

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



ENVIRONMENTAL HEALTH SERVICES

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

StID 1969

August 31, 1998

Mr. David Grede
Waste Management of Alameda
6175 South Front Street
Livermore, CA 94550

**Re: Fuel Leak Site Case Closure for Livermore-Dublin Disposal Co., at 6175 S Front Street,
Livermore, CA**

Dear Mr. Grede:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Protection Division is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed.

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- up to 380ppm TPH as gasoline and 1,3ppm benzene exists in soil beneath the site;
- up to 5.8ppb benzene exists in groundwater beneath the site; and,
- a site safety plan must be prepared for construction workers in the event of excavation/trenching is proposed in the vicinity of residual soil and groundwater contamination.

If you have any questions, please contact me at (510) 567-6762.

eva chu
Hazardous Materials Specialist

enclosures: 1. Case Closure Letter 2. Case Closure Summary

c: Dave Clemens, City of Livermore, Planning Div., 1052 S. Livermore Ave., Livermore,
CA 94550
files (liddspost-8)



REMEDIAL ACTION COMPLETION CERTIFICATION

**StID 1969 - 6175 S Front Street, Livermore, CA
(1-10K and 1-4K gallons tanks removed on April 24, 1992)**

August 31, 1998

Mr. David Grede
Waste Management of Alameda
6175 S Front Street
Livermore, CA 94550

Dear Mr. Grede:

This letter confirms the completion of site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tanks are greatly appreciated.

Based on information in the above-referenced file 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 tank release is required.

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

Please contact our office if you have any questions regarding this matter.

Sincerely,

Mee Ling Tung, Director

cc: Richard Pantages, Chief of Division of Environmental Protection
Chuck Headlee, RWQCB
Dave Deaner, SWRCB
Danielle Stefani, Livermore-Pleasanton Fire Department
files-ec (iddspost-7)



Ref # of -1087

CAH

2/18

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION

Date: May 15, 1998

Agency name: **Alameda County-HazMat**
City/State/Zip: **Alameda, CA 94502**
Responsible staff person: **Eva Chu**

Address: **1131 Harbor Bay Pkwy**
Phone: **(510) 567-6700**
Title: **Hazardous Materials Spec.**

II. CASE INFORMATION

Site facility name: **Livermore-Dublin Disposal Co**
Site facility address: **6175 S. Front Street, Livermore, CA 94550**
RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: **1969**
URF filing date: **1/31/91** SWEEPS No: **N/A**

| <u>Responsible Parties:</u> | <u>Addresses:</u> | <u>Phone Numbers:</u> |
|--|--|-----------------------|
| Waste Management of Alameda Attn. David Grede | 6175 South Front Street Livermore, CA 94550 | 510/447-1324 |

| <u>Tank No:</u> | <u>Size in gal.:</u> | <u>Contents:</u> | <u>Closed in-place or removed?:</u> | <u>Date:</u> |
|-----------------|----------------------|------------------|-------------------------------------|--------------|
| 1 | 10,000 | Diesel | Removed | 4/24/92 |
| 2 | 4,000 | Gasoline/Diesel | Removed | 4/24/92 |

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: **Piping leak**
Site characterization complete? **YES**
Date approved by oversight agency: **3/24/98**
Monitoring Wells installed? **Yes** Number: **7**
Proper screened interval? **Yes, ~6' to 30' bgs in well MW-2**
Highest GW depth below ground surface: **5.95'** Lowest depth: **9.56' in MW-2**
Flow direction: **NW**
Most sensitive current use: **Commercial/Industrial**
Are drinking water wells affected? **No** Aquifer name: **Spring Subbasin**
Is surface water affected? **No** Nearest affected SW name: **NA**
Off-site beneficial use impacts (addresses/locations): **NA**
Report(s) on file? **YES** Where is report(s) filed?

Alameda County and **Livermore Fire Dept**
1131 Harbor Bay Pkwy and **4550 East Ave**
Alameda, CA 94502 and **Livermore, CA 94550**

98 JUN 12 PM 2:05
ENVIRONMENTAL
PROTECTION

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> |
|------------------|---|--|-------------|
| Tank & Piping | 2 USTs | Disposed at Chem Waste, Kettleman Hill | 4/24/92 |
| Soil | 1,060 cy 130 cy | Disposed at Chem Waste, Kettleman Hill per report dated 9/92 Disposed at Altamont L.F., Livermore | |
| Groundwater | 14,000 gal. 6.2 million gallons treated onsite for reuse/discharge to sanitary sewer | Recycled at Everygreen Oil, Newark CA | |

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

| Contaminant | Soil (ppm) | | Water (ppb) | |
|--------------|---------------------|--------------------|---------------------|--------------------|
| | Before ¹ | After ² | Before ³ | After ⁴ |
| TPH (Gas) | 7,950 | 386 | 61,000 | 220 |
| TPH (Diesel) | 80 | 2 | 5,400 | 370 |
| Benzene | 41.6 | 1.3 | 17,000 | 5.8 |
| Toluene | 136 | 3.2 | 23,300 | <.5 |
| Ethylbenzene | 35.4 | 3.6 | 3,800 | 5.1 |
| Xylenes | 228 | 16.6 | 18,000 | 1.3 |
| MtBE | NA | NA | NA | 2.8 |

- NOTE: 1 maximum soil concentration from tank excavation, 4/92
 2 confirmatory soil sample after overexcavation, 7/92
 3 maximum dissolved concentrations from well MW-1 or MW-2. Free product/sheen was encountered in well MW-1 in 12/88
 4 most recent sampling event, 11/97

IV. CLOSURE

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

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

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

Site management requirements: **A site safety plan must be prepared for construction workers in the event excavation/trenching is proposed in the vicinity of residual soil and groundwater contamination.**

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

Monitoring wells Decommissioned: **Yes**

Number Decommissioned: **1** Number Retained: **6, to be decommissioned upon site closure**


List enforcement actions taken: **NA**

List enforcement actions rescinded: **NA**

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: **Eva Chu**

Title: **Haz Mat Specialist**


Signature: 

Date: **5/29/98**

Reviewed by

Name: **Larry Seto**


Title: **Sr. Haz Mat Specialist**

Signature: 

Date: **5-15-98**

Name: **Thomas Peacock**

Title: **Supervisor**

Signature: 

Date: **5-29-98**

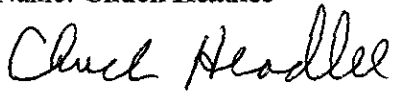
VI. RWQCB NOTIFICATION

Date Submitted to RB: **5/29/98**

RB Response:

RWQCB Staff Name: **Chuck Headlee**

Title: **AEG**

Signature: 

Date: **6/4/98**

VII. ADDITIONAL COMMENTS, DATA, ETC.

The Livermore-Dublin Disposal Facility is an administration and truck maintenance facility. Prior to April 1992, onsite vehicles were fueled either by the diesel or gasoline underground storage tanks. In February 1988 the 4K gallon gasoline UST failed the system tightness test due to a faulty glue joint in the piping. The piping was repaired. A soil sample collected beneath the pipe joint contained up to 1,700 ppm TPHg. Based on these results, groundwater monitoring well MW-1 was installed in December 1988. This well initially contained ~1.1" of product. (See Figs 1, 2, 3, and Table 1)

In September 1989, monitoring wells MW-2 through MW-4 were installed to further delineate the extent of groundwater contamination. Elevated hydrocarbon concentration levels were noted in downgradient well MW-2 (see Fig 4). Three additional monitoring wells MW-5 through MW-7 were installed in October, 1990. In addition, groundwater samples were collected from four borings (SB-1, SB-3, SB-5, and SB-6). Dissolved hydrocarbon constituents were detected in well MW-6 and MW-7 and boring SB-1 and SB-3 (see Fig 5, Table 2 and 3). A groundwater extraction and treatment system was installed in November 1991. Wells MW-2 and MW-6 were converted into extraction wells (later well MW-7 was added to the extraction system). Water was pumped through granular carbon filters. After treatment the water was used at the facility to wash vehicles or was discharged to the sanitary sewer. The treatment system was turned off in October 1995 after hydrocarbon concentrations reached asymptotic levels. A total of ~6.2 million gallons of groundwater was extracted from the monitoring wells.

In early 1991 the 10K diesel tank failed a tightness test. This tank was emptied and its use discontinued. The 4K tank was converted into a diesel tank. It was not until April 1992 that both USTs were removed.

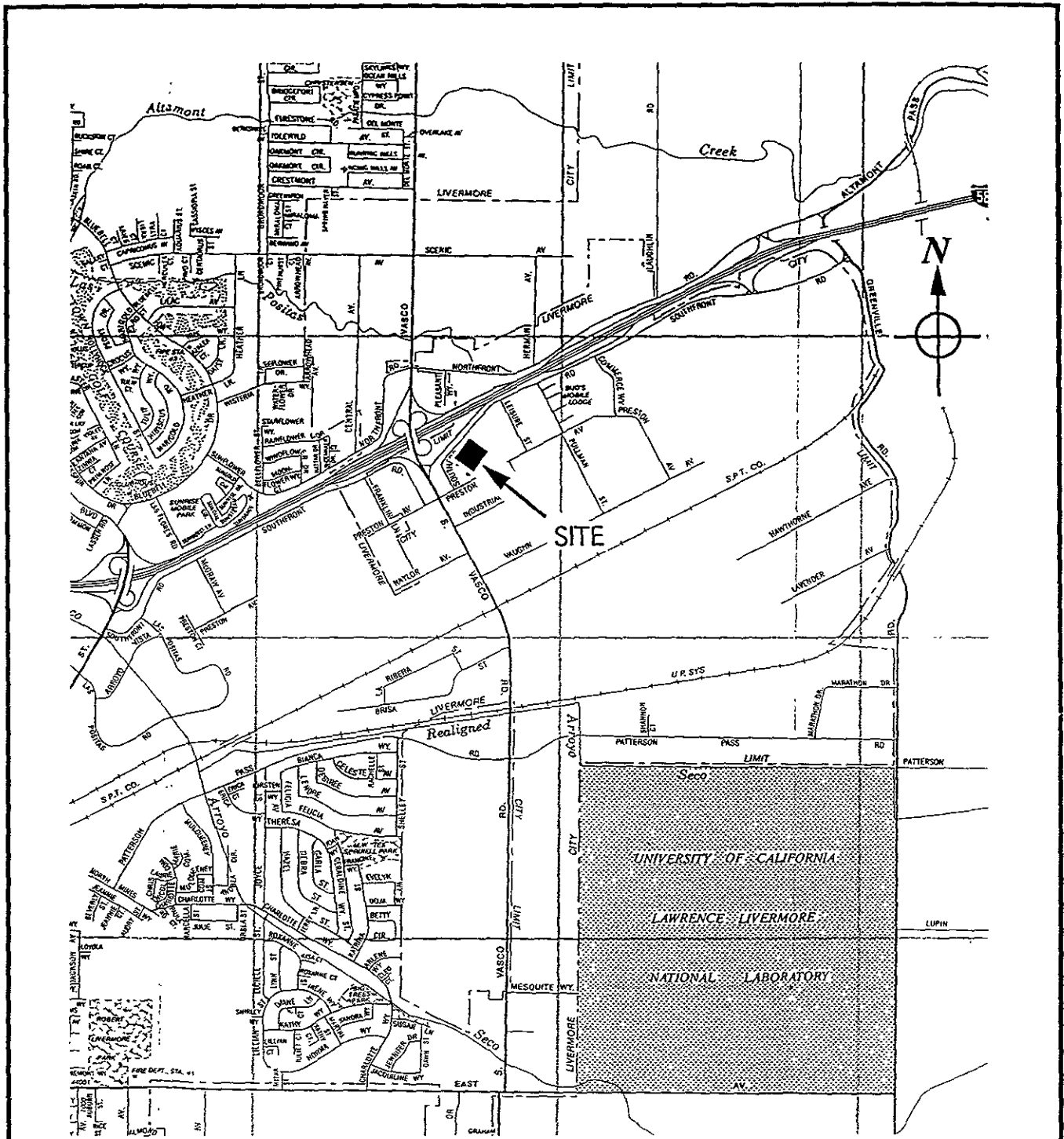
When the USTs were removed, four soil samples (TP01 through TP04) were collected. Based on analytical results the pit was overexcavated in four phases. Well MW-1 was destroyed during the excavation activities. The final excavation depth ranged from 16 to 18' bgs. A total of ~1,200 cy of soil was excavated by July 1992. Soil samples were collected after each phase of excavation, on May 2, 17, 19, and July 14, 1992. Groundwater was encountered at ~15' bgs. This depth was ~5' below the depth to water in the adjacent monitoring wells, indicating that first groundwater is under confined or semi-confined conditions. Confirmatory soil samples indicated that the majority of hydrocarbon impacted soil was removed. (See Figs 6, 7, 8, 9 and 10, Table 4)

In May 1992 approximately 14,000 gallons of groundwater was pumped from the excavation pit to a tanker truck, and transported to Evergreen for recycling. In July 13, 1992 a submersible pump was installed in the excavation to continuously dewater the excavation. Groundwater was pumped into a temporary 20,000 gallon Baker tank and subsequently connected to the existing extraction/treatment system, aiding in the overall remediation of hydrocarbon impacted groundwater at the site.

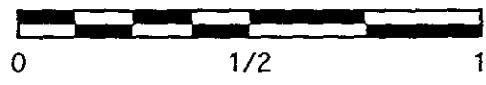
In April 1996, Oxygen Releasing Compound (ORC) was added to well MW-2 and MW-6 to aid in the natural biodegradation process. After four years of remediation and six years of monitoring, hydrocarbon concentrations have reached levels which would pose not risk to human health or the environment. Continued monitoring is not warranted. (See Fig 11, Table 5)

In summary, case closure is recommended because:

- o the leak and ongoing sources have been removed;
- o the site has been adequately characterized;
- o the dissolved plume is not migrating;
- o no water wells, surface water, or other sensitive receptors are likely to be impacted; and,
- o the site presents no significant risk to human health or the environment.



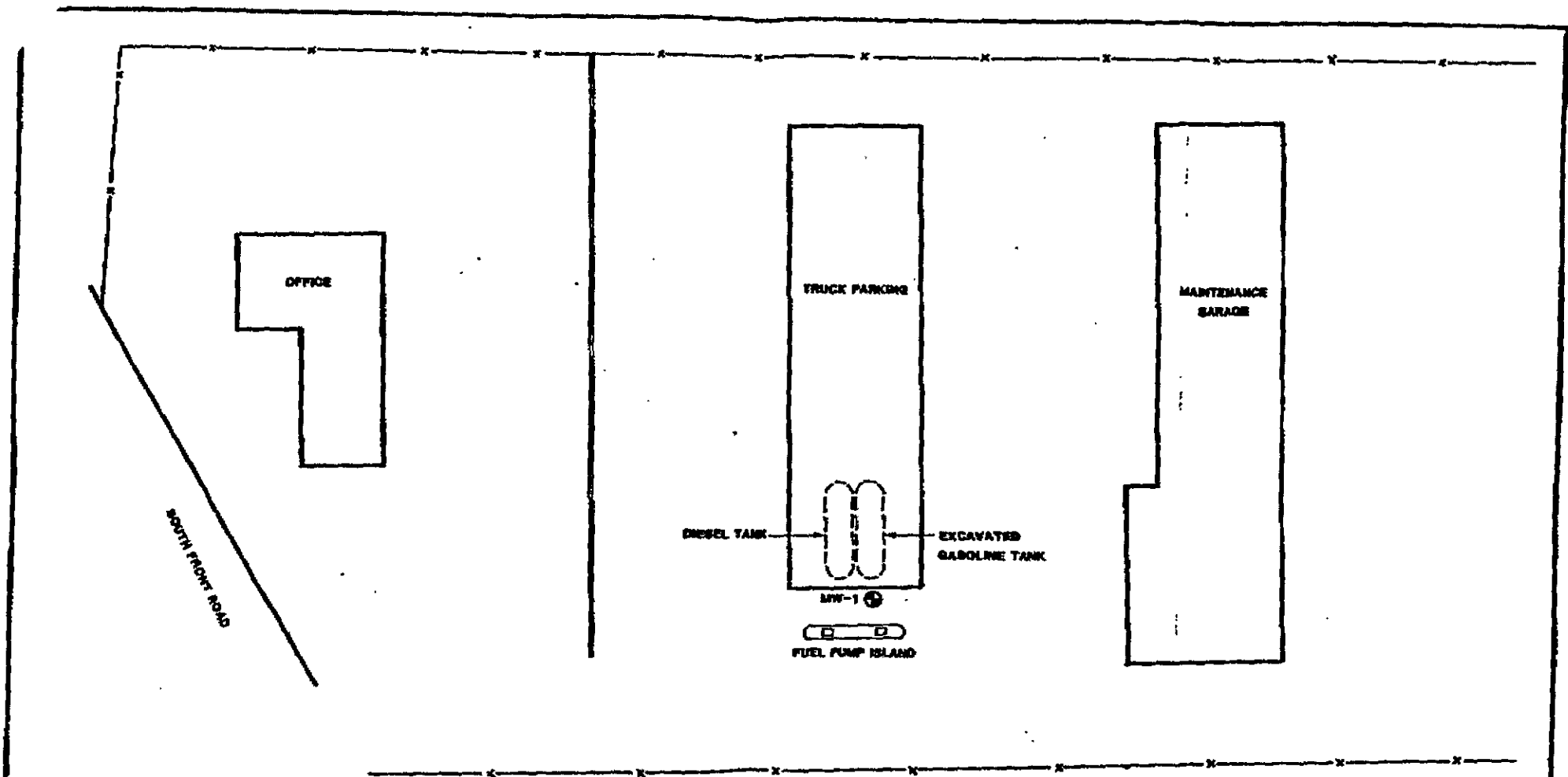
Scale in Miles



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FIGURE 1
SITE LOCATION

Livermore-Dublin Disposal Company
6175 South Front Road, Livermore, CA



EXPLANATION

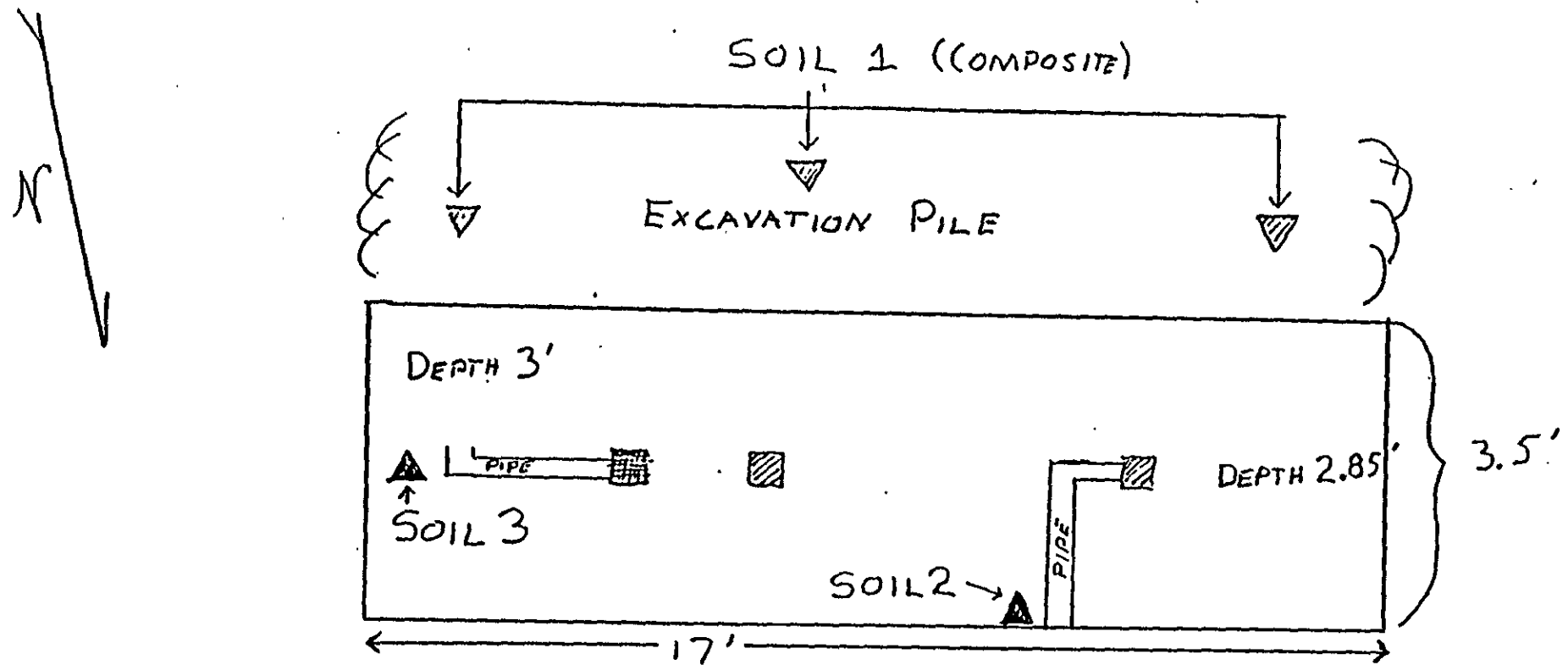
⊕ MW-1 Existing monitoring well

SCALE
0 20 feet



SITE MAP
LIVERMORE-DUBLIN
DISPOSAL COMPANY

Fig 2

10/500078



NOT TO SCALE

-  GASOLINE RISER (FILL CAP)
-  DIESEL RISER (FILL CAP)



SOUTHFRONT RD.

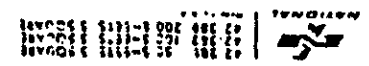


FIG 3

EMCON ASSOCIATES • CHEMICAL LABORATORIES

Analysis • Consultation • Research • Environmental Studies
State Approved Water Laboratory



CERTIFIED ANALYTICAL REPORT

Project Number: 177-07

Livermore/Dublin Disposal
6715 South Front Road
Livermore, CA 94550

Table 1

Location: LIVERMORE, CALIFORNIA

Sample Type: SOIL
Units: mg/kg

| Sample Designation: | SOIL 1 | SOIL 2 | SOIL 3 |
|---------------------------------------|----------|----------|----------|
| Field Date: | 05/09/88 | 05/09/88 | 05/09/88 |
| Laboratory Number: | E88-0479 | E88-0479 | E88-0479 |
| Date Analyzed | 5/10/88 | 5/10/88 | 5/10/88 |
| Volatile Hydrocarbons due to Gasoline | <5 | 1700 | <5 |
| Benzene | <0.05 | <1.2 | <0.05 |
| Toluene | <0.1 | 13 | <0.1 |
| Xylenes and Ethylbenzene | <0.4 | 140 | <0.4 |

Page 1 of 1

Reported by: *Kenneth M. ...*

Date: *May 10, 1988*

**Table 4.2 Summary of Soil Analytical Results, Livermore-Dublin Disposal
Livermore, California**

| Soil Boring Number | Date | Depth (feet) | TPH-G (mg/kg) | TPH-D (mg/kg) | B (mg/kg) | T (mg/kg) | X (mg/kg) | E (mg/kg) |
|--------------------|----------|--------------|---------------|---------------|-----------|-----------|-----------|-----------|
| SB-2 (MW-5) | 10/6/90 | 9.8 | 0.4 | ND | 0.01 | 0.01 | 0.009 | 0.01 |
| | | 14.5 | ND | 2 | ND | ND | ND | ND |
| SB-4 (MW-6) | 10/6/90 | 10.0 | 430 | 9 | 4 | 7.9 | 34 | 0.8 |
| | | 14.5 | ND | 4 | ND | ND | ND | ND |
| SB-5 | 10/5/90 | 5.0 | ND | ND | ND | ND | ND | ND |
| | | 9.3 | ND | 2 | ND | ND | ND | ND |
| | | 14.8 | ND | 1 | ND | ND | ND | ND |
| SB-6 | 10/5/90 | 4.2 | ND | 14 | ND | ND | ND | ND |
| | | 9.5 | ND | 2 | ND | ND | ND | ND |
| | | 15.0 | ND | ND | ND | ND | ND | ND |
| SB-8 (MW-7) | 10/6/90 | 9.7 | 1.8 | 7 | 0.11 | 0.16 | 0.16 | 0.03 |
| | | 14.4 | ND | ND | ND | ND | ND | ND |
| MW-1 | 12/10/88 | 5 | NA | NA | 0.083 | 0.10 | 0.11 | 0.27 |
| MW-1 | 12/10/88 | 10 | NA | NA | 5.0 | 16.0 | 28.0 | 6.70 |
| MW-1 | 12/10/88 | 15 | NA | NA | 7.20 | 22.0 | 40.0 | 10.0 |
| MW-1 | 12/10/88 | 25 | NA | NA | 0.42 | 0.72 | 0.63 | 0.15 |
| MW-2 | 9/14/89 | 5 | ND | ND | 0.15 | ND | ND | ND |
| MW-2 | 9/14/89 | 10 | 1400 | 39 | 23.0 | 100.0 | 150.0 | 22.0 |
| MW-3 | 9/14/89 | 5 | ND | ND | ND | ND | ND | ND |
| MW-3 | 9/14/89 | 10 | ND | ND | ND | ND | ND | ND |
| MW-4 | 9/14/89 | 5 | ND | ND | ND | ND | ND | ND |
| MW-4 | 9/14/89 | 10 | 2.7 | ND | 0.41 | ND | 1.20 | 0.48 |

TPH-D = Total Petroleum Hydrocarbons-Diesel, analyzed by U.S. Environmental Protection Agency (EPA) method 3550-8015 (mod).

TPH-G = Total Petroleum Hydrocarbons-Gasoline, analyzed by EPA method 5030/8015 (mod).

B = Benzene, Analyzed by EPA method 5030/8020.

T = Toluene, Analyzed by EPA method 5030/8020.

X = Total Xylene, Analyzed by EPA method 5030-8020.

E = Ethylbenzene, Analyzed by EPA method 5030/8020.

ND = Not Detected at the following detection limits:

| Detection Limit: | <u>SB-2 through SB-8</u> | <u>MW-1 - MW-4</u> |
|------------------|--------------------------|--------------------|
| TPH-G | 0.1 mg/kg | 10 mg/kg |
| TPH-D | 1 mg/kg | 10 mg/kg |
| BTXE | 0.005 mg/kg | 0.05 mg/kg* |

* Detection limit for benzene, toluene and ethylbenzene only, detection limit for toluene = 0.01 mg/kg.

Table 3.3 Summary of Ground-Water Analytical Results, Livermore-Dublin Disposal, Livermore, California

| Monitoring Well (MW) or Soil Boring (SB) ¹ | Date ² | TPH-G (mg/l) | TPH-D (mg/l) | B (μg/l) | T (μg/l) | X (μg/l) | E (μg/l) |
|---|-------------------|--------------|--------------|----------|----------|----------|----------|
| MW-1 | 12/10/88 | NA | NA | 17,000 | 23,000 | 18,000 | 3,800 |
| | 8/16/90 | 61 | 1.0 | 9,000 | 6,300 | 3,500 | 860 |
| | 10/9/90 | 47 | ND | 4,300 | 3,500 | 2,100 | 450 |
| MW-2 | 9/15/89 | 0.89 | ND | 1,300 | 1,200 | 890 | 220 |
| | 8/16/90 | 18 | 0.40 | 2,600 | 1,200 | 800 | 200 |
| | 10/9/90 | 17 | ND | 3,800 | 3,100 | 1,600 | 350 |
| MW-3 | 9/15/89 | ND | ND | ND | ND | ND | ND |
| | 8/16/90 | ND | 0.24 | ND | ND | ND | ND |
| | 10/9/90 | ND | ND | 0.80 | 1.1 | 0.90 | ND |
| MW-4 | 9/15/89 | ND | ND | 24.0 | 1.2 | 20.0 | 5.0 |
| | 8/16/90 | 0.20 | ND | 18.0 | 1.8 | 2.4 | 4.0 |
| | 10/9/90 | ND | ND | 14.0 | 2.2 | 5.0 | 3.0 |
| MW-5 | 10/10/90 | ND | ND | 1.2 | 0.49 | ND | ND |
| MW-6 | 10/9/90 | 3.8 | ND | 220 | 310 | 280 | 58 |
| MW-7 | 10/8/90 | 0.96 | ND | 100 | 34 | 110 | 32 |
| SB-1 | 10/4/90 | 2.0 | ND | 55 | 160 | 180 | 34 |
| SB-2 | 10/4/90 | ND | ND | ND | ND | ND | ND |
| SB-3 | 10/4/90 | 2.7 | ND | 430 | 390 | 290 | 63 |
| SB-4 | 10/4/90 | 19 | 15 | 870 | 1500 | 1400 | 260 |
| SB-5 | 10/5/90 | ND | ND | ND | ND | ND | ND |
| SB-6 | 10/5/90 | ND | ND | ND | ND | ND | ND |
| SB-8 | 10/5/90 | ND | ND | ND | ND | ND | ND |

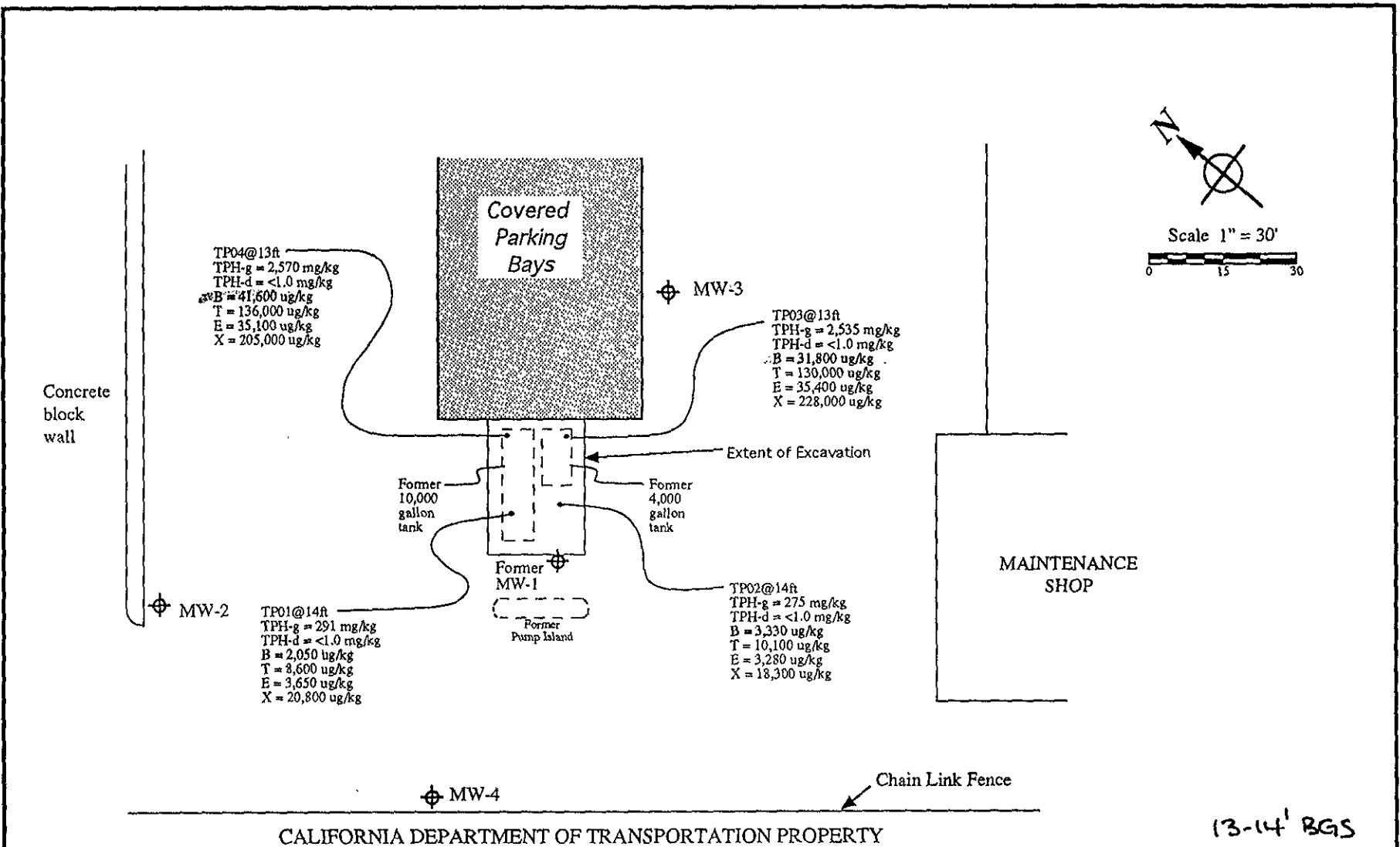
1. Soil Boring water collected by Hydropunch™
2. 12/10/88 Sampled by Hydro-Search, Inc. (Presented in "Additional Site Assessment Livermore-Dublin Disposal Livermore, California", dated December 6, 1989)
 9/15/89 Sampled by Hydro-Search, Inc.
 8/16/90 Sampled by California Water Labs
 10/4 to 10/10/90 Sampled by Hydro-Search, Inc.

Total Petroleum Hydrocarbons (TPH)-Gasoline (G) analyzed by Environmental Protection Agency (EPA) method 5030/8015 (mod).

TPH-Diesel (D) analyzed by EPA method 3510/8015 (mod)

The following were analyzed by EPA 8020/602 for all dates:

- B = Benzene
 T = Toluene
 X = Total Xylenes
 E = Ethylbenzene
- NA = Not Analyzed
 ND = Not Detected at the detection limits stated.



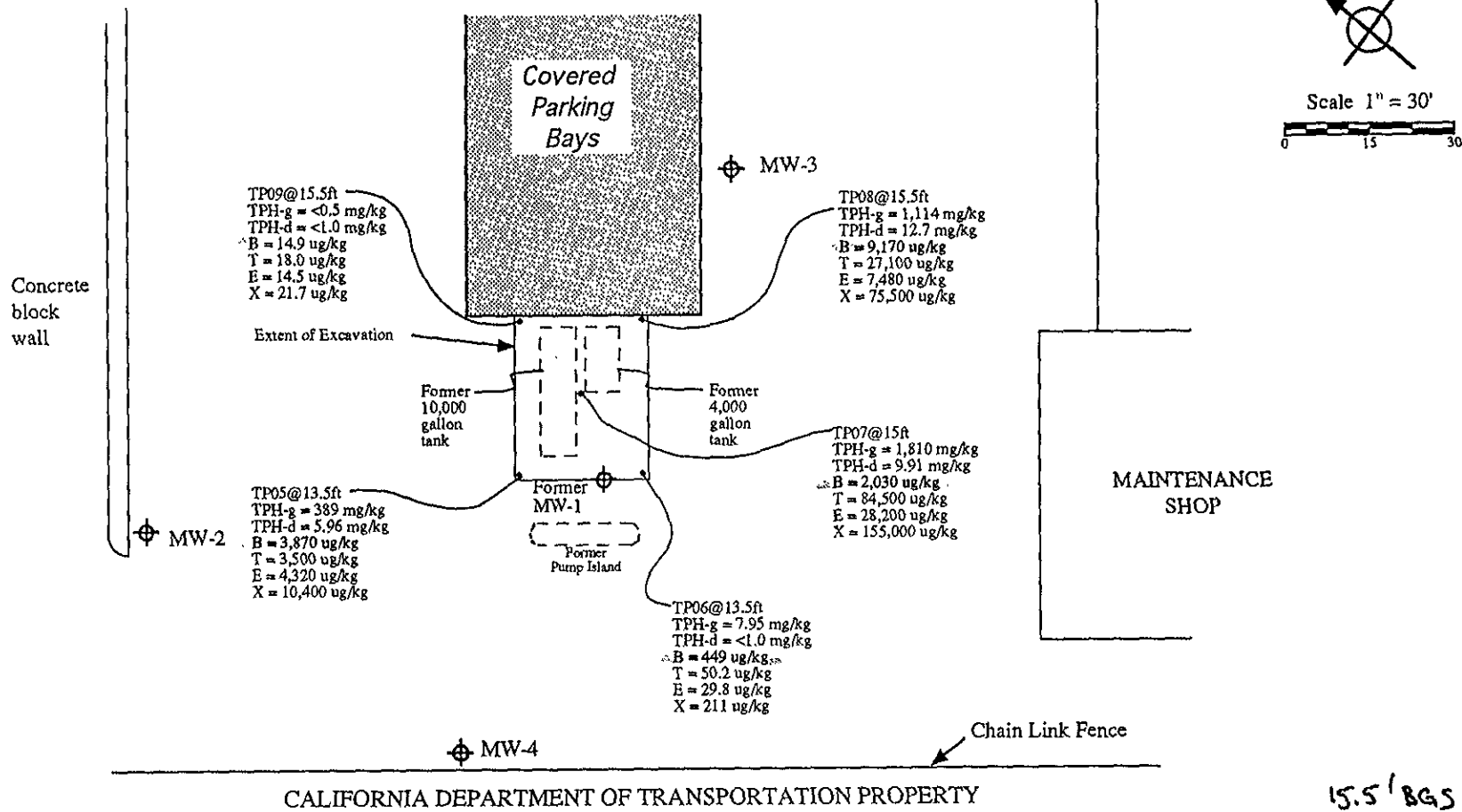
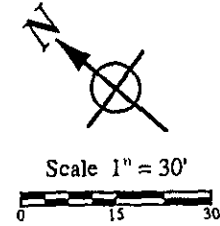
TPH-g = Total petroleum hydrocarbons as gasoline
 TPH-d = Total petroleum hydrocarbons as diesel
 B = Benzene
 T = Toluene
 E = Ethylbenzene
 X = Xylenes
 mg/kg = milligrams per kilogram
 ug/kg = micrograms per kilogram



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42840 Christy Street, Suite 201, Fremont, California 94538

FIGURE 16
 Excavation Configuration &
 Sample Location Map
 Samples Collected April 24, 1992
 Livermore-Dublin Disposal Company
 6175 South Front Road, Livermore, CA



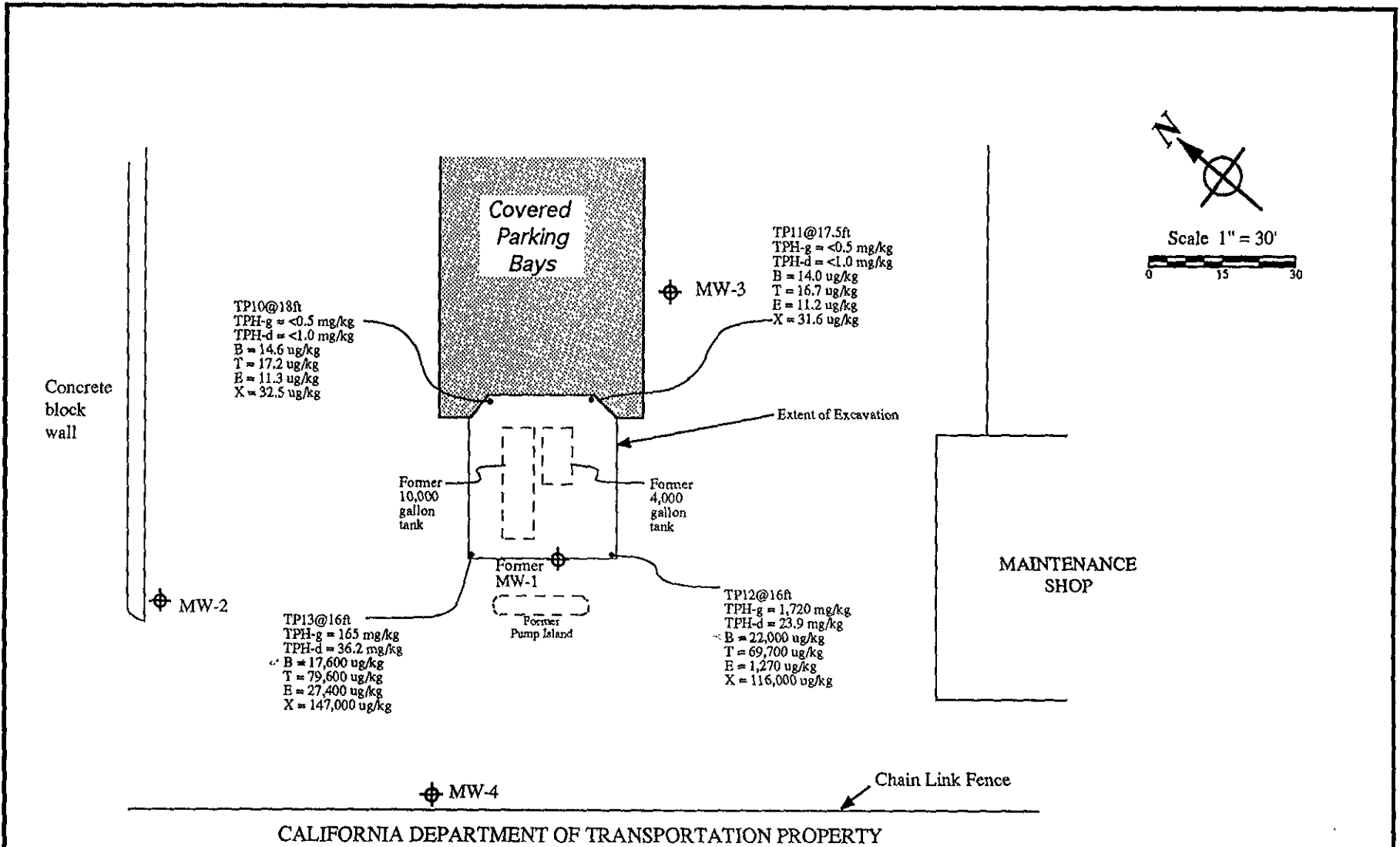
TPH-g = Total petroleum hydrocarbons as gasoline
 TPH-d = Total petroleum hydrocarbons as diesel
 B = Benzene
 T = Toluene
 E = Ethylbenzene
 X = Xylenes
 mg/kg = milligrams per kilogram
 ug/kg = micrograms per kilogram



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FIGURE 47
 Excavation Configuration &
 Sample Location Map
 Samples Collected May 2, 1992
 Livermore-Dublin Disposal Company
 6175 South Front Road, Livermore, CA



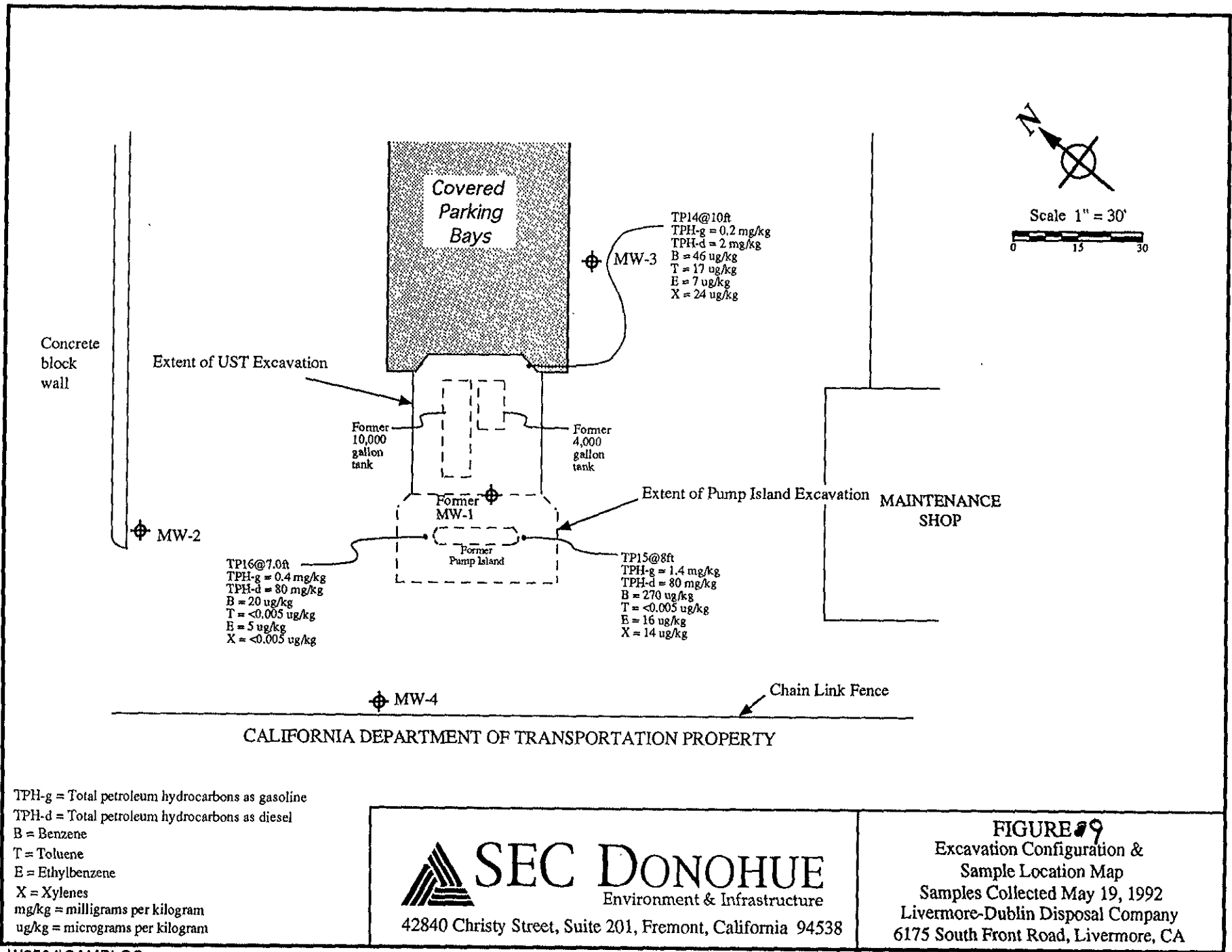
TPH-g = Total petroleum hydrocarbons as gasoline
 TPH-d = Total petroleum hydrocarbons as diesel
 B = Benzene
 T = Toluene
 E = Ethylbenzene
 X = Xylenes
 mg/kg = milligrams per kilogram
 ug/kg = micrograms per kilogram



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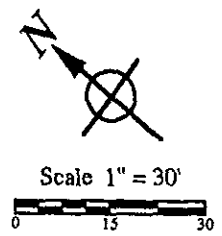
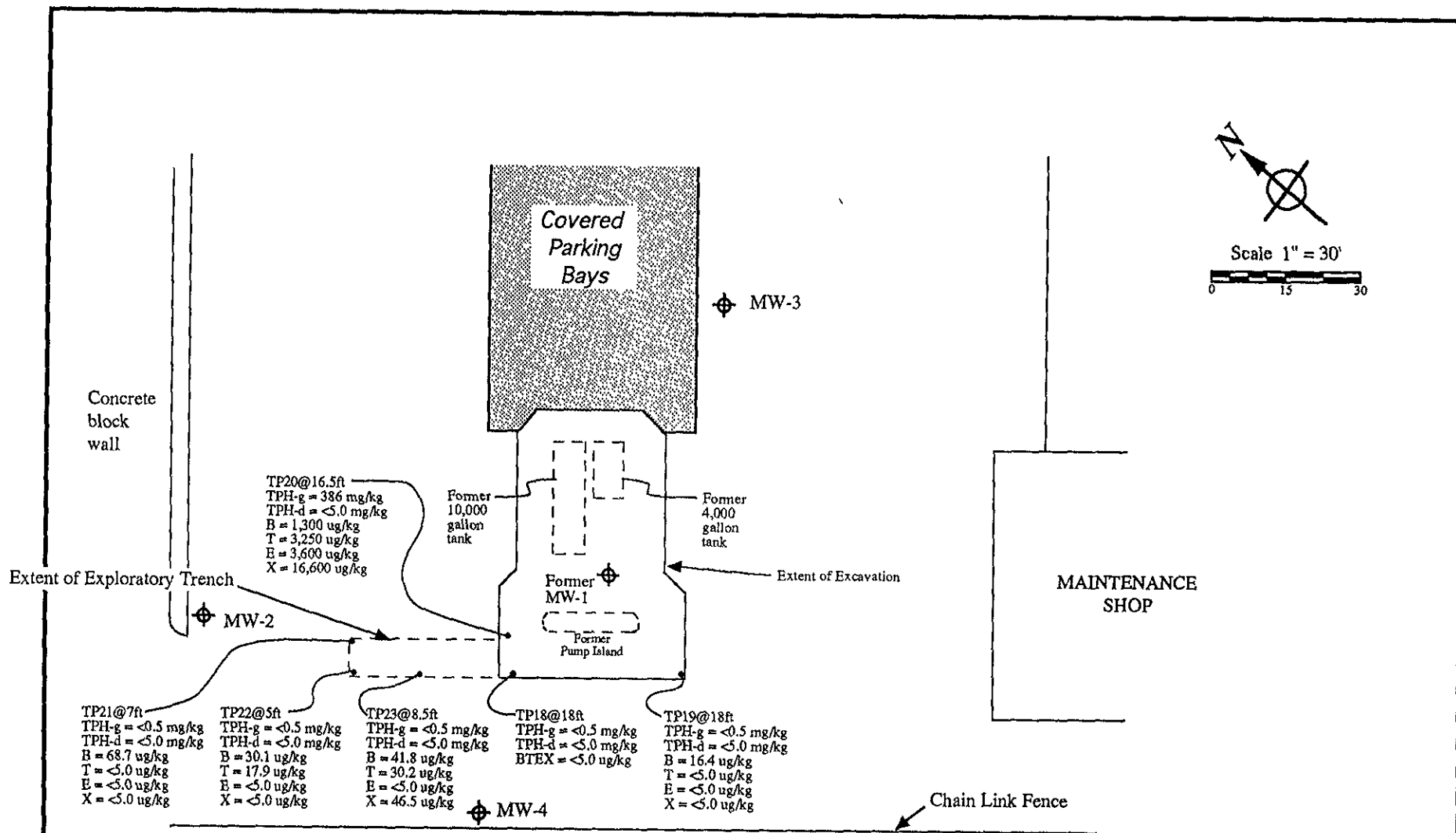
FIGURE 68
 Excavation Configuration &
 Sample Location Map
 Samples Collected May 17, 1992
 Livermore-Dublin Disposal Company
 6175 South Front Road, Livermore, CA



TPH-g = Total petroleum hydrocarbons as gasoline
 TPH-d = Total petroleum hydrocarbons as diesel
 B = Benzene
 T = Toluene
 E = Ethylbenzene
 X = Xylenes
 mg/kg = milligrams per kilogram
 ug/kg = micrograms per kilogram

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FIGURE 9
 Excavation Configuration &
 Sample Location Map
 Samples Collected May 19, 1992
 Livermore-Dublin Disposal Company
 6175 South Front Road, Livermore, CA



CALIFORNIA DEPARTMENT OF TRANSPORTATION PROPERTY

TPH-g = Total petroleum hydrocarbons as gasoline
 TPH-d = Total petroleum hydrocarbons as diesel
 B = Benzene
 T = Toluene
 E = Ethylbenzene
 X = Xylenes
 mg/kg = milligrams per kilogram
 ug/kg = micrograms per kilogram

 **SEC DONOHUE**
 Environment & Infrastructure
 42840 Christy Street, Suite 201, Fremont, California 94538

FIGURE 10
 Excavation Configuration &
 Sample Location Map
 Samples Collected July 14, 1992
 Livermore-Dublin Disposal Company
 6175 South Front Road, Livermore, CA

Table 4

Table 4. Summary of Analytical Laboratory Results
Tank Excavation
Livermore Dublin Disposal Facility

| Date Collected | Time | Depth (feet) | Sample Identification | Location in Excavation | TPH-G mg/kg (1) | TPH-D mg/kg (2) | Benzene ug/kg (3) | Toluene ug/kg (3) | Ethyl benzene ug/kg (3) | Total Xylenes ug/kg (3) | Action Taken |
|----------------|-------|--------------|-----------------------|--------------------------------|-----------------|-----------------|-------------------|-------------------|-------------------------|-------------------------|---------------|
| 4/24/92 | 16:40 | 14.0 | TP01 | Northwest Corner | 291.0 | (1.0) | 2,050 | 8,600 | 3,650 | 20,800 | Excavated |
| 5/02/92 | 16:10 | 13.5 | TP05 | Northwest Corner | 389.013 | 5.96 | 3,870 | 3,500 | 4,320 | 10,400 | Excavated |
| 5/17/92 | 18:15 | 16.0 | TP13 | Northwest Corner | 165.0 | 36.2 | 17,600 | 79,600 | 27,400 | 147,000 | Excavated |
| 5/19/92 | 18:05 | 7.0 | TP16 | N End - Pump Island Excavation | 0.4 | 80 | 20 | 5 | (5) | (5) | Excavated |
| 7/14/92 | 10:15 | 18.0 | TP18 | Northwest Corner | (0.5) | (5.0) | (5.0) | (5.0) | (5.0) | (5.0) | Not Excavated |

| | | | | | | | | | | | |
|---------|-------|------|------|--------------------------------|--------|-------|--------|--------|-------|---------|---------------|
| 4/24/92 | 16:15 | 14.0 | TP02 | Southwest Corner | 275.0 | (1.0) | 3,300 | 10,100 | 3,280 | 18,300 | Excavated |
| 5/02/92 | 16:15 | 13.5 | TP06 | Southwest Corner | 7,950 | (1.0) | 449 | 50.2 | 29.8 | 211 | Excavated |
| 5/17/92 | 17:55 | 16.0 | TP12 | Southwest Corner | 1,720 | 23.9 | 22,000 | 69,700 | 1,270 | 116,000 | Excavated |
| 5/19/92 | 16:50 | 8.0 | TP15 | S End - Fuel Island Excavation | 1.4 | 80 | 270 | 16 | (5) | 14 | Excavated |
| 7/14/92 | 10:20 | 18.0 | TP19 | Southwest Corner | (0.50) | (5.0) | 16.4 | (5.0) | (5.0) | (5.0) | Not Excavated |

| | | | | | | | | | | | |
|---------|-------|------|------|------------------|--------|-------|--------|---------|--------|---------|---------------|
| 4/24/92 | 16:23 | 13.0 | TP03 | Southeast Corner | 2,535 | (1.0) | 31,800 | 130,000 | 35,400 | 228,000 | Excavated |
| 5/02/92 | 16:30 | 15.5 | TP08 | Southeast Corner | 1,114 | 12.7 | 9,170 | 27,100 | 7,480 | 75,500 | Excavated |
| 5/17/92 | 15:15 | 17.5 | TP11 | Southeast Corner | (0.50) | (1.0) | 14.0 | 16.7 | 11.2 | 31.6 | Not Excavated |

| | | | | | | | | | | | |
|---------|-------|------|------|------------------|--------|-------|--------|---------|--------|---------|---------------|
| 4/24/92 | 16:40 | 13.0 | TP04 | Northeast Corner | 2,570 | (2.0) | 41,600 | 136,000 | 35,100 | 205,000 | Excavated |
| 5/02/92 | 16:15 | 15.5 | TP09 | Northeast Corner | (0.50) | (1.0) | 14.9 | 18.0 | 14.5 | 21.7 | Excavated |
| 5/17/92 | 15:00 | 18.0 | TP10 | Northeast Corner | (0.50) | (1.0) | 14.6 | 17.2 | 11.3 | 32.5 | Not Excavated |

| | | | | | | | | | | | |
|---------|-------|------|------|--------|-------|------|-------|--------|--------|---------|-----------|
| 5/02/92 | 16:20 | 15.0 | TP07 | Center | 1,810 | 9.91 | 2,030 | 84,500 | 28,200 | 155,000 | Excavated |
|---------|-------|------|------|--------|-------|------|-------|--------|--------|---------|-----------|

| | | | | | | | | | | | |
|---------|-------|------|------|---------------------------|-------|---|----|---|----|----|---------------|
| 5/19/92 | 13:50 | 10.0 | TP14 | Southeast Corner Sidewall | (0.2) | 2 | 46 | 7 | 17 | 24 | Not Excavated |
|---------|-------|------|------|---------------------------|-------|---|----|---|----|----|---------------|

EXPLORATORY TRENCH (ET)

| | | | | | | | | | | | |
|---------|-------|------|------|-----------------------------|-------|-------|-------|-------|-------|--------|---------------|
| 7/14/92 | 10:25 | 16.5 | TP20 | North Sidewall @ base of ET | 386.0 | (5.0) | 1,300 | 3,250 | 3,600 | 16,600 | Not Excavated |
| 7/14/92 | 14:20 | 7.0 | TP21 | Northeast Corner of ET | (0.5) | (5.0) | 68.7 | (5.0) | (5.0) | (5.0) | Not Excavated |
| 7/14/92 | 14:30 | 5.0 | TP22 | Northwest Corner of ET | (0.5) | (5.0) | 30.1 | 17.9 | (5.0) | (5.0) | Not Excavated |
| 7/14/92 | 14:45 | 8.5 | TP23 | West Sidewall of ET | (0.5) | (5.0) | 41.8 | 30.2 | (5.0) | 46.5 | Not Excavated |

- Notes:
- mg/kg = milligram per kilogram equivalent to parts per million (ppm); ug/kg microgram per kilogram equivalent to parts per billion (ppb); NA = Not Applicable.
 - (1) TPH-G: Total petroleum hydrocarbons as gasoline analyzed using EPA Test Method Modified 8015/5030.
 - (2) TPH-D: Total petroleum hydrocarbons as diesel analyzed using EPA Test Method Modified 8015/3550.
 - Samples were also analyzed by the analytical laboratory for TPH as motor oil and kerosene (Appendix E).
 - (3) Benzene, Toluene, Ethyl benzene, and Total Xylenes analyzed using EPA Test Method 8020.

TABLE 5

ANALYTICAL DATA SUMMARY

LIVERMORE-DUBLIN DISPOSAL FACILITY
LIVERMORE, CALIFORNIA

| Well I.D. | Sample Date | TRPH (µg/L) | TEPH-D (µg/L) | TPPH-G (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Xylenes Total (µg/L) | MTBE (µg/L) |
|-----------|-------------|-------------|---------------|---------------|----------------|----------------|---------------------|----------------------|-------------|
| MW-1 | 8/16/90 | NA | 1,000 | 61,000 | 9,000 | 6,300 | 860 | 3,500 | NA |
| MW-1 | 2/14/91 | <5,000 | 5,300 | 14,000 | 3,600 | 2,300 | 400 | 2,400 | NA |
| MW-1 | 5/14/91 | NA | <500 | 16,000 | 2,900 | 2,100 | 85 | 1,000 | NA |
| MW-1 | 12/12/91 | NA | 340 | 7,400 | 2,400 | 450 | 10 | 450 | NA |
| MW-1 | 2/6/92 | <5,000 | 4,000 | 13,000 | 2,500 | 1,400 | 160 | 850 | NA |
| | | | | | | | | | |
| MW-2 | 8/16/90 | NA | 400 | 18,000 | 2,600 | 1,200 | 200 | 800 | NA |
| MW-2 | 2/14/91 | <5,000 | 5,400 | 13,000 | 2,800 | 2,100 | 420 | 3,500 | NA |
| MW-2 | 5/14/91 | NA | <500 | 12,000 | 6,200 | 460 | 190 | 410 | NA |
| MW-2 | 12/12/91 | NA | 720 | 14,000 | 4,900 | 1,500 | <10 | 4,300 | NA |
| MW-2 | 2/6/92 | <5,000 | 620 | 7,600 | 2,900 | 450 | 120 | 930 | NA |
| MW-2 | 6/17/92 | <5,000 | 500 | 2,700 | 740 | 32 | 9 | 93 | NA |
| MW-2 | 8/17/92 | <5,000 | 140 | 2,900 | 670 | 12 | 13 | 65 | NA |
| MW-2 | 11/20/92 | <5,000 | 120 | 480 | 190 | 17 | 9.2 | 16 | NA |
| MW-2 | 2/22/93 | <5,000 | <50 | 120 | <0.3 | <0.3 | <0.3 | 1.2 | NA |
| MW-2 | 5/20/93 | 27,000 | <100 | 8,400 | 780 | 150 | 25 | 450 | NA |
| MW-2 | 8/17/93 | <5,000 | <50 | 320 | <12 | <3 | <3 | <6 | NA |
| MW-2 | 11/16/93 | ** | ** | ** | ** | ** | ** | ** | NA |
| MW-2 | 2/24/94 | <1,000 | <50 | 1,400 | 320 | 38 | 72 | 61 | NA |
| MW-2 | 5/13/94 | <1,000 | <50 | 370 | 10 | 1.8 | 0.3 | 5.8 | NA |
| MW-2 | 8/16/94 | <1,000 | <50 | 80 | 1.5 | 0.7 | <0.3 | 4.4 | NA |
| MW-2 | 11/8/94 | <1,000 | <50 | <50 | 0.8 | <0.3 | <0.3 | <0.6 | NA |
| MW-2 | 1/30/95 | 1,200 | <50 | 660 | 240 | 14 | 52 | 53 | NA |
| MW-2 | 5/2/95 | 13,000 | <50 | 700 | 470 | 24 | 41 | 92 | NA |
| MW-2 | 8/2/95 | <1,000 | <50 | 140 | 30 | 0.38 | 2.9 | 11 | NA |
| MW-2 | 10/31/95 | 1,500 | <50 | 2,800 | 1,500 | 9.2 | 74 | 43 | NA |
| MW-2 | 3/14/96 | <1,000 | 1,200 | 5,100 | 1,400 | <20 | 260 | 140 | NA |
| MW-2 | 6/14/96 | <1,000 | 390 | 700 | 140 | <5 | 29 | 33 | NA |
| MW-2 | 3/27/97 | <1,100 | 200 | <50 | 9.1 | <0.50 | 2.6 | 0.96 | NA |
| MW-2 | 11/7/97 | <5,000 | 120 | <50 | 1.5 | <0.50 | <0.50 | <0.50 | <2.5 |

TABLE 5 (Continued)
ANALYTICAL DATA SUMMARY

LIVERMORE-DUBLIN DISPOSAL FACILITY
LIVERMORE, CALIFORNIA

| Well I.D. | Sample Date | TRPH (µg/L) | TEPH-D (µg/L) | TPPH-G (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Xylenes Total (µg/L) | MTBE (µg/L) |
|-----------|-------------|-------------|---------------|---------------|----------------|----------------|---------------------|----------------------|-------------|
| MW-3 | 8/16/90 | NA | 240 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| MW-3 | 2/14/91 | <5,000 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| MW-3 | 5/14/91 | NA | 60 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| MW-3 | 12/12/91 | NA | 50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| MW-3 | 2/6/92 | <5,000 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| MW-3 | 6/17/92 | <5,000 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| MW-3 | 8/17/92 | <5,000 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| MW-3 | 11/20/92 | <5,000 | <50 | <50 | 1.8 | 7.2 | 0.75 | 4.4 | NA |
| MW-3 | 2/22/93 | <5,000 | <100 | <50 | <0.3 | <0.3 | <0.3 | <0.6 | NA |
| MW-3 | 5/20/93 | <5,000 | <50 | <50 | <0.3 | <0.3 | <0.3 | <0.6 | NA |
| MW-3 | 8/17/93 | <5,000 | <100 | <50 | <0.3 | <0.3 | <0.3 | <0.3 | NA |
| MW-3 | 11/16/93 | <1,100 | <50 | <50 | <0.3 | <0.3 | <0.3 | <0.5 | NA |
| MW-3 | 2/24/94 | <1,000 | <51 | <50 | <0.3 | <0.3 | <0.3 | <0.6 | NA |
| MW-3 | 5/13/94 | <1,000 | <50 | <50 | <0.3 | <0.3 | <0.3 | <0.6 | NA |
| MW-3 | 8/16/94 | <1,000 | <50 | <50 | <0.3 | <0.3 | <0.3 | <0.6 | NA |
| MW-3 | 11/8/94 | <1,000 | <50 | <50 | <0.3 | <0.3 | <0.3 | <0.6 | NA |
| MW-3 | 1/30/95 | <1,000 | <50 | <50 | <0.3 | <0.3 | <0.3 | <0.6 | NA |
| | | | | | | | | | |
| MW-4 | 8/16/90 | NA | <100 | 200 | 18 | 1.8 | 4 | 2.4 | NA |
| MW-4 | 2/14/91 | <5 | <50 | <50 | 1.5 | <0.5 | <0.5 | <0.5 | NA |
| MW-4 | 5/14/91 | NA | <50 | <50 | 1.1 | <0.5 | <0.5 | <0.5 | NA |
| MW-4 | 12/12/91 | NA | 60 | 140 | <0.5 | 0.6 | 11 | 2.6 | NA |
| MW-4 | 2/6/92 | <5,000 | <50 | 120 | 51 | 0.6 | 5.9 | 1.6 | NA |
| MW-4 | 6/17/92 | <5,000 | 60 | 200 | 11 | 0.5 | 3.9 | 1.5 | NA |
| MW-4 | 8/17/92 | <5,000 | <50 | 74 | 4.1 | <0.5 | 1.9 | 1.9 | NA |
| MW-4 | 11/20/92 | <5,000 | <50 | 70 | 4.5 | 6.6 | 3.7 | 4.2 | NA |
| MW-4 | 2/22/93 | <5,000 | <50 | 420 | 25 | <0.3 | 9.7 | 2.4 | NA |
| MW-4 | 5/20/93 | <5,000 | <100 | <50 | <0.3 | <0.3 | <0.3 | <0.6 | NA |
| MW-4 | 8/17/93 | <5,000 | <50 | 280 | <3 | <3 | <3 | <6 | NA |
| MW-4 | 11/16/93 | <1,020 | <51 | 160 | 4.9 | <0.3 | 2.62 | 0.942 | NA |
| MW-4 | 2/24/94 | <1,000 | <50 | 70 | 1.9 | <0.3 | 1.6 | <0.6 | NA |
| MW-4 | 5/13/94 | <1,000 | <50 | 210 | 2.3 | <0.3 | 2.8 | 0.9 | NA |
| MW-4 | 8/16/94 | <1,000 | <50 | 33 | 4.1 | 2.1 | 7.6 | 2.6 | NA |
| MW-4 | 11/8/94 | <1,000 | <50 | 120 | 0.67 | <0.3 | 1.5 | <0.6 | NA |

TABLE 5 (Continued)

ANALYTICAL DATA SUMMARY

LIVERMORE-DUBLIN DISPOSAL FACILITY
LIVERMORE, CALIFORNIA

| Well I.D. | Sample Date | TRPH (µg/L) | TEPH-D (µg/L) | TPPH-G (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl benzene (µg/L) | Xylenes Total (µg/L) | MTBE (µg/L) |
|-----------|-------------|-------------|---------------|---------------|----------------|----------------|----------------------|----------------------|-------------|
| MW-4 | 1/30/95 | <1,000 | <50 | <50 | 0.41 | <0.3 | 0.46 | <0.6 | NA |
| MW-4 | 8/2/95 | <1,000 | <50 | <50 | 0.37 | <0.3 | 0.33 | <0.6 | NA |
| MW-4 | 3/14/96 | <1,000 | 69 | 130 | 1.6 | <0.50 | 1.3 | <0.50 | NA |
| MW-4 | 3/27/97 | <1,100 | 120 | 130 | <0.50 | 0.52 | 1.2 | <0.50 | NA |
| MW-4 | 11/7/97 | <5,000 | 71 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 |
| | | | | | | | | | |
| MW-5 | 2/14/91 | <5,000 | <50 | <50 | <50 | <50 | <50 | <50 | NA |
| MW-5 | 5/14/91 | NA | 100 | <50 | <50 | <50 | <50 | <50 | NA |
| MW-5 | 12/12/91 | NA | 410 | 64,000 | 490 | 140 | 10 | 1,500 | NA |
| MW-5 | 2/6/92 | <5,000 | <50 | <50 | <50 | <50 | <50 | <50 | NA |
| MW-5 | 6/17/92 | <5,000 | <50 | <50 | <50 | <50 | <50 | <50 | NA |
| MW-5 | 8/17/92 | <5,000 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| MW-5 | 11/20/92 | <5,000 | <50 | <50 | 1.6 | 6.8 | 0.66 | 3.9 | NA |
| MW-5 | 2/22/93 | <5,000 | <50 | 80 | 2.6 | 53 | 0.6 | 1.3 | NA |
| MW-5 | 5/20/93 | <5,000 | <100 | 160 | 5.7 | 0.4 | 3.8 | 8.3 | NA |
| MW-5 | 8/17/93 | <5,000 | <50 | <50 | <0.3 | <0.3 | <0.3 | <0.3 | NA |
| MW-5 | 11/16/93 | <1,110 | <51.5 | <50 | <0.3 | <0.3 | <0.3 | <0.5 | NA |
| MW-5 | 2/24/94 | <1,000 | <50 | <50 | <0.3 | <0.3 | <0.3 | <0.6 | NA |
| MW-5 | 5/13/94 | <1,000 | <50 | <50 | <0.3 | <0.3 | <0.3 | <0.6 | NA |
| MW-5 | 8/16/94 | <1,000 | <50 | <50 | <0.3 | <0.3 | <0.3 | <0.6 | NA |
| MW-5 | 11/18/94 | <1,000 | <50 | <50 | <0.3 | <0.3 | <0.3 | <0.6 | NA |
| MW-5 | 1/30/95 | 4.3 | <50 | <50 | <0.3 | <0.3 | <0.3 | <0.6 | NA |
| MW-5 | 3/14/96 | <1,000 | 120 | 79 | <0.50 | <0.50 | 3.7 | 1.4 | NA |
| MW-5 | 3/27/97 | <1,100 | 120 | <50 | <0.50 | <0.50 | 2.3 | <0.50 | NA |
| MW-5 | 11/7/97 | <5,000 | <50 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 |
| | | | | | | | | | |
| MW-6 | 2/14/91 | <5,000 | 1,400 | 2,900 | 580 | 420 | 110 | 990 | NA |
| MW-6 | 5/14/91 | NA | <50 | 1,600 | 360 | 36 | 31 | 42 | NA |
| MW-6 | 12/12/91 | NA | <50 | <50 | >0.5 | <0.5 | <0.5 | <0.5 | NA |
| MW-6 | 2/6/92 | <5,000 | 560 | 3,000 | 560 | 93 | 31 | 290 | NA |
| MW-6 | 6/17/92 | <5,000 | 90 | 610 | 49 | 2.8 | 5.6 | 12 | NA |
| MW-6 | 8/17/92 | <5,000 | 340 | 790 | 50 | 3.9 | 6.7 | 32 | NA |
| MW-6 | 11/20/92 | <5,000 | 260 | 980 | 96 | 12 | 14 | 14 | NA |

TABLE 5 (Continued)

ANALYTICAL DATA SUMMARY

LIVERMORE-DUBLIN DISPOSAL FACILITY
LIVERMORE, CALIFORNIA

| Well I.D. | Sample Date | TRPH (µg/L) | TEPH-D (µg/L) | TPPH-G (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Xylenes Total (µg/L) | MTBE (µg/L) |
|-----------|-------------|-------------|---------------|---------------|----------------|----------------|---------------------|----------------------|-------------|
| MW-6 | 2/22/93 | <5,000 | <50 | 3,300 | 810 | <0.3 | 2.6 | 520 | NA |
| MW-6 | 5/20/93 | <5,000 | <100 | 4,600 | 370 | 5.6 | 4.4 | 190 | NA |
| MW-6 | 8/17/93 | <5,000 | <50 | 650 | <3 | <3 | <3 | <6 | NA |
| MW-6 | 11/16/93 | <1.06 | <50.5 | 328 | 11.2 | <0.3 | 2.21 | 4.74 | NA |
| MW-6 | 2/24/94 | 1,100 | <50 | 1,900 | 240 | 2.7 | 93 | 290 | NA |
| MW-6 | 5/13/94 | 1,200 | <50 | 330 | 6.6 | 0.4 | 0.4 | 18 | NA |
| MW-6 | 8/16/94 | 2,900 | <50 | <50 | 43 | 0.31 | <0.3 | 0.61 | NA |
| MW-6 | 11/8/94 | <1,000 | <50 | 260 | 14 | 1.1 | 1.7 | 2.9 | NA |
| MW-6 | 1/30/95 | <1,000 | <50 | <50 | 3.4 | <0.3 | 0.45 | 0.75 | NA |
| MW-6 | 5/2/95 | 12 | <50 | 620 | 91 | 0.80 | 93 | 45 | NA |
| MW-6 | 8/2/95 | <1,000 | <50 | 110 | 3.3 | <0.3 | 3.5 | <0.6 | NA |
| MW-6 | 10/31/95 | <1,000 | <50 | 210 | 26 | <0.3 | 4.7 | 7.2 | NA |
| MW-6 | 3/14/96 | <1,000 | 1,600 | 2,700 | 210 | <10 | 100 | 66 | NA |
| MW-6 | 6/14/96 | <1,000 | 310 | 720 | 52 | <5 | 26 | 9.8 | NA |
| MW-6 | 3/27/97 | <1,100 | 700 | 700 | <5.0 | 40 | 12 | 7.6 | NA |
| MW-6 | 11/7/97 | <5,000 | 370 | 220 | 5.8 | <0.50 | 1.5 | 0.51 | 2.8 |
| | | | | | | | | | |
| MW-7 | 2/14/91 | NA | 110 | 200 | 11 | 1.5 | 14 | 62 | NA |
| MW-7 | 5/14/91 | NA | 100 | 63 | 4 | 0.6 | 0.9 | 1.5 | NA |
| MW-7 | 12/12/91 | NA | <50 | 60 | <0.5 | <0.5 | 1.5 | 0.6 | NA |
| MW-7 | 2/6/92 | <5,000 | 60 | 290 | 3.6 | 2.3 | 7.1 | 14 | NA |
| MW-7 | 6/17/92 | <5,000 | 60 | 150 | 8.5 | 0.6 | 8.6 | 5 | NA |
| MW-7 | 8/17/92 | <5,000 | 50 | 69 | 4.1 | 0.82 | 1.2 | 4.8 | NA |
| MW-7 | 2/22/93 | <5,000 | <50 | 960 | 44 | <0.3 | 2 | 38 | NA |
| MW-7 | 5/20/93 | <5,000 | <100 | <50 | <0.3 | <0.3 | <0.3 | <0.6 | NA |
| MW-7 | 8/17/93 | <5,000 | <50 | 100 | <3 | <3 | <3 | <6 | NA |
| MW-7 | 11/16/93 | <1,050 | <53.2 | 171 | 0.922 | <0.3 | 1.96 | <0.5 | NA |
| MW-7 | 2/24/94 | <1,000 | <50 | 160 | 5.8 | <0.3 | 2.5 | 12 | NA |
| MW-7 | 5/13/94 | <1,000 | <50 | <50 | <0.3 | <0.3 | <0.3 | <0.6 | NA |
| MW-7 | 8/16/94 | <1,000 | <50 | <50 | 0.37 | 0.33 | <0.3 | <0.6 | NA |
| MW-7 | 11/8/94 | <1,000 | <50 | <50 | <0.3 | <0.3 | <0.3 | <0.6 | NA |
| MW-7 | 1/30/95 | <1,000 | <50 | <50 | <0.3 | <0.3 | 0.37 | <0.6 | NA |

TABLE 5 (Continued)

ANALYTICAL DATA SUMMARY

LIVERMORE-DUBLIN DISPOSAL FACILITY
LIVERMORE, CALIFORNIA

| Well I.D. | Sample Date | TRPH ($\mu\text{g/L}$) | TEPH-D ($\mu\text{g/L}$) | TPPH-G ($\mu\text{g/L}$) | Benzene ($\mu\text{g/L}$) | Toluene ($\mu\text{g/L}$) | Ethylbenzene ($\mu\text{g/L}$) | Xylenes Total ($\mu\text{g/L}$) | MTBE ($\mu\text{g/L}$) |
|-----------|-------------|--------------------------|----------------------------|----------------------------|-----------------------------|-----------------------------|----------------------------------|-----------------------------------|--------------------------|
| MW-7 | 8/2/95 | <1,000 | <50 | <50 | <0.3 | <0.3 | <0.3 | <0.6 | NA |
| MW-7 | 3/14/96 | <1,000 | 380 | 490 | 2.4 | <1.2 | 25 | 6.1 | NA |
| MW-7 | 3/27/97 | <1,100 | 230 | 160 | 1.4 | <1.0 | 7.8 | 2 | NA |
| MW-7 | 11/7/97 | <5,000 | 74 | 110 | 1.2 | <0.50 | 5.1 | 1.3 | <2.5 |

Notes:

Total Petroleum Hydrocarbons and Oil and Grease were analyzed using USEPA Methods 413.2, 418.1, 3510, and SM5520B.

Total Extractable Petroleum Hydrocarbons as Diesel were analyzed using USEPA Method Modified 8015/3510.

Total Purgeable Petroleum Hydrocarbons as Gasoline were analyzed using USEPA Methods 602/5030, 8015Mod/8020, or 624.

** Groundwater sample not collected from MW-2 on November 16, 1993 because extraction pump was out of operation.

NA Not Analyzed.

<5,000 Not detected at or above stated detection limit.

$\mu\text{g/L}$ Micrograms per liter.

SOIL BOREHOLE LOG

| | | | | | | | |
|--|--|---------------------------|--|-------|------------|--------|--|
| SITE NAME AND LOCATION Livermore-Dublin Disposal Company 6175 South Frontage Road Livermore, California | | DRILLING METHOD: | | | BORING NO. | | |
| | | Hollow-stem auger | | | M-1 | | |
| | | SAMPLING METHOD: | | | SHEET | | |
| | | Split-spoon | | | 1 OF 1 | | |
| | | | | | DRILLING | | |
| DATUM | | ELEVATION | | START | | FINISH | |
| | | | | TIME | | TIME | |
| | | | | DATE | | DATE | |
| | | | | 12/10 | | 12/10 | |
| DRILL RIG | | SURFACE CONDITIONS | | | | | |
| Mobile B-57 | | Steel-reinforced concrete | | | | | |
| ANGLE | | BEARING | | | | | |
| vertical | | | | | | | |
| SAMPLE HAMMER TORQUE | | FT.-LBS | | | | | |
| | | | | | | | |

| DEPTH IN FEET (ELEVATION) | BLOWS/BLIN ON SAMPLER (RECOVERY) | HNU | SAMPLE NUMBER AND DESCRIPTION OF MATERIAL | SAMPLER AND BIT | CASING TYPE | BLOWS/FOOT ON CASING | TEST RESULTS | | | | | | | | | | |
|---------------------------|----------------------------------|-----|--|-----------------|-------------|----------------------|-----------------|----------------|-----------------|------------------|-------------|--|--|--|--|--|--|
| | | | | | | | WATER CONTENT % | LIQUID LIMIT % | PLASTIC LIMIT % | SPECIFIC GRAVITY | OTHER TESTS | | | | | | |
| 0-1 | | | Steel-reinforced concrete, baserock | | | | | | | | | | | | | | |
| 5 | 100% | 6 | Clay, dark green (CL), medium pack, slight hydrocarbon odor, dry | | | | | | | | | | | | | | |
| 10 | 100% | 50 | Silt, brown (ML), loose pack, damp, hydrocarbon odor, trace of sand | | | | | | | | | | | | | | |
| 15 | 100% | 90 | Clay, light brown (CL), medium pack, strong hydrocarbon odor, saturated | | | | | | | | | | | | | | |
| 20 | NR | NR | Clay, light brown (CL), loose pack, saturated, strong hydrocarbon odor, trace sand | | | | | | | | | | | | | | |
| 25 | 65% | 2 | Sand, tan (SP), fine grained, loose pack, saturated, no hydrocarbon odor | | | | | | | | | | | | | | |
| 30 | 35% | 0 | Sandy Clay, tan (CL), hard pack, saturated, no hydrocarbon odor | | | | | | | | | | | | | | |
| 35 | | | Total Depth of Borehole: 30 feet | | | | | | | | | | | | | | |

DRILLING CONTR Trace Env.

LOGGED BY Mark Hudson

DATE 12/10/88

CHK'D BY

SL02212

DRILLING LOG

Project: Livermore-Dublin Disp Owner: WMNA Well Number: MW-2
 Location: Livermore, CA Project Number: 109E29011

| | | |
|--------------------------------|-----------------------------------|--|
| Date Drilled: 9-14-89 | Screen Diam.: 4-inch | Drilling Co: West-Hazmat Drilling Method: Hollow stem auger Driller: Scott Log by: M. Hudson |
| Total Depth: 32 feet | Length: 25 feet | |
| Diameter: 10-inch | Slot Size: 0.020-inch | |
| Surface Elev.: 536.91 | Casing Diam: 4-inch | |
| Initial Water Level: 10.3 feet | Length: 6 feet Type:sch 40 PVC | |

| S A D M E P P L T E H | BLOW COUNT | P I D ppm | WELL CONST. | DEPTH (ft) | L O G | DESCRIPTION |
|---|---------------|--------------------|----------------|---------------|-------------|--|
| | | | | | | Surface: ASPHALT |
| | | | | 2 | | Fill: Baserock |
| | | | | 4 | | Silty clay, (CL), Olive gray (5YR3/2), dry, plastic, slight hydrocarbon odor |
| 5.0 | 28 | 5 | | 6 | | Clayey silt (ML), moderate brown (5YR3/2), dry, friable slight hydrocarbon odor |
| 10.0 | 12 | 100 | | 10 | | Silty clay (CL), olive gray (5Y3/2), saturated, plastic, strong hydrocarbon odor First water at 10.3 feet Below 10 feet hydrocarbon odor decreases with depth No hydrocarbon odor below 13 feet |
| 15.0 | 14 | 2 | | 16 | | Silty clay (CL), moderate yellowish brown (10YR5/4), saturated, soft, no hydrocarbon odor |
| 20.0 | 18 | 0 | | 20 | | |
| 25.0 | 15 | 0 | | 24 | | |
| 30.0 | 19 | 0 | | 30 | | |
| | | | | 32 | | Total Depth = 32 feet |

DRILLING LOG

Project: Livermore-Dublin Disp
 Location: Livermore, CA

Owner: WMNA
 Project Number: 109E29011

Well Number: MW-3

| | | |
|---------------------------------|-----------------------------------|--|
| Date Drilled: 9-14-89 | Screen Diam.: 2-inch | Drilling Co: West-Hazmat Drilling Method: Hollow stem auger Driller: Scott Log by: M. Hudson |
| Total Depth: 32 feet | Length: 25 feet | |
| Diameter: 8-inch | Slot Size: 0.020-inch | |
| Surface Elev.: 538.55 | Casing Diam: 2-inch | |
| Initial Water Level: 11.25 feet | Length: 7 feet Type:sch 40 PVC | |

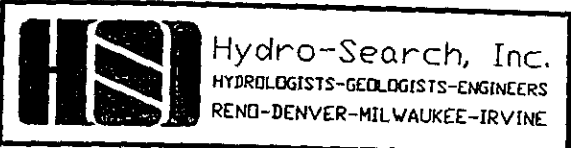
| S A D M E P P L T E H | BLOW COUNT | P I D ppm | WELL CONST. | DEPTH (ft) | L O G | DESCRIPTION |
|---|---------------|--------------------|----------------|---------------|-------------|---|
| | | | | | | Surface: ASPHALT |
| | | | | | | Fill: Baserock |
| | | | | 2 | | Silty clay, (CL), Olive gray (5YR3/2), dry, plastic, no hydrocarbon odor, stiff |
| | | | | 4 | | |
| 5.0 | 28 | 0 | | 6 | | Silty clay (CL), dusty yellow (5Y6/4), dry, friable, no hydrocarbon odor, stiff |
| | | | | 8 | | |
| | | | | 10 | | Sandy clay (CL), olive gray (5Y3/2), saturated at 11.25 feet, soft, no hydrocarbon odor |
| 10.0 | 11 | 0 | | 12 | | Clayey silt (ML), moderate brown (5YR3/4), saturated stiff, no hydrocarbon odor |
| | | | | 14 | | |
| 15.0 | 15 | 0 | | 16 | | Silty Clay (CL), moderate yellowish brown (10YR5/4), saturated, no hydrocarbon odor |
| | | | | 18 | | |
| 20.0 | 18 | 0 | | 20 | | |
| | | | | 22 | | |
| 25.0 | 12 | 0 | | 24 | | |
| | | | | 26 | | |
| | | | | 28 | | |
| 30.0 | 19 | 0 | | 30 | | |
| | | | | 32 | | |
| | | | | | | Total Depth = 32 feet |

DRILLING LOG

Project: Livermore-Dublin Disp Owner: WMNA Well Number: MW-4
 Location: Livermore, CA Project Number: 109E29011

| | | |
|--------------------------------|--------------------------------|-----------------------------------|
| Date Drilled: 9-14-89 | Screen Diam.: 4-inch | Drilling Co: West-Hazmat Drilling |
| Total Depth: 32 feet | Length: 25 feet | Method: Hollow stem auger |
| Diameter: 10-inch | Slot Size: 0.020-inch | Driller: Scott |
| Surface Elev.: 537.84 | Casing Diam: 4-inch | Log by: M. Hudson |
| Initial Water Level: 11.0 feet | Length: 6 feet Type:sch 40 PVC | |

| S A D M E P P L T E H | BLOW COUNT | P I D ppm | WELL CONST. | DEPTH (ft) | L O G | DESCRIPTION |
|---|---------------|--------------------|----------------|---------------|-------------|---|
| | | | | | | Surface: ASPHALT |
| | | | | 2 | | Fill: Baserock |
| | | | | 4 | | Silty clay, (CL), Olive gray (5Y3/2), dry, plastic, no hydrocarbon odor, stiff |
| 5.0 | 22 | 0 | | 6 | | Clayey silt (ML), moderate brown (5YR3/4), dry, friable, no hydrocarbon odor |
| | | | | 8 | | |
| 10.0 | 12 | 5 | | 10 | | Sandy silt (ML), moderate brown (5YR3/4), moist, some gravel, soft, no hydrocarbon odor |
| | | | | 12 | | First water at 11.0 feet |
| | | | | 14 | | Silty clay (CL), moderate yellow brown (10YR5/4), saturated, plastic, soft, no hydrocarbon odor |
| 15.0 | 16 | 0 | | 16 | | |
| | | | | 18 | | |
| 20.0 | 18 | 0 | | 20 | | |
| | | | | 22 | | |
| 25.0 | 11 | 0 | | 24 | | |
| | | | | 26 | | |
| | | | | 28 | | |
| 30.0 | 19 | 0 | | 30 | | |
| | | | | 32 | | |
| | | | | | | Total Depth = 32 feet |



DRILLING LOG

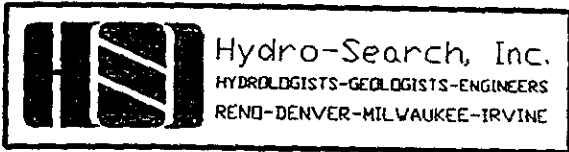
WELL NUMBER SB-2 (MW-5) Page 1 of 1

Project Livermore-Dublin Disposal Owner WMNA
 Location Livermore, Ca. Project Number 409E39011
 Date Drilled 10/6/90 Total Depth of Hole 30' Diameter 10"
 Surface El. 537.45 Water Level Initial _____ 24 hrs. _____
 Screen: Dia. 4" Length 25' Slot Size 0.020"
 Casing: Dia. 4" Length 4.3' Type PVC Sch. 40
 Drilling Company West Hazmat Drilling Corp. Drilling Method Hollow Stem Auger -Continuous Core
 Driller Mark Thorp Log by R.J. Johnson

Sketch Map _____

Notes _____

| Sample Depth (ft.) | Recovery | H-NU | Depth (ft.) | Log | DESCRIPTION |
|--------------------|----------|------|-------------|------|--|
| 0 | | | 0 | | Asphalt |
| | | | | Fill | Baselock |
| 3 | 45% | | 2 | CL | Silty clay (CL): dark grayish brown (2.5Y4/2), slightly moist, very stiff, low plasticity, no product odor. |
| | | 1.8 | 4 | CL | Silty clay (CL): very dark grayish brown (2.5Y3/2), moist, very stiff, medium plasticity, no product odor, 10% fine grained sand |
| | 60% | | 6 | CL | Silty clay (CL): light olive brown (2.5Y5/4), moist, very stiff, medium plasticity, no product odor, 20% fine-grained sand. |
| 8 | | | 8 | CL | Sandy clay (CL): as described above, except medium stiff and 30% sand. |
| | 85% | 3.4 | 10 | CL | Silty clay (CL): olive (5Y5/3), saturated, soft, medium plasticity no product odor. |
| 13 | | | 12 | CL | Silty clay (CL): light yellowish brown (2.5Y6/4), saturated, stiff, medium plasticity, no product odor, 20% fine-grained sand. |
| | 50% | 0.2 | 14 | CL | Sandy clay (CL): as described above, except light olive brown (2.5Y5/4) and 30% fine-grained sand. |
| 18 | | | 16 | SC | Clayey sand (SC): light olive brown (2.5Y5/6) saturated, soft, nonplastic, no product odor, 80% fine-grained sand, 20% clay. |
| | 55% | | 20 | | |
| 23 | | | 22 | SP | Sand (SP): light olive brown (2.5Y5/4), saturated, loose, no product odor, fine-to medium-grained sand. |
| | 85% | 0.0 | 24 | | |
| 28 | | | 26 | SC | Clayey sand (SC): light olive brown (2.5Y5/6), saturated, very low plasticity, no product odor, 80% fine-grained sand, 20% clay. |
| | | | 28 | CL | Silty clay (CL): olive yellow (2.5Y6/6), saturated, very stiff, medium plasticity, no product odor. |
| | | | 30 | | |



DRILLING LOG

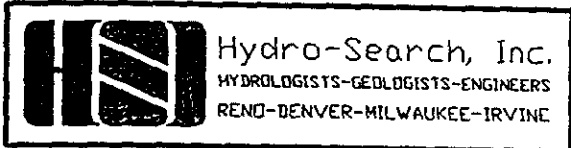
WELL NUMBER SB-4 (MW-6) Page 1 of 1

Project Livermore-Dublin Disposol Owner WMNA
 Location Livermore, Ca. Project Number 409E39011
 Date Drilled 10/6/90 Total Depth of Hole 30' Diameter 10"
 Surface El. 536.96 Water Level Initial _____ 24 hrs. _____
 Screen: Dia. 4" Length 25' Slot Size 0.020"
 Casing: Dia. 4" Length 4.0' Type Sch. 40 ^{PVC}
 Drilling Company West Hazmat Drilling Method Hollow Stem Auger
Drilling Corp. -Continuous Core
 Driller Mark Thorp Log by R.J. Johnson

Sketch Map

Notes

| Sample Depth (ft.) | Recovery | H-NU | Depth (ft.) | Log | DESCRIPTION | |
|--------------------|----------|------|-------------|------|-------------|--|
| | | | | | Surface | Asphalt |
| 0 | | | 0 | | | |
| | 15% | | | Fill | | Baserock |
| 3 | | 9.8 | 2 | | | |
| | 25% | | 4 | CL | | Silty Clay (CL): olive (5Y5/4), slightly moist, medium stiff, medium plasticity, no product odor, 20% fine-grained sand. |
| 8 | | | 6 | | | |
| | 65% | 106 | 8 | CL | | Silty Clay (CL): light olive brown (2.5Y5/4), moist, soft, medium plasticity, moderate product odor. |
| 13 | | | 10 | | | |
| | 40% | 10.6 | 12 | CL | | Silty Clay (CL): light olive brown (2.5Y5/4), moist, stiff, medium plasticity, moderate product odor, 10% fine-grained sand. |
| 18 | | | 14 | | | |
| | 75% | 0.2 | 16 | SP | | Sand (SP): light olive brown (2.5Y5/6), saturated, loose, no product odor, fine-grained sand. |
| 23 | | 0.0 | 18 | | | |
| | 80% | 0.9 | 20 | CL | | Silty Clay (CL): light olive brown (2.5Y5/6), saturated, medium stiff, medium plasticity, no product odor. |
| 28 | | | 22 | | | |
| | | | 24 | SC | | Clayey sand (SC): light olive brown (2.5Y5/6), saturated, soft, medium plasticity, no product odor, 40% clay. |
| | | | 26 | | | |
| | | | 28 | CL | | Silty Clay (CL): yellowish brown (10YR5/4), saturated, very stiff, low plasticity, no product odor. |
| | | | 30 | | | |



DRILLING LOG

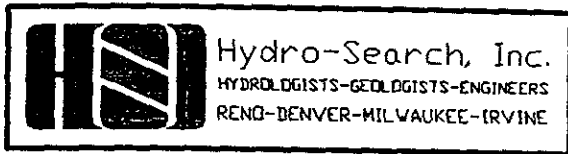
WELL NUMBER SB-8 (MW-7) Page 1 of 1

Project Livermore-Dublin Disposal Owner WMNA
 Location Livermore, Ca. Project Number 409E39011
 Date Drilled 10/6/90 Total Depth of Hole 30.0' Diameter 10"
 Surface El. 537.09 Water Level Initial _____ 24 hrs. _____
 Screen: Dia. 4" Length 25' Slot Size _____
 Casing: Dia. 4" Length 3.5' Type PVC Sch 40
 Drilling Company West Hazmat Drilling Corp. Drilling Method Hollow Stem Auger -Continuous Core
 Driller Mark Thorp Log by R.J.Johnson

Sketch Map

Notes

| Sample Depth (ft.) | Recovery | H-NU | Depth (ft) | Log | DESCRIPTION |
|--------------------|----------|------|------------|------|--|
| 0 | | | 0 | Fill | Surface Asphalt Baserock |
| 3 | 25% | 5.2 | 2 | CL | Silty clay (CL): light olive brown (2.5Y5/6), slightly moist, loose, no product odor, 20% fine-grained sand. |
| | 20% | | 4 | | |
| | | | 6 | CL | Sandy clay (CL): light olive brown (2.5Y5/4), moist, soft, low plasticity, no product odor, 40% fine-grained sand |
| 8 | | 8.2 | 8 | CL | Silty clay (CL): light olive gray (5Y6/2), saturated, soft, low plasticity, strong product odor. |
| | 55% | | 10 | | |
| 13 | | 11.2 | 12 | CL | Sandy clay (CL): light yellowish brown (2.5Y6/4), saturated, very stiff, low plasticity, no product odor 30% fine-grained sand. |
| | 80% | | 14 | CL | Silty clay (CL): light yellowish brown (2.5Y6/4), saturated, soft, nonplastic, moderate product odor. |
| | | | 16 | CL | Sandy clay (CL): light olive brown (2.5Y5/6), saturated, medium stiff, medium plasticity, no product odor, 30% fine-grained sand. |
| 18 | | 0.4 | 18 | | |
| | 100% | | 20 | CL | Silty clay (CL): light olive brown (2.5Y5/4), saturated, soft, medium plasticity, no product odor. |
| 23 | | | 22 | SC | Clayey sand (SC): light olive brown (2.5Y5/6), saturated, soft, low plasticity, no product odor, 70% fine-grained sand, 30% clay. |
| | | | 24 | SP | Sand (SP): light olive brown (2.5Y5/4), saturated, loose, no product odor, 90% fine-grained sand, 10% silt. |
| | 100% | 0.0 | 26 | CL | Sandy clay (CL): light olive brown (2.5Y5/4), saturated, medium stiff, medium plasticity, no product odor, 30% fine-grained sand. |
| 28 | | 0.0 | 28 | SC | Clayey sand (SC): light olive brown (2.5Y5/6), saturated, medium stiff, medium plasticity, no product odor, 30% fine-grained sand. |
| | | | 30 | | Clayey sand (SC): light olive brown (2.5Y5/6), saturated, medium plasticity, nonplastic, no product odor, 80% fine-grained sand, 20% clay. |



DRILLING LOG

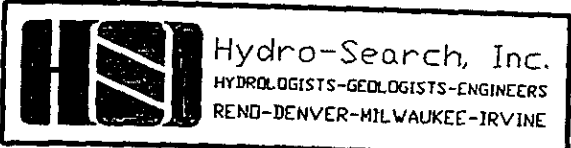
WELL NUMBER SB-1 Page 1 of 1

Project Livermore-Dublin Disposal Owner WMNA
 Location Livermore, Ca. Project Number 409E39011
 Date Drilled 10/4/90 Total Depth of Hole 13' Diameter 8"
 Surface El. _____ Water Level Initial _____ 24 hrs. _____
 Screen: Dia. _____ Length _____ Slot Size _____
 Casing: Dia. _____ Length _____ Type _____
 Drilling Company West Hazmat Drilling Method Hollow Stem Auger
Drilling Corp. -Continuous Core
 Driller Mark Thorp Log by R.J.Johnson

Sketch Map

Notes

| Sample Depth (ft) | Recovery | H-NU | Depth (ft) | Log | DESCRIPTION | |
|-------------------|----------|------|------------|------|-------------|---|
| | | | | | Surface | Asphalt |
| 0 | | | 0 | | | |
| | | | | Fill | | Baserock |
| 3 | 10% | | 2 | | | Gravelly sand (SW): Very dark gray (5YR3/1), slightly moist, loose, no product odor, 55% fine-to coarse-grained sand, 30% subangular gravel up to 30mm, 15% clay. |
| | 10% | | 4 | | | |
| | | | 6 | | | |
| 8 | | 2.2 | 8 | | | Clayey sand (SC): Very dark gray (5YR3/1), slightly moist, medium stiff, low plasticity, no product odor, 70% fine-grained sand, 30% clay, a few subangular gravels up to 20mm. |
| | 20% | | 10 | | | |
| | | | 12 | | | |
| 13 | 70% | | 14 | | | Total Depth = 13 feet; recovery minimal; continuous core system malfunctioned; unable to determine depths where changes in soil types occurred. |
| | | | 16 | | | |



DRILLING LOG

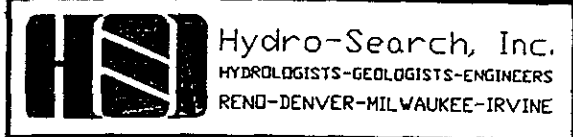
WELL NUMBER SB-5 Page 1 of 1

Project Livermore-Dublin Disposal Owner WMNA
 Location Livermore, Ca Project Number 409E39011
 Date Drilled 10/5/90 Total Depth of Hole 28.0' Diameter 8"
 Surface El. _____ Water Level Initial _____ 24 hrs. _____
 Screen: Dia. _____ Length _____ Slot Size _____
 Casing: Dia. _____ Length _____ Type _____
 Drilling Company West Hazmat Drilling Method Hollow Stem Auger
Drilling Corp. -Continuous Core
 Driller Mark Thorp Log by R.J. Johnson

Sketch Map

Notes

| Sample Depth (ft.) | Recovery | H-NU | Depth (ft) | Log | DESCRIPTION |
|--------------------|----------|------|------------|-----|--|
| 0 | | | 0 | | Surface Asphalt |
| 3 | 30% | 0.0 | 2 | GW | Sandy gravel (GW): dark brown (10YR4/3), slightly moist, loose, no product odor, 50% subrounded gravels up to 15mm, 50% fine-to coarse-grained sand. |
| | 50% | | 4 | CL | Silty clay (CL): light olive brown (2.5Y5/6), slightly moist, loose no product odor. |
| 8 | 40% | 0.1 | 6 | | |
| | 60% | 0.0 | 8 | CL | Sandy clay (CL): grayish brown (2.5Y5/2), moist, medium stiff, medium plasticity, no product odor, 30% fine-grained sand. |
| 13 | 100% | 0.0 | 10 | | |
| | | | 12 | CL | Sandy clay (CL): light olive brown (2.5Y5/6), saturated, loose, no product odor, 90% fine-to medium-grained sand, 10% silt. |
| 18 | | | 14 | | |
| | | | 16 | SC | Clayey sand (SC): grayish brown (2.5Y5/2), saturated, soft, low plasticity, no product odor, 80% fine-grained sand, 20% clay. |
| 23 | | | 18 | SP | Sand (SP): light olive brown (2.5Y5/6), saturated, loose, no product odor, 90% fine-to medium-grained sand, 10% silt. |
| | 100% | 0.0 | 20 | CL | Sandy clay (CL): light olive brown (2.5Y5/4), saturated, stiff, medium plasticity, no product odor, 30% fine-grained sand. |
| 28 | | | 22 | SP | Sand (SP): same as at 18 to 21.5'. |
| | | | 24 | CL | Sandy clay (CL): light olive brown (2.5Y5/6), saturated, medium stiff, medium plasticity, no product odor, 40% fine-grained sand. |
| | | | 26 | CL | Silty clay (CL): light olive brown (2.5Y5/6), saturated, very stiff, medium plasticity, no product odor. |
| | | | 28 | | |
| | | | 30 | | |



DRILLING LOG

WELL NUMBER SB-6 Page 1 of 1

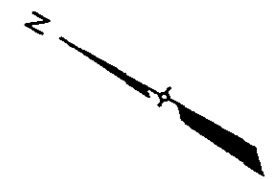
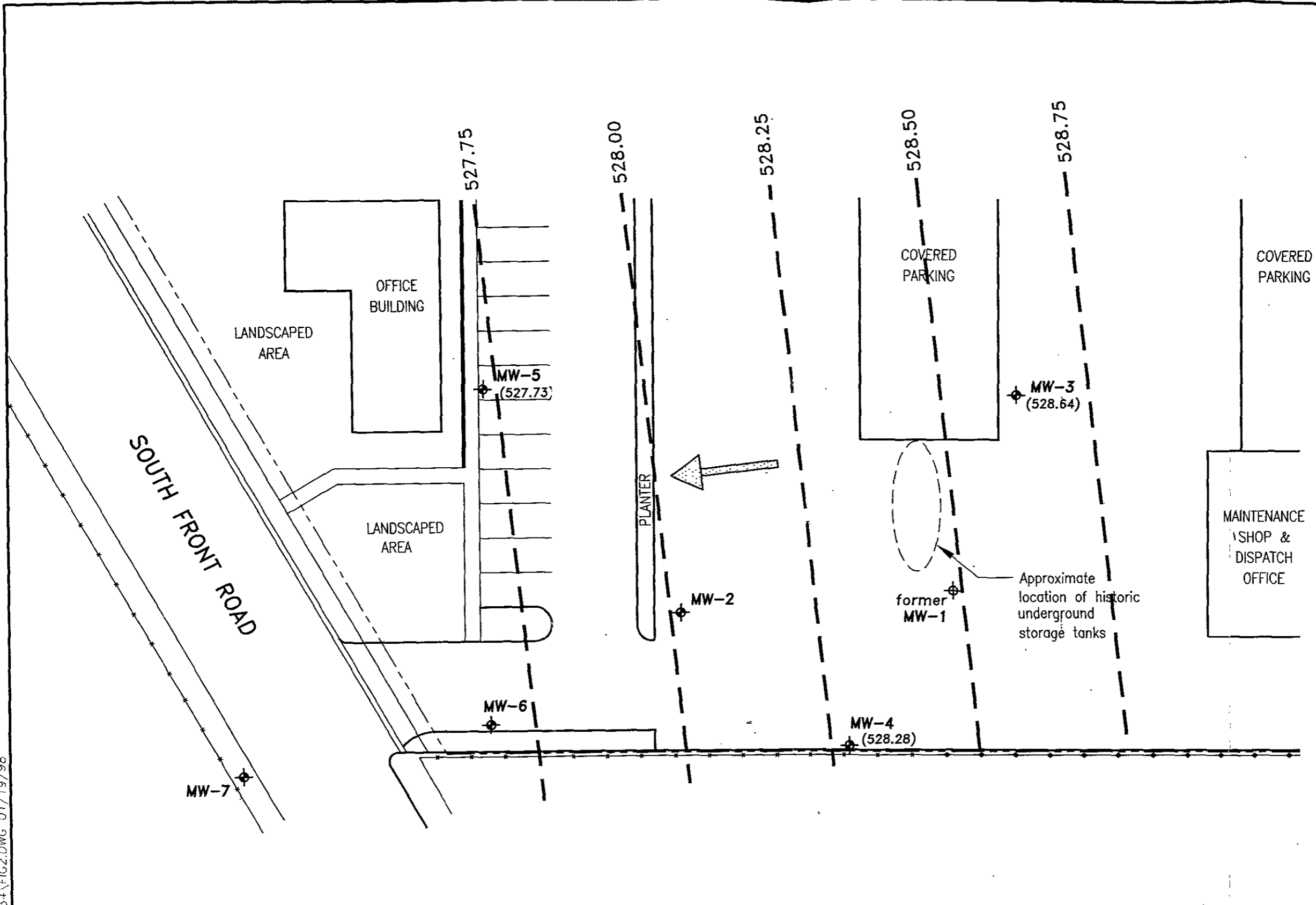
Project Livermore-Dublin Disposal Owner WMNA
 Location Livermore, Ca. Project Number 409E39011
 Date Drilled 10/5/90 Total Depth of Hole 28.0' Diameter 8"
 Surface El. _____ Water Level Initial _____ 24 hrs. _____
 Screen: Dia. _____ Length _____ Slot Size _____
 Casing: Dia. _____ Length _____ Type _____
 Drilling Company West Hazmat Drilling Method Hollow Stem Auger
Drilling Corp. -Continuous Core
 Driller Mark Thorp Log by R.J.Johnson

Sketch Map


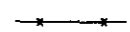


Notes

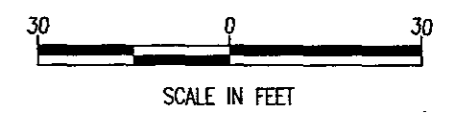
| Sample Depth (ft.) | Recovery | H-NU | Depth (ft) | Log | DESCRIPTION |
|--------------------|----------|------|------------|-----|---|
| 0 | | | 0 | | Surface Asphalt |
| 3 | 20% | 0.0 | 2 | SP | Sand (SP): yellowish brown (10YR5/6), slightly moist, loose, no product odor, 90% fine-grained sand, 10% silt. |
| 8 | 40% | 0.0 | 4 | CL | Sandy clay (CL): light olive brown (2.5Y5/4), slightly moist, very stiff, medium plasticity, no product odor, 30% fine-grained sand. |
| 13 | 45% | 0.0 | 6 | CL | Silty clay (CL): light olive brown (2.5Y5/4), slightly moist, medium stiff, medium plasticity, no product odor. |
| 18 | 95% | 0.0 | 8 | CL | Sandy clay (CL): light olive brown, (2.5Y5/4), slightly moist, medium stiff, medium plasticity, no product odor, 30% fine-grained sand. |
| 23 | 100% | 0.0 | 10 | CL | |
| 28 | 45% | 0.0 | 12 | CL | |
| | | | 14 | ▼ | |
| | | | 16 | ≡ | |
| | | | 18 | | |
| | | | 20 | SP | Sand (SP): light olive brown (2.5Y5/6), saturated, very stiff, loose, no product odor, 90% fine-grained sand, 10% clay. |
| | | | 22 | | |
| | | | 24 | CL | Sandy clay (CL): light olive brown (2.5Y5/6), saturated, very stiff, low plasticity, no product odor, 30% fine-grained sand. |
| | | | 26 | | |
| | | | 28 | | |
| | | | 30 | | |

I:\CAD\PROJECTS\200334\FIG2.DWG 01/19/98



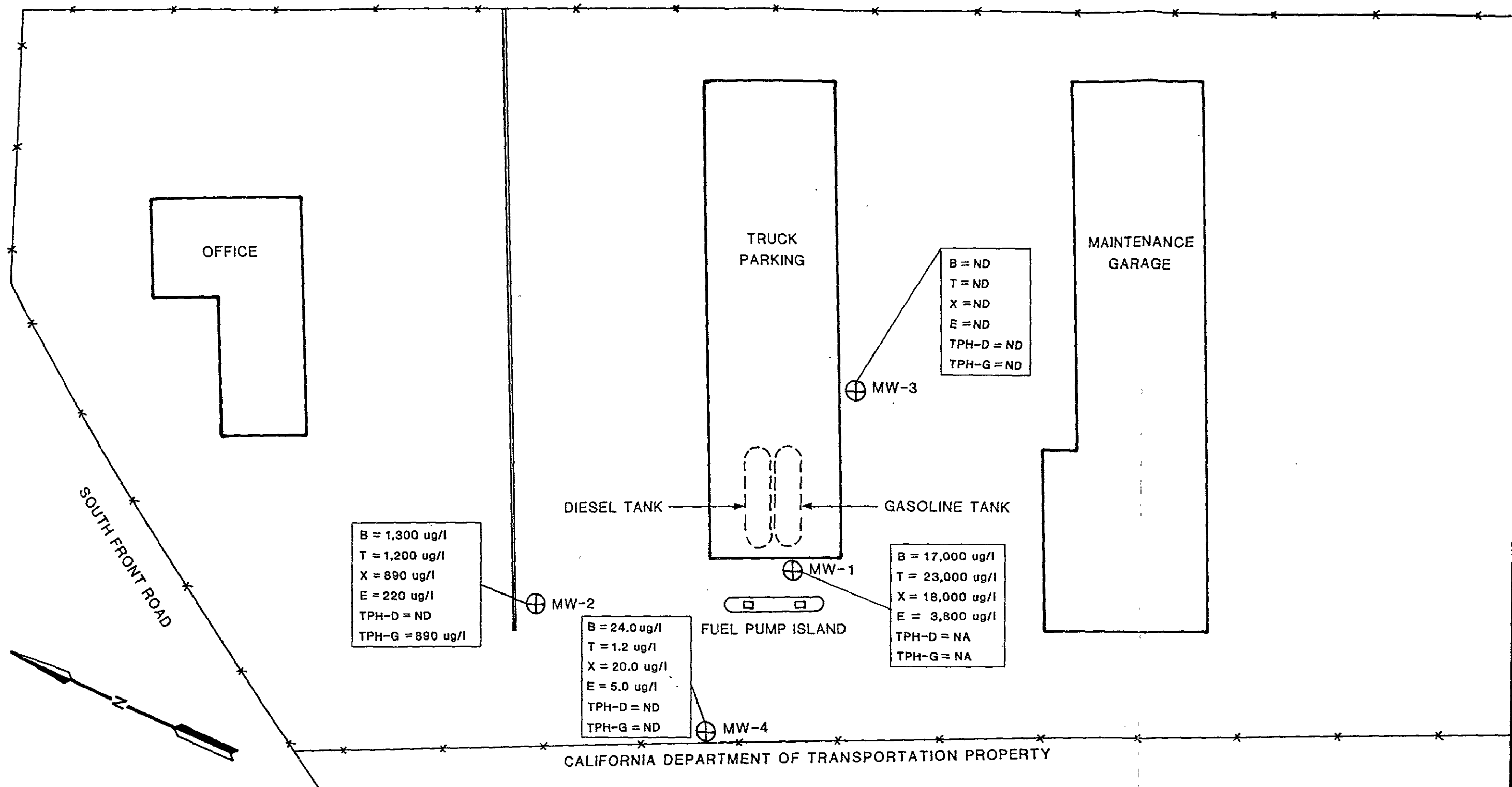
LEGEND

-  **MW-3** Monitoring well location and designation
(528.64) Groundwater elevation November 7, 1997.
-  Fence
-  **MW-1** Abandoned monitoring well location and designation
-  Approximate groundwater direction



RUST
Rust Environment & Infrastructure Inc.

FIGURE 11
GROUNDWATER ELEVATION MAP
LIVERMORE-DUBLIN DISPOSAL FACILITY
LIVERMORE, CALIFORNIA
JANUARY 1998 200334.10100



B = 1,300 ug/l
 T = 1,200 ug/l
 X = 890 ug/l
 E = 220 ug/l
 TPH-D = ND
 TPH-G = 890 ug/l

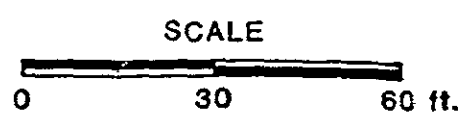
B = 24.0 ug/l
 T = 1.2 ug/l
 X = 20.0 ug/l
 E = 5.0 ug/l
 TPH-D = ND
 TPH-G = ND

B = 17,000 ug/l
 T = 23,000 ug/l
 X = 18,000 ug/l
 E = 3,800 ug/l
 TPH-D = NA
 TPH-G = NA

B = ND
 T = ND
 X = ND
 E = ND
 TPH-D = ND
 TPH-G = ND

EXPLANATION

- ⊕ MW-1 Existing monitor well
- B Benzene, reporting limit = 0.3 ug/l
- T Toluene, reporting limit = 0.3 ug/l
- X Total Xylenes, reporting limit = 0.6 ug/l
- E Ethylbenzene, reporting limit = 0.3 ug/l
- TPH-D Total Petroleum Hydrocarbons-Diesel, reporting limit = 100 ug/l
- TPH-G Total Hydrocarbons-Gasoline, reporting limit = 500 ug/l
- ND Not detected
- NA Not analyzed



NOTE: Wells MW-2, 3 and 4 sampled 9-15-89
 Well MW-1 sampled 12-10-88

**HYDROCARBON CONCENTRATIONS
 IN GROUND-WATER
 LIVERMORE-DUBLIN DISPOSAL
 LIVERMORE, CALIFORNIA**

PROJECT 109E29011 REVISIONS
 DATE OCT. 1989

Hydro-Search, Inc.
 HYDROLOGISTS-GEOLOGISTS-ENGINEERS
 MILWAUKEE • DENVER • RENO • IRVINE