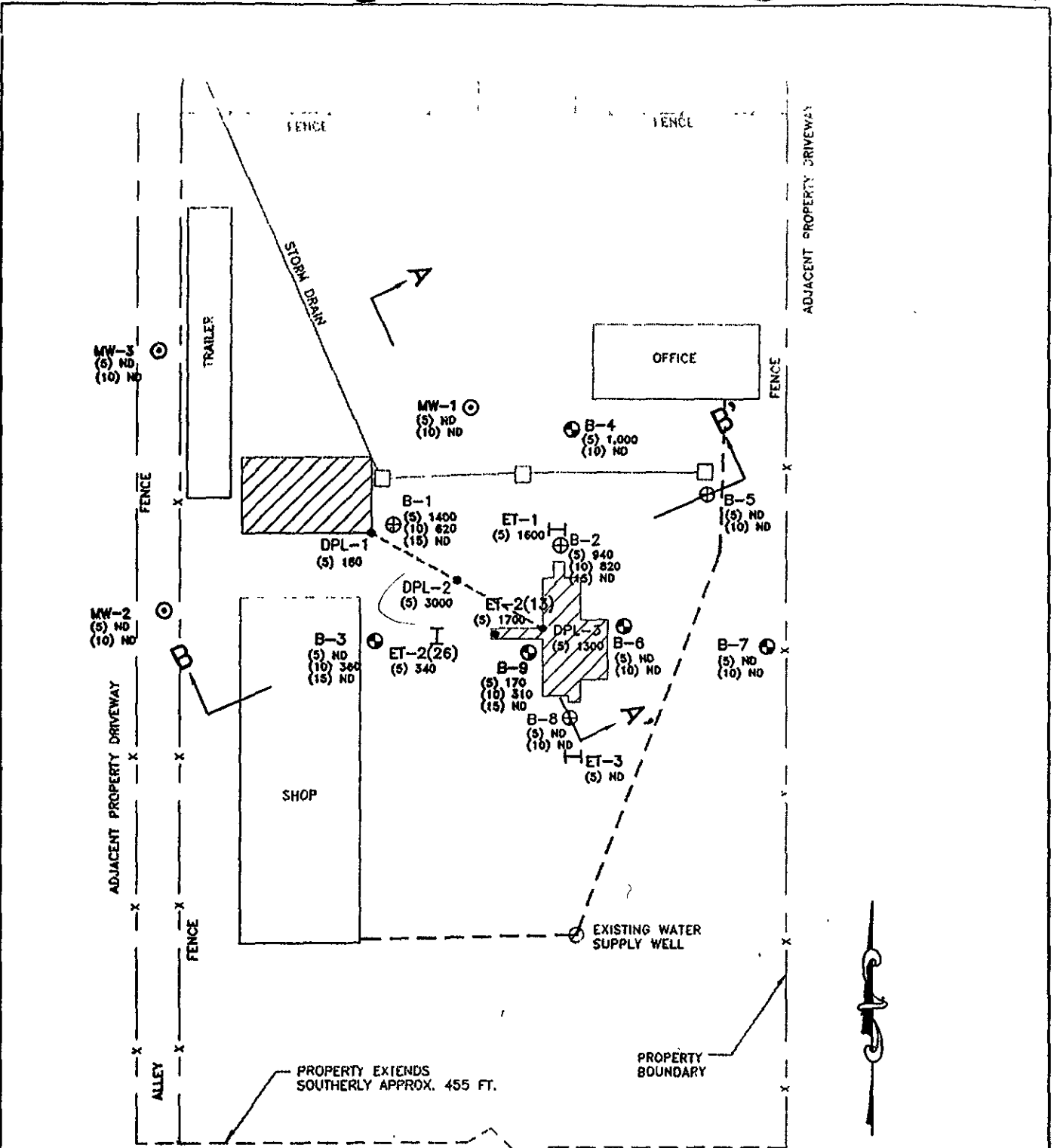
TPH-D analyzed by EPA method 3550/8015 modified.

Total lead analyzed by EPA method 7421.

\* does not match gasoline standard - heavier hydrocarbons present.

NA = not analyzed.

9437017.x1



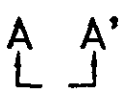
**EXPLANATION:**

- MW-3 EXISTING GROUNDWATER MONITORING WELL
- STORM DRAIN
- BURIED WATER PIPELINE
- FORMER DIESEL PIPELINE
- ET-1 EXPLORATORY TRENCH
- B-3 EXPLORATORY BOREHOLE

ND = NOT DETECTED AT/ OR ABOVE LABORATORY REPORTING LIMIT.  
 ALL CONCENTRATIONS REPORTED IN MILLIGRAMS PER KILOGRAM (mg/kg)  
 (PARTS PER MILLION)

SOIL SAMPLES COLLECTED FROM MONITORING WELL MW-1, MW-2 AND MW-3  
 BY TERRARESEARCH INC., APRIL 1991.

NOTE: Base map modified from Geoenvironmental and Geologic Services.

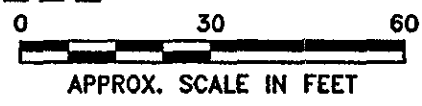


- B-1
- ET-2(13)
- (5) 340
- 

**CROSS-SECTION LOCATION**

- EXPLORATORY BOREHOLE/  
GROUNDWATER SAMPLING POINT
- EXCAVATION SOIL SAMPLE
- (DEPTH, FT.) TPHd CONCENTRATION

APPROX. LIMITS OF EXCAVATION ASSOCIATED  
 WITH UST NO. 1 & 2, 3 & 4



**FIGURE 3**  
**PLAN VIEW OF TPHd IN SOIL**  
 J & M INC./UST CLOSURE/CA

**Table 2**  
**Summary of Exploratory Borehole and Diesel Product Line**  
**Soil Chemical Analysis Results**  
**J & M Inc. Facility - Hayward, California**

Sample I.D. Boring No.	Depth (ft, bgs)	TPHg	TPHd	Benzene	Toluene	Ethyl- Benzene	Xylenes
B-1	5	17	1,400	ND<0.005	0.041	0.034	0.29
	10	7	620	ND<0.005	0.019	0.016	0.12
	15	ND<1	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B-2	5	26	940	0.046	0.1	0.063	0.43
	10	8	820	0.045	0.032	0.019	0.12
	15	ND<1	ND<10	ND<0.005	0.009	ND<0.005	0.01
B-3	5	ND<1	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	10	2	360	ND<0.005	ND<0.005	ND<0.005	0.022
	15	ND<1	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B-4	5	7	1,000	ND<0.005	0.028	0.018	0.12
	10	ND<1	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B-5	5	ND<1	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	10	ND<1	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B-6	5	ND<1	ND<10	0.042	0.007	ND	0.008
	10	ND<1	ND<10	0.056	0.007	0.010	0.030
B-7	5	ND<1	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	10	ND<1	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B-8	5	ND<1	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005
	10	ND<1	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B-9	5	29	170	0.25	0.22	0.700	0.32
	10	31	310	0.11	0.10	0.800	0.99
	15	ND<1	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005
DPL-1	5	ND<1	180	ND<0.005	ND<0.005	ND<0.005	ND<0.005
DPL-2	5	81	3,000	ND<0.10	0.41	0.2	1.4
DPL-3	5	29	1,300	0.053	0.11	ND<0.050	0.38

**Notes:**

All concentrations reported in milligrams per kilogram (mg/kg).  
 ND<1 = Not detected at detection limit of 1 mg/kg.  
 TPHg; TPHd = Total petroleum hydrocarbons (TPH) as gasoline (g) or diesel (d).  
 TPHg and BTEX analyzed by EPA Method 5030/8015 modified and 8020.  
 TPHd analyzed by EPA Method 3550/8015 modified.  
 Depth (ft, bgs) = Depth in feet below ground surface.

Table 4  
Summary of Groundwater Chemical Analysis Results  
J & M Inc. Facility - Hayward, California

Sample I.D.	TPHg	TPHd	Benzene	Toluene	Ethyl-Benzene	Xylene
B-1	290	4600	ND	1.0	0.6	4.5
B-2	730	5200	6.9	0.5	1.0	13.0
B-5	ND<50	ND<50	ND<0.5	0.7	ND<0.5	ND<0.5
B-8	350	190	4.7	1.9	13.0	0.9
MW-1	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-2	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-3	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-3 (Dup)	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Water Supply Well (W-1)	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5

→ 9/14/94

Notes:

Water supply well sampled on 9/14/94, all other samples collected on 5/24/95.

All concentrations reported in micrograms per liter (µg/l).

ND<50 = Not detected at reporting limit of 50 µg/l.

TPHg; TPHd = Total petroleum hydrocarbons (TPH) as gasoline (g) or diesel (d).

TPH and BTEX analyzed by EPA Method 5030/8015 modified and 8020.

TPHd analyzed by EPA Method 8015 modified.

9

**Table 2  
Summary of Groundwater  
Chemical Analyses Data**

Well No.	MW-1				MW-2				MW-3			
	Apr-91	Jan-92	Mar-93	Sep-93	Apr-91	Jan-92	Mar-93	Sep-93	Apr-91	Jan-92	Mar-93	Sep-93
Parameter or Compound												
TPH-D	ND50	ND50	ND50	ND50	ND50	57	ND50	ND50	ND50	ND50	ND50	ND50
TPH-G	ND30	NA	NA	ND50	ND30	NA	NA	ND50	ND30	NA	NA	ND50
Benzene	ND0.3	ND0.3	ND0.3	ND0.5	ND0.03	ND0.03	ND0.03	ND0.5	ND0.3	ND0.3	ND0.3	ND0.5
Toluene	ND0.3	ND0.3	ND0.3	ND0.5	ND0.03	ND0.03	ND0.03	ND0.5	ND0.3	ND0.3	ND0.3	ND0.5
Ethyl Benzene	ND0.3	ND0.3	ND0.3	ND0.5	ND0.03	ND0.03	ND0.03	ND0.5	ND0.3	ND0.3	ND0.3	ND0.5
Xylene(s)	ND0.3	ND0.3	ND0.3	ND1.0	ND0.03	ND0.03	ND0.03	ND1.0	ND0.3	ND0.3	ND0.3	ND1.0

Notes:

All concentrations reported in micrograms per liter or parts per billion (ppb).

TPH-D = Total petroleum hydrocarbons as diesel.

TPH-G = Total petroleum hydrocarbons as gasoline.

ND50 = Not detected at reporting limit.

NA = Not analyzed.

TPH-D, TPH-G and BTEX analyses performed using EPA Methods 3510/8015, 5030/8015 and 5030/8020, respectively.

Samples collected in April 1991, January 1992, and March 1993 analyzed by Sequoia Analytical.

Samples collected in September 1993 analyzed by APPL.

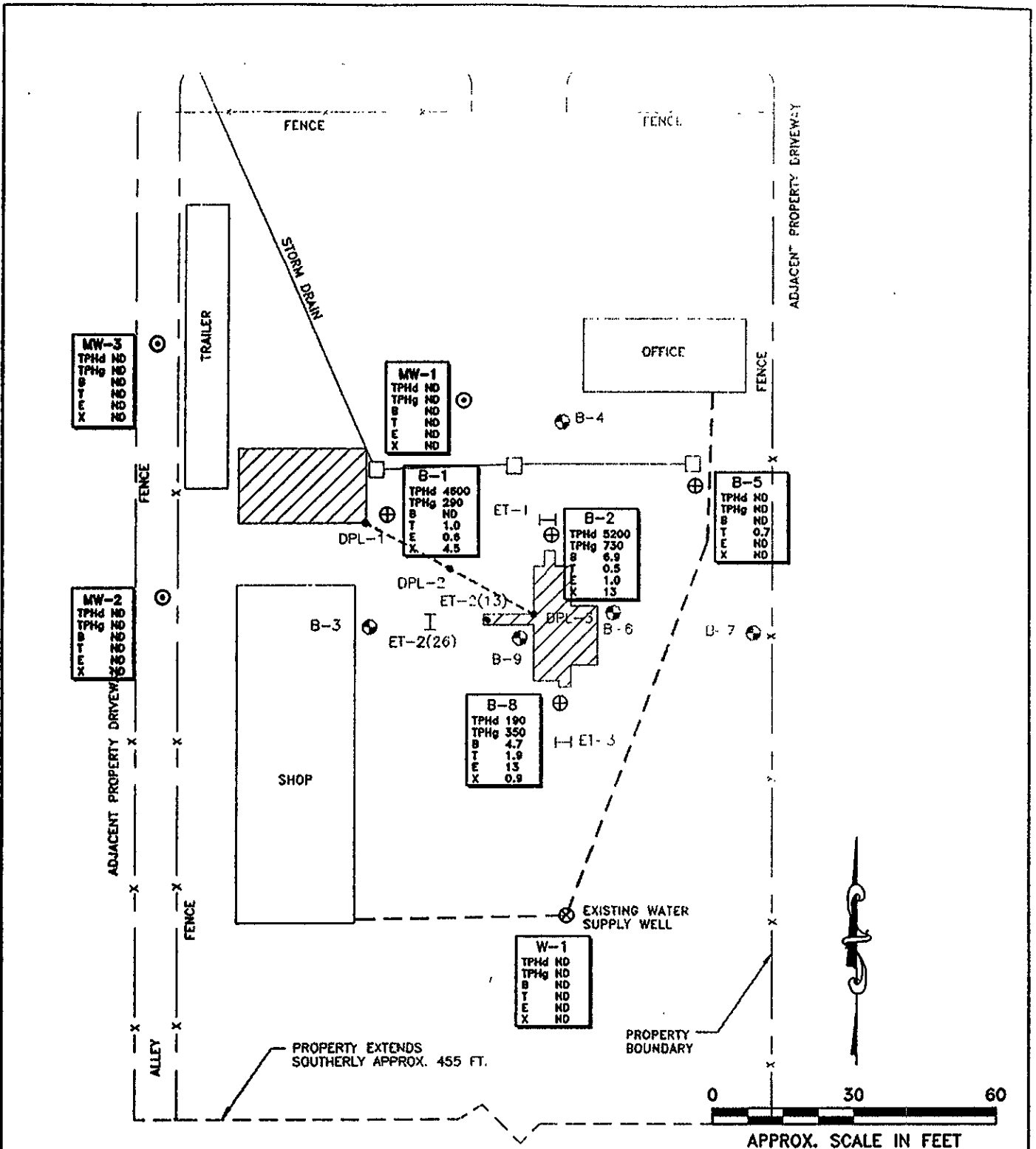
**TABLE 1 - SUMMARY OF GROUNDWATER ANALYSIS**  
parts per billion ("ppb")

Date	Well No.	Sample No.	TPHg	TPHd	B	T	X	E
4-22-91	MW-1	MW1-W1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	MW-2	MW2-W1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	MW-3	MW3-W1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
7-1-91	MW-1	MW1-W12	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
		MW1-W22	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	MW-2	MW2-W12	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
		MW2-W22	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW-3	MW3-W12	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
	MW3-W22	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	

XLW9437017.bk1

from 12/16/91 Terrasearch Inc's report on "Soils & Groundwater Investigation"

9



**EXPLANATION:**

- MW-3 EXISTING GROUNDWATER MONITORING WELL
- STORM DRAIN
- BURIED WATER PIPELINE
- FORMER DIESEL PIPELINE
- ET-1 EXPLORATORY TRENCH
- B-3 EXPLORATORY BOREHOLE
- B-1 EXPLORATORY BOREHOLE/  
GROUNDWATER SAMPLING POINT

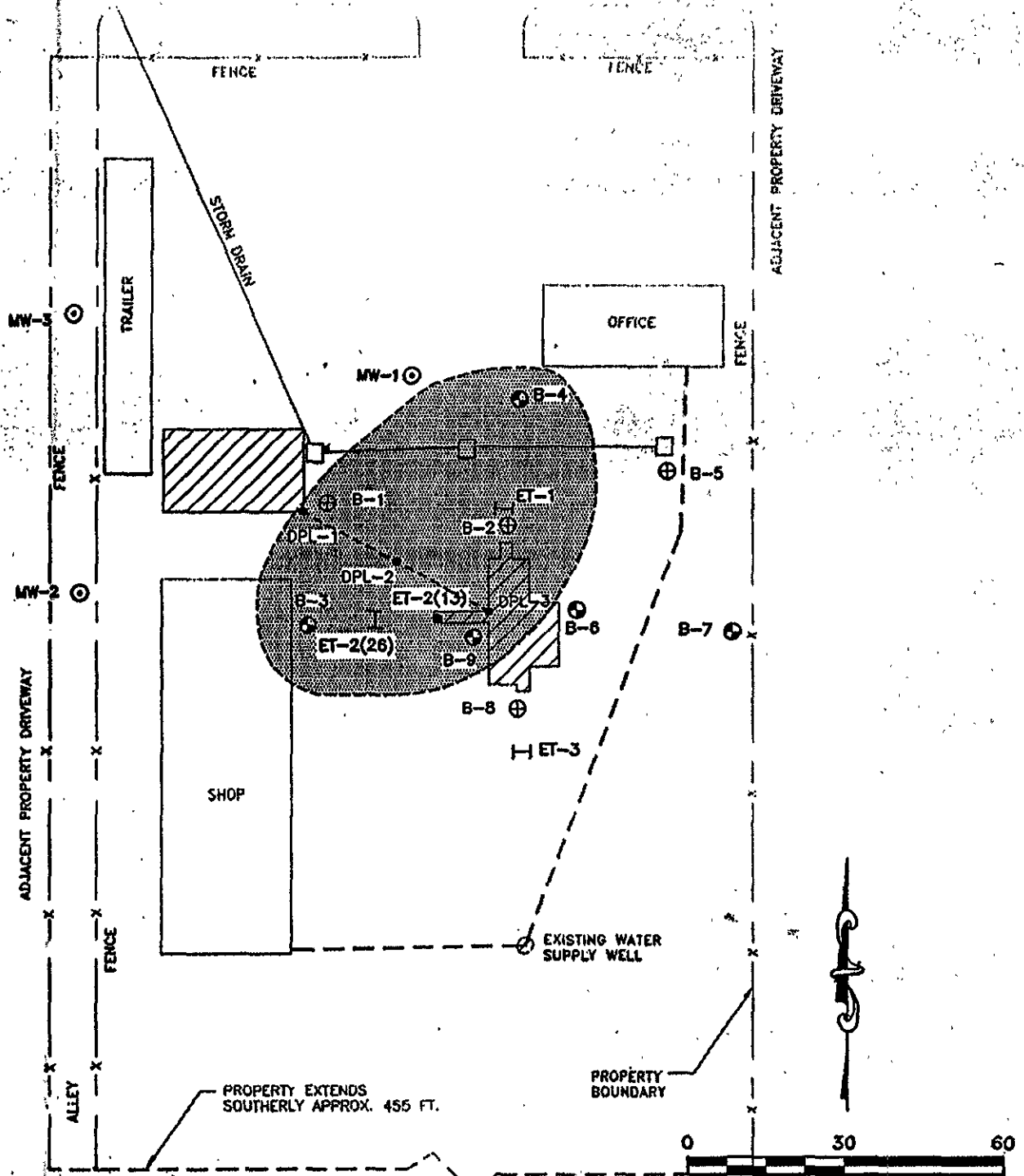
- ET-2(13) EXCAVATION SOIL SAMPLE
- APPROX. LIMITS OF EXCAVATION ASSOCIATED  
WITH UST NO. 1 & 2, 3 & 4

TPH = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE (TPHg) OR DIESEL (TPHd)  
 BTEX = BENZENE, TOLUENE, ETHYLBENZENE AND XYLENES  
 ND = NOT DETECTED AT/OR ABOVE LABORATORY REPORTING LIMIT  
 ALL CONCENTRATIONS REPORTED IN MICROGRAMS PER LITER (PARTS PER BILLION)  
 EXPLORATORY BORINGS AND MONITORING WELLS SAMPLED ON 5/24/95.  
 WATER SUPPLY WELL (W-1) SAMPLED ON 9/14/94.

**DISTRIBUTION OF TPHd, TPHg AND BTEX IN GROUNDWATER**  
 J & M INC./UST CLOSURE/CA

**FIGURE 6**

NOTE: Base map modified from Geoenvironmental and Geologic Services.



**EXPLANATION:**

- MW-3 ⊙ EXISTING GROUNDWATER MONITORING WELL
- STORM DRAIN
- - - BURIED WATER PIPELINE
- - - FORMER DIESEL PIPELINE
- ⊥ ET-1 EXPLORATORY TRENCH AND EXPLORATORY BOREHOLE
- ⊕ B-3 EXPLORATORY BOREHOLE
- ⊕ B-1 EXPLORATORY BOREHOLE/ GROUNDWATER SAMPLING POINT

- ET-2(13) EXCAVATION SOIL SAMPLE
- ▨ APPROX. LIMITS OF EXCAVATION ASSOCIATED WITH UST NO. 1 & 2, 3 & 4
- ▩ TPHd AFFECTED SOIL

**ESTIMATED AREAL EXTENT OF TPHd AFFECTED SOIL**

**FIGURE 7**

NOTE: Base map modified from Geoenvironmental and Geologic Services.

J & M INC./UST CLOSURE/CA