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

Alameda County
Environmental Protection Division
1131 Harbor Bay Parkway, Room 250
Alameda CA 94502-6577

CC4580

REMEDIAL ACTION COMPLETION CERTIFICATION

July 8, 1996

Attn: Steve Nelson
Tharco
2222 Grant Ave
San Lorenzo CA 94580

Dear Mr. Nelson:

UNDERGROUND STORAGE TANK (UST) CASE
Tharco
2222 Grant Ave
San Lorenzo CA 94580
SITE NO. 1794

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: Frances Maroni, HET, Inc., 2363 Mariner Square Dr, Suite 243, Alameda CA 94501
Kevin Graves, RWQCB
Mike Harper, SWRCB w/attachment
Acting Chief of Environmental Protection Division
Files(ALL)

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

ENVIRONMENTAL HEALTH SERVICES
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
(510)

REMEDIAL ACTION COMPLETION CERTIFICATION

June 13, 1996

Attn: Steve Nelson
Tharco
2222 Grant Ave
San Lorenzo CA 94580

Dear Mr. Nelson:

UNDERGROUND STORAGE TANK (UST) CASE
Tharco
2222 Grant Ave
San Lorenzo CA 94580
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Mike Harper, SWRCB w/attachment
Acting Chief of Environmental Protection Division
Files(ALL)

01-1299

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

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.**

II. CASE INFORMATION

Site facility name: **Tharco**
Site facility address: **2222 Grant Ave., San Lorenzo, CA 94580**
RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: **1794**
URF filing date: **06/15/94** SWEEPS No: **N/A**

Responsible Parties:	**Address:**	**Phone Numbers:**
Attn: Steve Nelson	2222 Grant Ave.	(51)276-8600
Tharco	San Lorenzo, CA 94580	

Tank No:	**Size in gal.:**	**Contents:**	**Closed in-place or removed?:**	**Date:**
1	2,000	Diesel	removed	07/19/93

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: **Leak and/or overfilling**

Site characterization complete? **Yes**
Date approved by oversight agency: **03/13/96**

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

Proper screened interval? **Yes (4-9 ft bgs)**

Highest GW depth below ground surface: **5.02 ft** Lowest depth: **6.46 ft** (MW-1)

Flow direction: **Has varied from SE, NW; SE to SW. May be tidally influenced.**

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

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

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment or Disposal w/destination)	Date
Tanks	1 - UST	H&H Ship 220 China Basin St., San Francisco	07/93
Product/ Rinsate	70 gallons	PRC Patterson Inc. 13331 North Hwy 33, Patterson, CA	07/93
Soil	40 c.y.	May have been disposed at BFI	12/93

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm)			Water (ppb)	
	Before[1]	After[2]	After[3]	Before[4]	After[5]
TPH (Gasoline)	ND	350	700	460	ND
TPH (Diesel)	26	39	200	1,000	1,700
Benzene	ND	2.8	2.1	8.4	ND
Toluene	ND	0.11	3.4	0.6	ND
Ethylbenzene	ND	0.86	2.8	3.4	ND
Xylene	ND	0.99	5.1	1.6	ND

1 "Before" soil sample collected at 6 ft bgs from the diesel UST pit *prior to* overexcavation.
2 "After" soil sample collected at 6 ft bgs from the diesel UST pit *after* overexcavation.
3 "After" soil sample collected from boring B-2 @ 8 - 10 ft bgs.
4 "Before" water sample collected from MW-2 on 3/29/94.
5 "After" water sample collected from MW-2 on 8/9/95.

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:
A safety assessment for potential exposure risks should be completed and the appropriate regulatory agencies must be notified prior to construction and/or excavation in the affected area at this site.

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

Monitoring wells Decommissioned: **No**
Number Decommissioned: **Pending case closure concurrence.** Number Retained:**3**

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

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Amy Leech
Signature: A. Leech
Title: Hazardous Materials Spec.
Date: 3/29/96

Reviewed by
Name: Eva Chu
Signature: E. Chu
Title: Hazardous Materials Spec.
Date: 3/29/96

Name: Thomas Peacock
Signature: T. Peacock
Title: Supervising, Hazardous Materials Spec.
Date: 3-28-96

VI. RWQCB NOTIFICATION

Date Submitted to RB:
RWQCB Staff Name: Kevin Graves, P.E.
Title: Assoc. Water Resources Control Engineer

RB Response: Approved
Signature: K. Graves
Date: 4/16/96

VII. ADDITIONAL COMMENTS

On July 19, 1993, one 2,000-gallon diesel underground storage tank (UST) was removed from 2222 Grant Avenue, San Lorenzo, CA. (See attachment 1 for site location.) Groundwater was observed seeping into the tank pit at approximately 9.0 ft bgs and a strong gasoline odor was noted during the UST removal. Initial analytical results of the two soil samples collected from the pit bottom in native soil at approximately 10 feet bgs were unremarkable. On August 27, 1993, after groundwater was pumped from the tank pit and allowed to recharge, a "grab" groundwater sample was collected and the sandy "backfill" material believed to be contaminated was excavated from the tank pit.

Analytical results of the August 27th "grab" groundwater sample identified 850 ppb TPHg and 110 ppm xylenes. Confirmatory soil samples collected from each sidewall at approximately 6-9 feet bgs in the overexcavated tank pit identified up to 350 ppm TPHg, 39 ppm TPHd, and 2.8 ppm benzene. (See attachment 2.)

On March 25, 1994, three monitoring wells were installed in the vicinity of the UST pit. Groundwater was encountered from 4.81 to 5.41 feet bgs. A soil sample collected at 6.5 ft bgs from boring B-2/MW-2 (located approximately 8-10 feet northwest of the tank pit) identified 710, 200, and 2.1 ppm of TPHg, TPHd, and benzene, respectively. (See attachment 3 for soil results and boring logs.)

Groundwater was sampled five times from 3/24/94 through 8/9/95. Groundwater gradient is relatively flat and the flow direction has fluctuated from northwest to southwest and southeast which may indicate tidal influences. The maximum concentration of TPHg, TPHd, and BTEX detected in groundwater during the 3/94 to 8/85 sampling period was 460; 1,700; and 37/0.7/3.4/3.6 ppb, respectively. TPHg and BTEX were non-detect in all three wells in August 1995 and TPHd was detected at 1,700 ppb in monitoring well MW-2. In addition, total dissolved solids (TDS) ranged from 1,240 to 5,910 ppb during the August 1995 sampling event. (See attachment 4 for historical groundwater data.)

It appears that residual soil contamination left in place is located within predominantly clay sediments that contain sand from approximately 6 to 7 feet bgs in the vicinity of the UST pit. Based on the TDS levels measured at the site, groundwater is not suitable for drinking water.

A review of the potential risk to human health from exposure to contaminants left in place was completed using ASTM E1739-95 Tier 1 RBCA. The possible pathways of exposure evaluated were soil and groundwater volatilization to outdoor air; other routes of exposure (e.g., risk from indoor air inhalation and soil leachate to groundwater) were not considered since currently, it appears that there are no building structures located over the residual soil and groundwater contamination and groundwater is not used as a drinking water source. In addition, significant contaminant migration in groundwater is not expected due to the low permeable clays soils present at the site.

VII. ADDITIONAL COMMENTS (cont'd)

The maximum concentration of benzene reported to be left in soil and groundwater at the site is 2.1 ppm and 37 ppb, respectively. These concentrations do *not* exceed the Tier 1 RBCA commercial exposure of $1x10^{-4}$ cancer risk of 13.25 ppm for soil volatilization to outdoor air or 53.4 ppb for groundwater volatilization to outdoor air. The Tier 1 RBCA commercial exposure of $1x10^{-4}$ cancer risk *is exceeded* for the indoor inhalation pathways for the expected maximum concentrations of contaminants left in soil and groundwater; however, as indicated above, there are no building structures currently over the area of residual contamination. These pathways should be considered and evaluated accordingly prior to completing any excavation or construction in the vicinity of the former UST pit.

No further investigations are recommended since this site appears to meet the San Francisco RWQCB's definition of a low risk groundwater case:

1. The source of contamination was abated by removal of the UST. Overexcavation of the contaminated backfill soil was reportedly completed; however, analytical data indicates that residual soil contamination remains in the vicinity of the UST pit.

2. The extent of impact to soil and groundwater has been evaluated at this site by analysis of multiple soil and groundwater samples collected within the UST pit and from three soil borings/monitoring wells installed in the vicinity of impacted area.

3. Analytical groundwater data collected over one complete hydrologic cycle (5 consecutive quarters) has shown that the dissolved hydrocarbon plume is not significantly migrating and that TPHg and BTEX compounds appear to be attenuating.

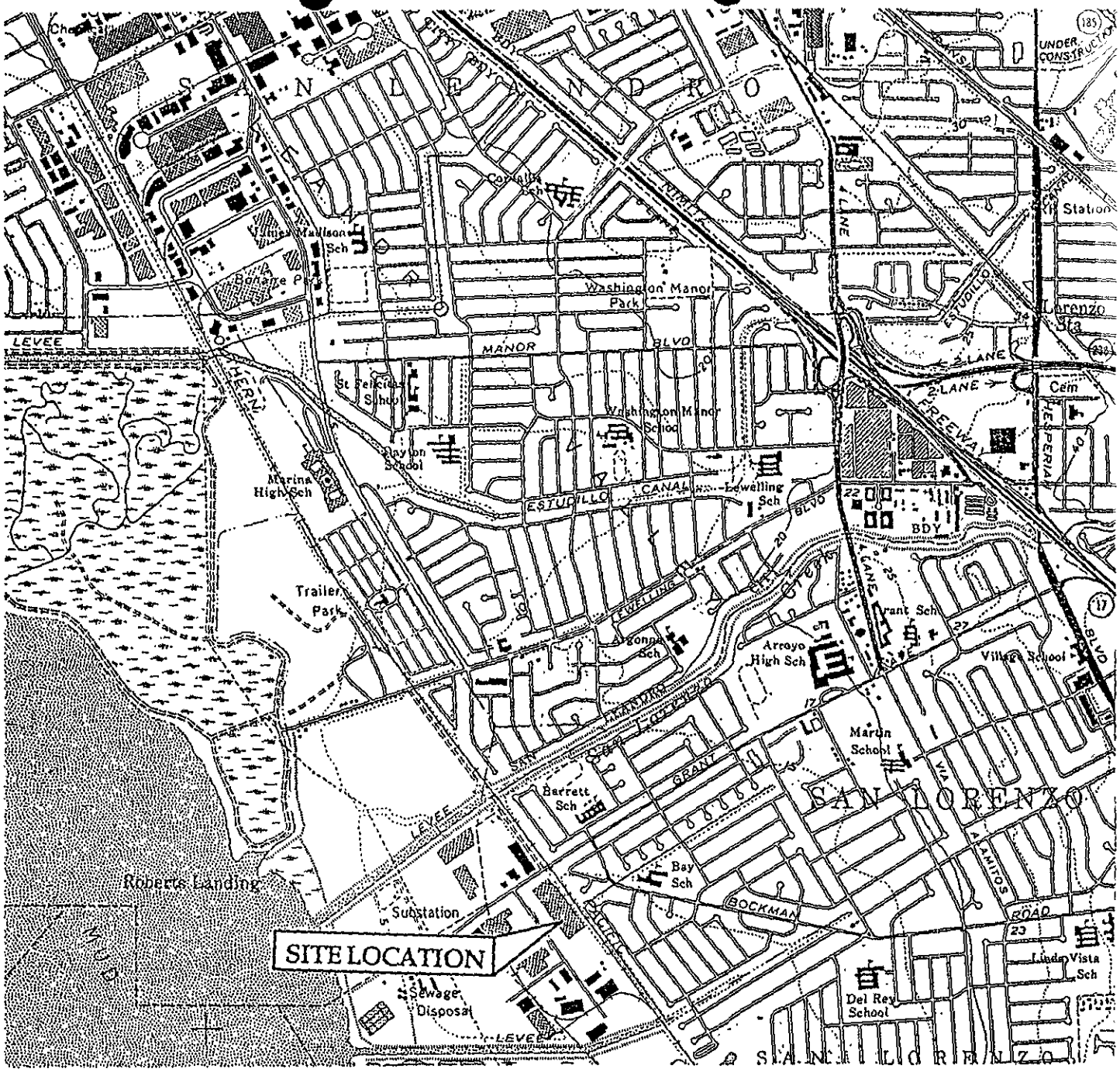
4. This site is located one-half mile east of San Francisco Bay, and drainage canals which empty to the Bay are located approximately 2,000 feet to the north and south of the site. The residual contamination left in soil and groundwater at this site is not expected to significantly impact these sensitive receptors.

5. No significant risk to human health was found for outdoor inhalation exposure to benzene from soil and groundwater contamination using the ASTM E1739-95 Tier 1 RBSL Look-up Table for $1x10^{-4}$ cancer risk. The cancer risk of $1x10^{-4}$ was *exceeded* for indoor inhalation exposure to benzene from soil and groundwater contamination using the Tier 1 RBSL Look-up Table; however, at this time, the area impacted by hydrocarbon contamination is located underneath a parking lot and the nearest building structure is located approximately 30 feet to the north. There is currently no scientific data or methodology available to determine if there are any other potential human health risks associated with the residual levels of TPHg and TPHd left in soil and groundwater.

   The current property owner, Tharco, manufactures corrugated cardboard boxes at the site. A risk analysis should be performed if any change in land use or plans for construction/excavation in the affected area is planned.

6. Since it appears that site specific exposure pathways will not affect any currently recognized sensitive ecological receptors, an environmental risk analysis was not performed.

(1)



SCALE 1:24000

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET

CALIF

QUADRANGLE LOCATION

SOURCE: USGS 7.5 MINUTE SERIES TOPOGRAPHIC MAP
ENTITLED: SAN LEANDRO, CALIF. QUADRANGLE
PHOTOREVISED: 1979

NORTH

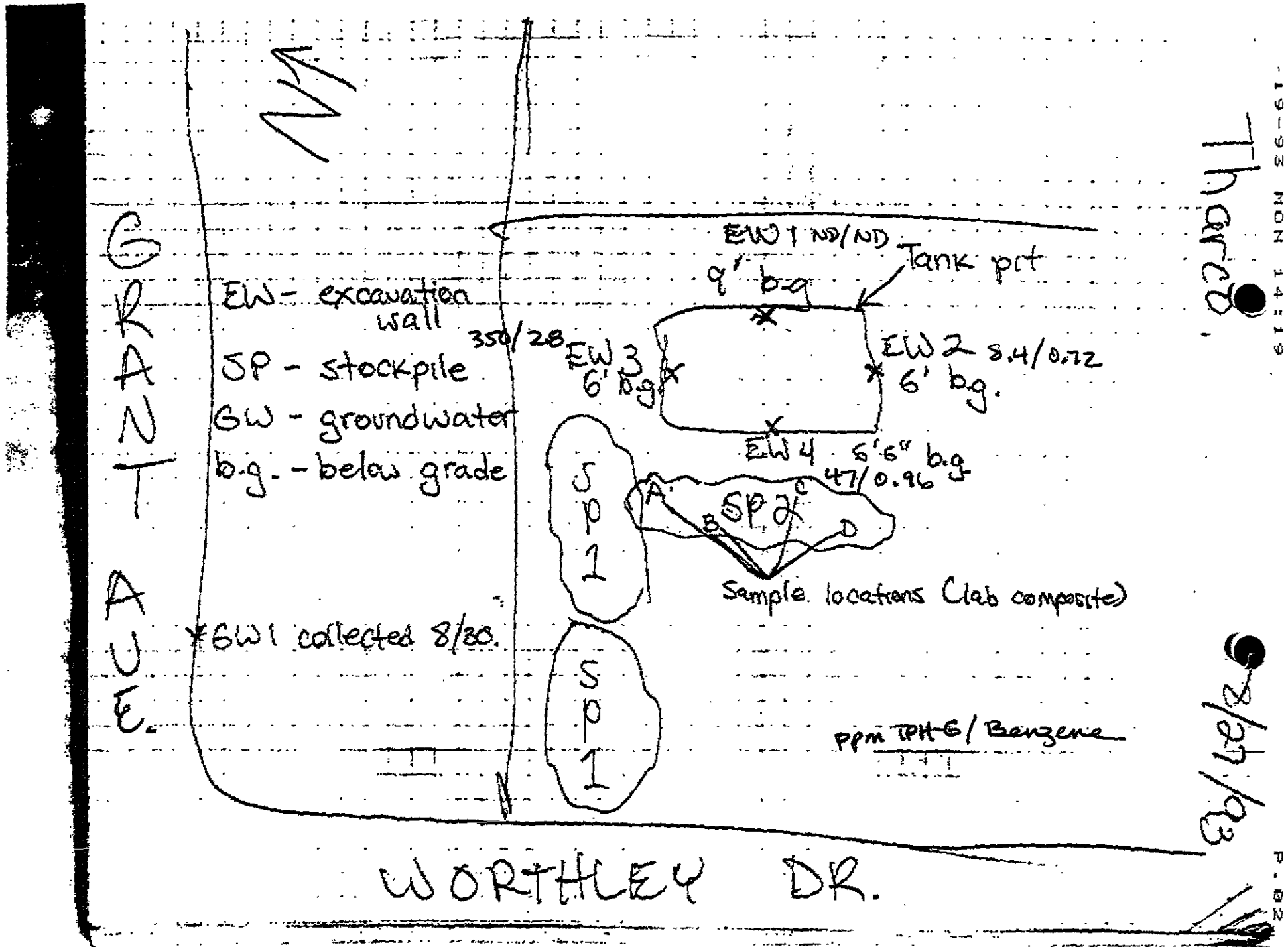
HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

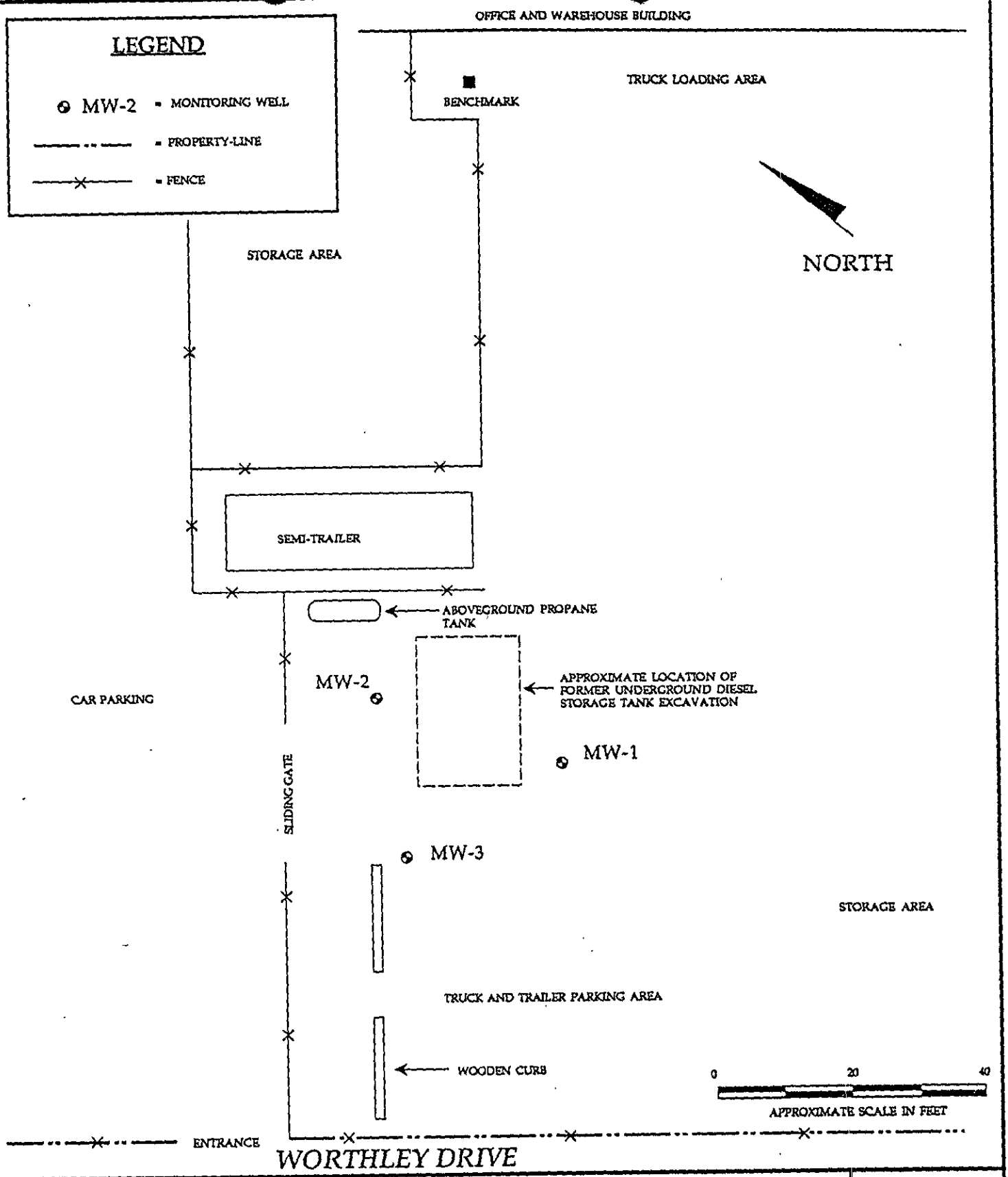
SITE LOCATION MAP

Tharco
2222 Grant Avenue
San Lorenzo, California

Figure 1

7-282 3/94


GRANT AVE.
EW - excavation wall
SP - stockpile
GW - groundwater
b.g. - below grade
*GW1 collected 8/30.
NM
EW1 ND/ND
9' b.g.
Tank pit
EW2 8.4/0.72
6' b.g.
EW3 350/28
6' b.g.
EW4 5'6" b.g.
47/0.96
SP1
SP2
A
B
C
D
Sample locations (lab composite)
SP1
ppm TPH-G/Benzene
WORTHLEY DR.
Thanks.
8/27/93
1-19-93 MON 14:19
P.02



HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

SITE PLAN

Tharco Corporation
2222 Grant Avenue
San Lorenzo, California

Figure 2

7-282 1/95

Table 1

SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
Tharco Corporation
2222 Grant Avenue
San Leandro, CA

Sample I.D. #	Sampling Depth (feet)	Sampling Date	TPHg (ppm)	B (ppm)	T (ppm)	E (ppm)	X (ppm)	TPHd (ppm)
B-1	6.5	3/25/94	ND<1.0	ND<0.005	0.022	ND<0.005	ND<0.005	ND<5.0
B-2	6.5	3/25/94	710	2.1	3.4	2.8	5.1	200
B-3	8.5	3/25/94	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<5.0

Notes:

TPHg: Total petroleum hydrocarbons as gasoline by EPA Method 8015 (DHS modified)
TPHd: Total petroleum hydrocarbons as diesel by EPA Method 3550/8015
BTEX: Benzene, toluene, ethylbenzene and total xylenes by EPA Method 8020 (DHS-modified)
ppm: Parts per million
ND: Not detected in concentrations exceeding method detection limits

SITE/LOCATION Tharco, San Lorenzo		BEGUN 3/25/94	BORING DIAMETER 8 Inches	ANGLE/BEARING 90 Degrees	BORING NO B-1
DRILLING CONTRACTOR Bayland Drilling		COMPLETED 3/25/94	FIRST ENCOUNTERED WATER DEPTH 7 Feet		BOTTOM OF BORING 19 Feet
DRILL MAKE & MODEL CM 70	OPERATOR Adam Huajardo	LOGGED BY Ruary Allan	STATIC WATER DEPTH/DATE 5.41 Feet - 3/29/94		WELL NO. MW-1
WELL MATERIAL 2" SCH 40 PVC	SLOT SIZE 0.020"	SAMPLING METHOD CA-modified split spoon			BOTTOM OF WELL 19 Feet
FILTER PACK #2/12 sand	WELL SEAL Neat cement over hydrated bentonite pellets				PLANNED USE Monitoring

BLOWS/FOOT	PID FIELD HEADSPACE (ppm)	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
		1					6" Concrete pad.
		2					
		3					
		4					
6	10	5		▼			Lean CLAY (CL); gray, soft, high plasticity; damp.
4	3	6					
		7		▽			Gravelly lean CLAY with sand (CL); gray mottled black, soft, high plasticity; approximately 30% fine grained gravel; approximately 15% fine to coarse grained sand; wet.
4	0.2	8					
		9					
10		10					Lean CLAY (CL); gray, firm, salt crystals in cavities; trace of coarse grained sand.
		11					
		12					
		13					
		14					
15	0	15					Sandy lean CLAY (CL); gray, firm, low plasticity, intermittent iron-staining; 30% fine to medium grained sand. Grades to clayey sand at 15.5'.
		16					
		17					Clayey GRAVEL with sand (GC); multicolored, fine to coarse grained (up to 2" diameter), angular to rounded; approximately 15% clay; approximately 25% fine to coarse grained sand.
26		18					
		19					
		20					

HYDRO-
ENVIRONMENTAL
TECHNOLOGIES, INC.

DATE: June 1, 1994

APPROVED BY: Gary Pischke, C.E.G.

SOIL BORING LOG
AND
WELL CONSTRUCTION DIAGRAM
MW-1

Tharco
2222 Grant Avenue
San Lorenzo CA

PLATE
C-2

SHEET 1 OF 1

JOB NO.
7-282

SITE/LOCATION Tharco, San Lorenzo		BEGUN 3/25/94	BORING DIAMETER 8 Inches	AZIMUTH/BEARING 90 Degrees	BORING NO B-2
DRILLING CONTRACTOR Bayland Drilling		COMPLETED 3/25/94	FIRST ENCOUNTERED WATER DEPTH 6 Feet		BOTTOM OF BORING 19 Feet
DRILL MAKE & MODEL CM 70	OPERATOR Adam Huajardo	LOGGED BY Ruary Allan	STATIC WATER DEPTH/DATE 4.81 Feet - 3/29/94		WELL NO. MW-2
WELL MATERIAL 2" SCH 40 PVC	SLOT SIZE 0.020"	SAMPLING METHOD CA-modified split spoon			BOTTOM OF WELL 19 Feet
FILTER PACK #2/12 sand	WELL SEAL Neat cement over hydrated bentonite pellets				PLANNED USE Monitoring

BLOWS/ FOOT	PID FIELD HEADSPACE (ppm)	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
		1					6" Concrete pad.
		2					Pea gravel fill.
		3					
		4					
2	0	5		▼			
0	11	6		▽			
		7					Lean CLAY (CL); light-gray, soft, high plasticity; trace of medium to coarse grained sand; wet. (1)
		8					
		9					
7	0.2	10					Lean CLAY (CL); dark-gray, firm, low plasticity, trace of plant debris and organic material, salt crystals in cavities; trace of medium to coarse grained sand; trace of fine grained, angular, gray gravel; wet. (2)
		11					
		12					
		13					Lean CLAY (CL); 13.5' to 14.5'- transitional contact from lithology (1) to lithology (2) (above).
		14					
22	0	15					Lean CLAY (CL); gray, very stiff, low plasticity, red iron-staining; approximately 10% silt and fine grained sand.
		16					
		17					
7		18					Lean CLAY with sand (CL); gray, firm, light red iron-staining; approximately 50% silt and fine grained sand; wet.
		19					
		20					

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE: June 1, 1994

APPROVED BY: Gary Pischke, C.E.G.

SOIL BORING LOG
AND
WELL CONSTRUCTION DIAGRAM
MW-2

Tharco
2222 Grant Avenue
San Lorenzo CA

PLATE
C-3

SHEET 1 OF 1

JOB NO.
7-282

SITE/LOCATION: Tharco, San Lorenzo		BEGUN: 3/25/94	BORING DIAMETER: 8 Inches	ANGLE/BEARING: 90 Degrees	BORING NO: B-3
DRILLING CONTRACTOR: Bayland Drilling		COMPLETED: 3/25/94	FIRST ENCOUNTERED WATER DEPTH: 9 Feet (uncertain)		BOTTOM OF BORING: 20.5 Feet
DRILL MAKE & MODEL: CM 70	OPERATOR: Adam Huajardo	LOGGED BY: Ruary Allan	STATIC WATER DEPTH/DATE: 5.34 Feet - 3/29/94		WELL NO.: MW-3
WELL MATERIAL: 2" SCH 40 PVC	SLOT SIZE: 0.020"	SAMPLING METHOD: CA-modified split spoon			BOTTOM OF WELL: 19 Feet
FILTER PACK: #2/12 sand	WELL SEAL: Neat cement over hydrated bentonite pellets				PLANNED USE: Monitoring

BLOWS/FOOT	PID FIELD HEADSPACE (ppm)	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
		1–4					6" Concrete pad.
		5		▼			No sample collected at 4.5' - 5'; sampler blocked by cobble.
0		6–7					Lean CLAY (CL); dark gray; trace of medium to coarse grained sand; moist.
0		8					
7	0	9		▽			Lean CLAY (CL); dark gray, soft, high plasticity, salt crystals in cavities, red iron-staining, grading into light gray, firm, moderately plastic; trace of medium grained sand; wet.
		10–13					
14	0	14–15					Lean CLAY (CL); tan, stiff, moderate plasticity; approximately 30% silt; trace of fine grained sand.
		16–17					
	0	18					Poorly-graded SAND (SP); yellow to brown, 5 to 10% black organic material, fine grained, loose.
		19–20					

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE: June 1, 1994

APPROVED BY: Gary Pischke, C.E.G.

SOIL BORING LOG AND WELL CONSTRUCTION DIAGRAM MW-3

Tharco
2222 Grant Avenue
San Lorenzo CA

PLATE C-4

SHEET 1 OF 1

JOB NO. 7-282