HYDRO ENVIRONMENTAL TECHNOLOGIES, INC.

2394 Mariner Square Drive, Suite 2
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Tel 510-521-2681
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Massachusetts
New York
Maryland

November 17, 1997

7-285.2

Ms. Eva Chu
Alameda County
Health Care Services Agency
Environmental Protection Division
1131 Harbor Bay Parkway, Room 250
Alameda, CA 94502-6577

Subject: Tank Removal Report
2415 Mariner Square Drive, Alameda, California

Dear Ms. Chu:

Enclosed please find a copy of Hydro-Environmental Technologies, Inc.'s (HETI's) Tank Removal Report for activities conducted on August 6, 1997 at the above-referenced site. We have discussed further activity at this site with Larry Seto and Madhulla Logan of your office.

Sincerely,

Hydro-Environmental Technologies, Inc.

Gary Pischke, C.E.G.
Senior Geologist

attachment.

HYDRO
ENVIRONMENTAL
TECHNOLOGIES, INC.

TANK REMOVAL REPORT

2415 Mariner Square Drive
Alameda, California

Tanks Removal Date: August 6, 1997

Prepared for:

Mariner Square and Associates
2900 Main Street, Suite 100
Alameda, CA 94501

Phillips Petroleum Company
4th and Keeler Avenue
Bartlesville, Oklahoma 74004

Texaco, Inc.
10 Universal City Plaza, Suite 830
Universal City, California 91608-7812

Prepared by:

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.
2394 Mariner Square Drive, Suite 2
Alameda, California 94501
HETI Job No. 7-285.2

November 5, 1997

HYDRO ENVIRONMENTAL TECHNOLOGIES, INC.

TABLE OF CONTENTS

1.0 INTRODUCTION

The purpose of this report is to present the results of Hydro-Environmental Technologies, Inc.'s (HETI's) tank excavation oversight at the Mariner Square Associates Facility located on 2415 Mariner Square Drive in Alameda, California (Figure 1).

Tank removal and soil excavation oversight work included: (1) observing the removal of two under ground storage tanks (USTs) and associated piping, and inspecting the tanks conditions (2), photo-documenting the removed tanks and logging the soil in the sidewalls of the excavation and (3) collecting the county-required soil samples from the tank pit sidewalls and required water samples from the tank pit for laboratory analysis.

The removal of the USTs, and the assistance in soil sampling required for regulatory compliance/tank closure certification, was performed by Zaccor Companies of Alameda, California, on behalf of Mariner Square Associates. HETI's oversight and sampling work at the site was performed on behalf of Mariner Square Associates. Each company provided their own health and safety plan.

2.0 BACKGROUND

The subject site is located in Alameda, California in an area of commercial, light manufacturing and military usage immediately adjacent to and east of the Fleet Industrial Supply Center, Alameda Annex and west of the Oakland Inner Harbor. The site was reclaimed from marshlands in the late 1920's. Available maps indicate tidal channels present in the former marshland are now occupied by the site (Figure 2). In the past, the site was used for bulk fuel storage and distribution of refined oils, motor lubricants, and fuel oils for use by ships until 1972.

Currently, the site is occupied by railroad boxcars which have been converted to offices, a restaurant, and several buildings housing companies catering to the marine industry such as boat sales, storage, repairs, painting and sail manufacturing. The site no longer has bulk oils or fuel storage. Proposed plans for the site include dividing the property into two parcels. A hotel and parking lot would be constructed on one parcel. A dry boat storage facility and parking would be constructed on the other parcel. The second parcel would include the existing monitoring wells and related environmental responsibility which would remain under Mariner Square and Associates control.

The local geology consists primarily of clayey to silty sand (hydraulic fill) from approximately 7 to 17 feet below ground surface (bgs). Below the hydraulic fill, which was mechanically placed prior to the development of this portion of Alameda, the sediment consists of olive-grey sandy to silty clay with sand lenses,

shells and organic matter from approximately 13 to 30 feet bgs (bay mud). Regional ground water flow is predominantly westerly, towards San Francisco Bay.

On November 25, 1991, AllWest Environmental, Inc. (AllWest) performed a Phase I Site Assessment of the property. AllWest recommended a soil and ground water investigation related to the fuel and oil storage, refining and distribution and for contaminants related to boat maintenance, painting and repair. For complete details see AllWest's *Environmental Assessment* report dated December 3, 1991.

In April 1992, AllWest supervised the placement of 24 geoprobes, collecting and analyzing 23 soil samples and four ground water samples. Elevated concentrations of petroleum hydrocarbons were detected in 20 of the soil samples and two of the ground water samples with maximum concentrations of 13,000 parts per million (ppm) and 1,200 ppm, respectively. For complete details see AllWest's *Subsurface Investigation Report* dated May 1, 1992.

In 1992 Subsurface Consultants, Inc. (SCI) supervised the drilling of six soil borings and the installation of six two-inch diameter monitoring wells designated MW-1 through MW-6. Petroleum hydrocarbon concentrations were detected in two of the six soil samples collected and analyzed from the soil borings (Subsurface Consultants, Inc., *Quarterly Groundwater Monitoring Report*, dated December 23, 1992). Concentrations of hydrocarbons in soil ranged from non-detect at laboratory limits to 220 ppm TPH as diesel.

On June 14, 1994, McLaren/Hart supervised the drilling of 13 soil borings, collecting and analyzing 28 soil samples, and installing three four-inch diameter monitoring wells designated MW-7, MW-8, and MW-9. In the past, hydrocarbons have been detected in ground water samples collected from wells MW-1 through MW-6 and vinyl chloride and Freon-113 have been detected in ground water samples collected from wells MW-2 and MW-4 (McLaren/Hart, *Supplemental Site Investigation and Limited Feasibility Study Report*, dated March 31, 1995). All monitoring well locations are shown on Figure 2, the Site Plan.

Ground water monitoring events were performed in 1996 and 1997. The latest ground water monitoring and sampling was performed on September 30, 1997. The third quarter report, including the data from this event, will be issued concurrent with this tank removal report.

In a letter from Ms. Juliet Shin, Alameda County Health Care Services Agency (ACHCSA), Environmental Protection Division, dated December 26, 1995, the County required removal of the two remaining USTs at the site. The removal of the USTs was also requested since it would aid in the evaluation of remaining hydrocarbon sources at the site.

3.0 FIELD ACTIVITIES

The soil sampling and tank removal were performed in accordance with state and local guidelines. UST removal permits were obtained from ACHCSA, Bay Area Air Quality Management District, and Alameda Fire Department. Copies of the permits are included along with a copy of HETI's Health and Safety Plan in Appendix A. The work was performed in accordance with the workplan submitted by HETI to the ACHCSA on July 28, 1997, and approved by the ACHCSA and Alameda Fire Department on August 5, 1997.

3.1 Underground Storage Tank Excavation and Removal

Prior to tank removal, Zaccor removed product transmission piping, and exposed the tops of the USTs on August 5, 1997. Prior to the start of excavation, the tanks were pumped to remove all remaining liquid. Fluids and ground water were observed reentering the tanks after completion of the pumping. No ground water was pumped from the tank pits prior to removal of the USTs. Two single-wall steel tanks, one 500 gallon and one approximately 300 gallon, were removed on August 6, 1997, under the inspection of Mr. Steve McKinley and Mr. Mike Edwards of the Alameda Fire Department and Ms. Eva Chu, a Hazardous Materials Specialist with the ACHCSA. The locations of the removed UST's, T-1 and T-2, and other site features are shown on Figure 2.

A total of 400 gallons of waste oil/mixed oil and water were removed from the two USTs and hauled off site by a licensed waste hauler. The Uniform Hazardous Waste Manifest and ACHCSA Department of Environmental Health inspection report are included as Appendix B.

After the tanks were removed, and additional soil excavated around T-2, one soil sample for each tank was collected for laboratory analysis using brass tubes that were pushed six to eight inches into the soil in the backhoe bucket. The locations of these samples were on the sidewalls above the ground water level within the tankpit. Soil sample locations are shown on Figure 3.

Ground water was encountered in both excavations. A water sample was collected from the north excavation, T-1, as directed by the ACHCSA representative.

3.2 Underground Storage Tank and Soil Excavation Observations

Soils observed within the tank pit excavations consisted of brown silty sand fill in excavation T-1 and grey fine grained, silty sand with a hydrocarbon odor in excavation T-2. The tank pits were excavated to a total depth of approximately 6 feet bgs. Petroleum hydrocarbon odors were noted during excavation of the fill on both tanks.

Approximately one half foot of standing ground water was observed in the tank pits at a total excavated depth of six feet bgs. Liquid-phase hydrocarbons were not observed in the excavation pit for either tank.

Visual examination of the tanks at the time of removal did show signs of cracking, holes or leakage. Both tanks were corroded with multiple holes on the bottom and ends. Tank T-1 was more extensively corroded than tank T-2.

Full descriptions of each individual tank size, containment, and status upon removal are presented in Table 1. Photo-documentation of the tank excavation and removal activities is presented in Appendix C. The removed tanks were transported by Trident Trucking to Erickson in Richmond, California for disposal. Tank contents were hauled offsite by Artesian Oil Recovery to their facility for recycling and disposal.

3.3 Tankpit Soil Sampling

To assess the approximate extent of hydrocarbons in soil, HETI collected grab soil samples from within the tank pit excavation using the backhoe. The soil samples were collected from the south side of the T-1 excavation at a depth of 5.5 feet bgs (T-1-5.5) and from the east end of the T-2 excavation at a depth of 4.5 feet bgs (T-2-4.5) Ground water was present at the bottom of both tank pits after tank removal. A split ground water sample designated T-1-G, T-1-D and T-1-O was collected at approximately 6 feet bgs.

Two soil samples and one tank pit water sample (T-1) were collected, sealed, labeled, entered on a chain-of-custody form, and placed in a cooler for transport to NEI/GTEL, a state certified laboratory located in Wichita, Kansas. All soil samples and the tank pit water sample were analyzed for total petroleum hydrocarbons (TPH), as gasoline (TPHg), and as diesel (TPHd); benzene, toluene, ethylbenzene and xylenes (BTEX); methyl tert-butyl ether (MTBE); and five metals (Cadmium, Chromium, Lead, Nickel, and Zinc) using the California Leaking Underground Fuel Tank (LUFT) Method Protocols.

3.4 Tankpit Backfilling

Tankpit backfilling began after soil samples were collected from the floor of the excavation. Prior to backfilling, an oxygen releasing compound (ORC) was mixed with the bottom layer of backfill and placed into both tankpit excavations. After placement of the ORC, the excavations were backfilled with pea gravel and completed to grade with concrete per the approved workplan.

3.5 Stockpile Soil Sampling

During soil excavation, approximately 133 cubic yards of soil were excavated from the tank pit and stockpiled on-site. All excavated soil was placed on plastic, and covered with plastic. One soil sample was collected per 25 cubic yards of stockpiled soil. Four soil samples were composited into a single sample at the laboratory prior to analysis, and a fifth sample was sent for separate analysis.

The soil samples were analyzed for TPHg, TPHd, MTBE, Total Lead, and BTEX. Soil sample analysis was performed by NEI/GTEL.

4.0 PROPOSED CLEANUP STANDARDS

Mariner Square Associates proposes to use the cleanup standards defined by the Regional Water Quality Control Board (RWQCB) for the San Francisco International Airport (SFIA). The RWQCB issued an order (No. 95-136) titled Revised Site Cleanup Requirements for the City and County of San Francisco and the SFIA Tenants dated June 26, 1995 in which the five Remediation Management Zones (RMZ) were established for distinguishing different soil and ground water cleanup objectives. The former Mariner Square Associates site falls into the Ecological Protection Zone (EPZ) designation. The EPZ is defined as within three hundred feet of the San Francisco Bay or related body of water. Three tier levels were defined for each standard. Tier 0 is cleanup to non-detectable concentrations. Tier 1 levels are determined by a specific compound risk assessment. Tier 2 levels are determined by a Risk Based Corrective Action (RBCA) evaluation. The SFIA Consolidated Tenant Group (CTG) has revised numbers for the EPZ standard which will be submitted to the RWQCB in November 1997.

5.0 RESULTS

5.1 Soil Sample Analytical Results

TPHg was detected in both of the analyzed soil samples collected during the tank excavation. TPHg concentrations ranged from 0.55 milligrams per kilogram (mg/kg) (T2-4.5) to 350 mg/kg (T1-5.5). Benzene was not detected in either of the analyzed soil samples collected during the tank excavation. TPHd concentrations were reported as 230 mg/kg and 10 mg/kg for samples T1-5.5 and T2-4.4, respectively. TPH concentrations were reported as 9,800 mg/kg and 12 mg/kg for samples T1-5.5 and T2-4.4, respectively. According to NEI/GTEL notes, the chromatographic data fro TPH indicates the presence of material, which is heavier than diesel, in both samples.

The soil sample results were compared to the SFIA Ecological Protection Zone standards. None of the soil sample results were above the EPZ level for BTEX. The soil sample result from T1-5.5 is above the EPZ Tier 1 level for TPHg and TPHd.

Results are presented graphically on Figure 3, Soil Sample Locations and Results. The analytical results as well as the cleanup standards for EPZ Tier 1 are presented in Table 2 as a comparison. Copies of the laboratory reports are attached as Appendix C.

5.2 Tankpit Water Sample Analytical Results

TPHg and benzene were detected in the water sample collected from the floor of the tankpit in concentrations of 1,100 µg/l and 4.3 µg/l, respectively. The sample analytical results were above the EPZ Tier 1 levels for TPHg, and below the EPZ levels for BTEX. The analytical results as well as the cleanup standards for EPZ Tier 1 are presented in Table 2 as a comparison. Copies of the laboratory reports are attached as Appendix C.

5.3 Stockpile Soil Analytical Results

The soil samples collected from the stockpile had concentrations of TPHg ranging from 55 mg/kg to 510 mg/kg, and concentrations of TPHd ranging from 62 mg/kg to 1,400 mg/kg. The concentrations of benzene in the soil samples collected from the stockpile were at or below the analytical method's detection limit.

The stockpile soil samples were also analyzed for total lead with results ranging from 51 to 81 mg/kg. Stockpile soil sample locations are presented graphically on Figure 3. Analytical results for the soil samples are summarized in Table 3. Copies of the laboratory reports and chain-of-custody forms are included in Appendix C.

6.0 SUMMARY

The results of the field activities at the Mariner Square Associates site and laboratory analyses of soil and ground water samples collected during this phase of investigation are summarized below:

- Soil type in the tank excavation sidewalls was noted to be fill consisting of silty sand to sand to an approximate depth of 6 feet bgs, the total depth of the excavation. These materials appear similar to the soils encountered during previous investigations.

- Two single-walled steel USTs (one 500-gallon tank and one approximately 300 gallon tank) were over-excavated and removed on August 6, 1997. Both tanks had observable leaks, holes or cracks. The tanks were hauled under manifest to Erickson for destruction.

- On August 6, 1997, HETI personnel collected two grab soil samples from the tank pit sidewalls and one grab ground water sample in the tank pit bottom for laboratory analysis following excavation and removal of the tanks from the site.

- Soil samples were collected approximately five feet bgs and above the ground water in the fill. The maximum TPHg concentration in the soil samples collected from the tank pit sidewalls were 350 mg/kg from tank T1. Benzene concentrations in the soil samples collected were at or below the method's detection limits.

- HETI personnel collected four soil samples that were later composited, and one additional soil sample for laboratory analysis to meet soil disposal requirements. Concentrations of TPHg, and total lead were detected in the samples above the indicated laboratory method detection limit. The concentrations of benzene in the soil samples collected from the stockpile were at or below the analytical method's detection limit.

- Analytical results of the soil samples collected from the tank pit T1 were above EPZ Tier 1 levels for TPHg and TPHd. Analytical results of soils samples from T2 were below the EPZ Tier 1 levels, and below the method detection limit for BTEX.

- Analytical results of the ground water samples collected in the tank pit t1 were below EPZ Tier 1 levels except for TPHg and TPHd. Ground water monitoring and sampling results are covered in a separate quarterly monitoring report.

7.0 RECOMMENDATIONS

The evaluation of the tank excavation and removal indicates that a portion of the hydrocarbons in the soil which may have come from UST operations were removed and that additional impact to ground water at the site is limited.

Additional potential sources, e.g. bulk terminal piping, have not been removed. These potential sources are planned for removal per the ACHCSA request prior to construction of the proposed hotel at the site. Additional hydrocarbon-impacted soil excavation may be needed under the former bulk terminal prior to development.

HETI recommends soil sampling during the building excavations and pipe removal. As discussed in the October 16, 1997 meeting with ACHCSA representatives, HETI recommends an additional three quarters of monitoring and sampling to evaluate ground water trends at the site.

After evaluation of remaining hydrocarbon-impacted soil and quarterly sampling results, a Request for Case Closure Report and Workplan to Destroy Wells will be sent for approval to the ACHCSA and RWQCB. After approval of the Request for Closure, permit applications for well destruction will be submitted to the Alameda County Public Works Agency. Once the permit applications are approved, all existing monitoring wells will be destroyed and a final report will be prepared documenting the well destruction.

8.0 CERTIFICATION

This report was prepared under the supervision of a registered professional geologist. All statements, conclusions and recommendations are based solely upon field observations and analytical analyses performed by a state-certified laboratory related to work performed by Hydro-Environmental Technologies, Inc.

It is possible that variations in soil or ground water conditions exist beyond the points explored in this investigation. Also, site conditions are subject to change at some time in the future due to variations in rainfall, temperature, regional water usage, or other factors.

The service performed by Hydro-Environmental Technologies, Inc. has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

Hydro-Environmental Technologies, Inc. includes in this report chemical analytical data from a state-certified laboratory. These analyses are performed according to procedures suggested by the U.S. EPA and the State of California. Hydro-Environmental Technologies, Inc. is not responsible for laboratory errors in procedure or result reporting.

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

Prepared by:

REGISTERED GEOLOGIST
GARY PISCHKE
No. 1501
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Gary Pischke, C.E.G.
Senior Geologist

Reviewed by:

REGISTERED PROFESSIONAL ENGINEER
MICHAEL J ZIMMERMAN
NO CH5183
EXP 6/30/2001
CHEMICAL
STATE OF CALIFORNIA

Mike Zimmerman, P.E.
Western Regional Manager

TABLES

TABLE 1

TANK CONDITIONS UPON REMOVAL

Mariner Square & Associates
2415 Mariner Square Drive
Alameda, California

Tank No.	Dimension	Contents	Observations
T 1	3 1/2' diameter x 3' length 250 to 300 gallon	Bunker Oil (1) Gasoline	- leaking observed - multiple holes - steel, corroded
T 2	3 1/2' diameter x 6' length 500 gallon tank	Bunker Oil (1) Gasoline (1)	- leaking observed - multiple holes - steel, corroded on bottom

Notes:
(1) The tank's original contents are unknown.

TABLE 2

TANK PIT SOIL AND WATER SAMPLE ANALYTICAL RESULTS

Mariner Square & Associates
2415 Mariner Square Drive
Alameda, CA
Soil Data

Sample No.	Sample Depth (feet)	Sample Date	TPHg (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	TPHd (mg/kg)	TPH (mg/kg)	MTBE (mg/kg)
T1-5.5 (1)	5.5	8/6/97	350	<0.05	<0.10	0.3	0.71	230	8,900	<1.0
T2-4.5 (1)	4.5	8/6/97	0.550	<.001	<.002	<.002	<.004	10	12	<.010
SFIA Tier 0 Levels			<10	<.005	<.005	<.005	<.005	50	50	
SFIA EPZ Tier 1 Levels			16	2.7	2,700	5	990	68	SSV	TBD

Sample No.	Sample Depth (feet)	Sampling Date	Cd (mg/kg)	Cr (mg/kg)	Pb (mg/kg)	Ni (mg/kg)	Zn (mg/kg)
T1-5.5	5.5	8/6/97	<2.0	22.0	3.50	18.0	19.0
T2-4.5	4.5	8/6/97	<2.0	40.0	5.10	33.0	190.0
USGS PP 1270 Soil levels			Not listed	100-700	30-300	30-200	120-510

Results for Method 8260 for tanks T1 and T2 soil samples indicate less than the reporting limit.

TABLE 2

TANK PIT SOIL AND WATER SAMPLE ANALYTICAL RESULTS

Mariner Square & Associates
2415 Mariner Square Drive
Alameda, CA

Ground water Data

Sample No.	Sample Depth (feet)	Sample Date	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	TPHd (µg/L)
T1-D (1)	5.0	8/6/97						9800
T1-G	5.0	8/6/97	1,100	4.3	9	12	84	
SFIA Tier 0 Levels			50	1	1,000	680	1,750	
SFIA EPZ Tier 1 Levels			100	71	5,000	43	2,200	100

Sample No.	Sample Depth (feet)	Sampling Date	Cd (µg/L)	Cr (µg/L)	Pb (µg/L)	Ni (µg/L)	Zn (µg/L)	TPH (µg/L)
T1-O Aqueous	5.0	8/6/97	<20	280.0	3000.00	330.0	2300.0	29000

Results for Method 8260 for tanks T1 ground water samples indicate less than the reporting limit.

TABLE 2

TANK PIT SOIL AND WATER SAMPLE ANALYTICAL RESULTS

Mariner Square & Associates
2415 Mariner Square Drive
Alameda, CA

Notes:

Sample No. :	Sample designation.
Sample Depth :	Depth sample was collected.
Sample Date :	Date sample was collected.
TPHg :	Total petroleum hydrocarbons as gasoline using California LUFT Method.
BTEX :	Benzene, Toluene, Ethylbenzene and total Xylenes using California LUFT Method.
TPHd :	Total petroleum hydrocarbons as diesel using EPA Method 8015 (modified).
TPH:	Total petroleum hydrocarbons using EPA Method 418.1(modified).
µg/kg :	Micrograms per kilogram.
mg/kg :	Milograms per kilogram.
--- :	Not analyzed.
µg/L :	Micrograms per liter.
Tier 0 Levels	RWQCB Order No. 95-136 clean up level to "nondetect Levels".
SFIA EPZ Tier 1 Levels	RWQCB Order No. 95-136 clean up level for Ecological Protection Zone Tier 1 Standards
TBD :	To be determined on a site specific basis.
SSV :	Site-specific value to be determined by discharger for Executive Officer approval.
Metals :	Metals using EPA Methods 7471, 7740, 6010 and 7060.
(1):	Chromatographic data indicates the presence of material, which is heavier than diesel fuel.

TABLE 3

STOCKPILE SOIL SAMPLE ANALYTICAL RESULTS

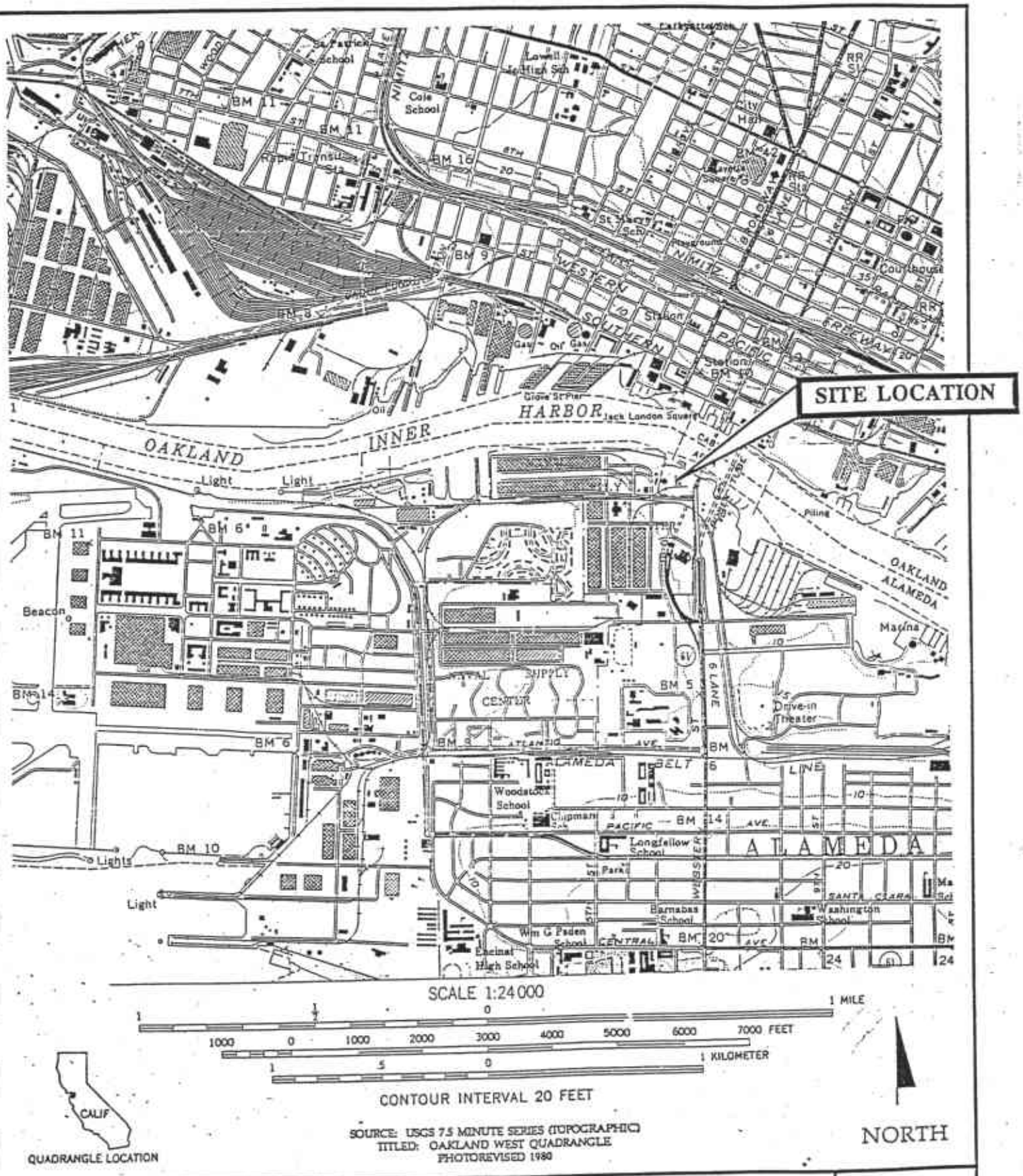
Mariner Square & Associates
2415 Mariner Square Drive
Alameda, CA

Sample No.	Sample Date	TPHg (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	TPHd (mg/kg)	MTBE (mg/kg)	TOTAL Pb (mg/kg)
S1-4	8/7/97	510	<0.05	<0.10	<0.10	1.2	1400	<1.0	81
S5	8/7/97	55	<0.05	<0.10	<0.10	<0.20	62	<1.0	51

Notes:

Sample No. : Sample designation.
Sample Date : Date sample was collected.
TPHg : Total petroleum hydrocarbons as gasoline using EPA Method 8015 (modified).
TPHd : Total petroleum hydrocarbons as diesel using EPA Method 8015 (modified).
MTBE : Methyl Tert-butyl Ether using EPA Method 8020
BTEX : Benzene, Toluene, Ethylbenzene and total Xylenes using EPA Method 8020 (modified).
TOTAL Pb : Total lead using EPA Method 7420.
µg/kg: Micrograms per kilogram.
--- : Not analyzed.

FIGURES



SOURCE: USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)
TITLED: OAKLAND WEST QUADRANGLE
PHOTOREVISED 1980

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

SITE LOCATION MAP

Mariner Square
2415 Mariner Square Drive
Alameda, California

Figure 1

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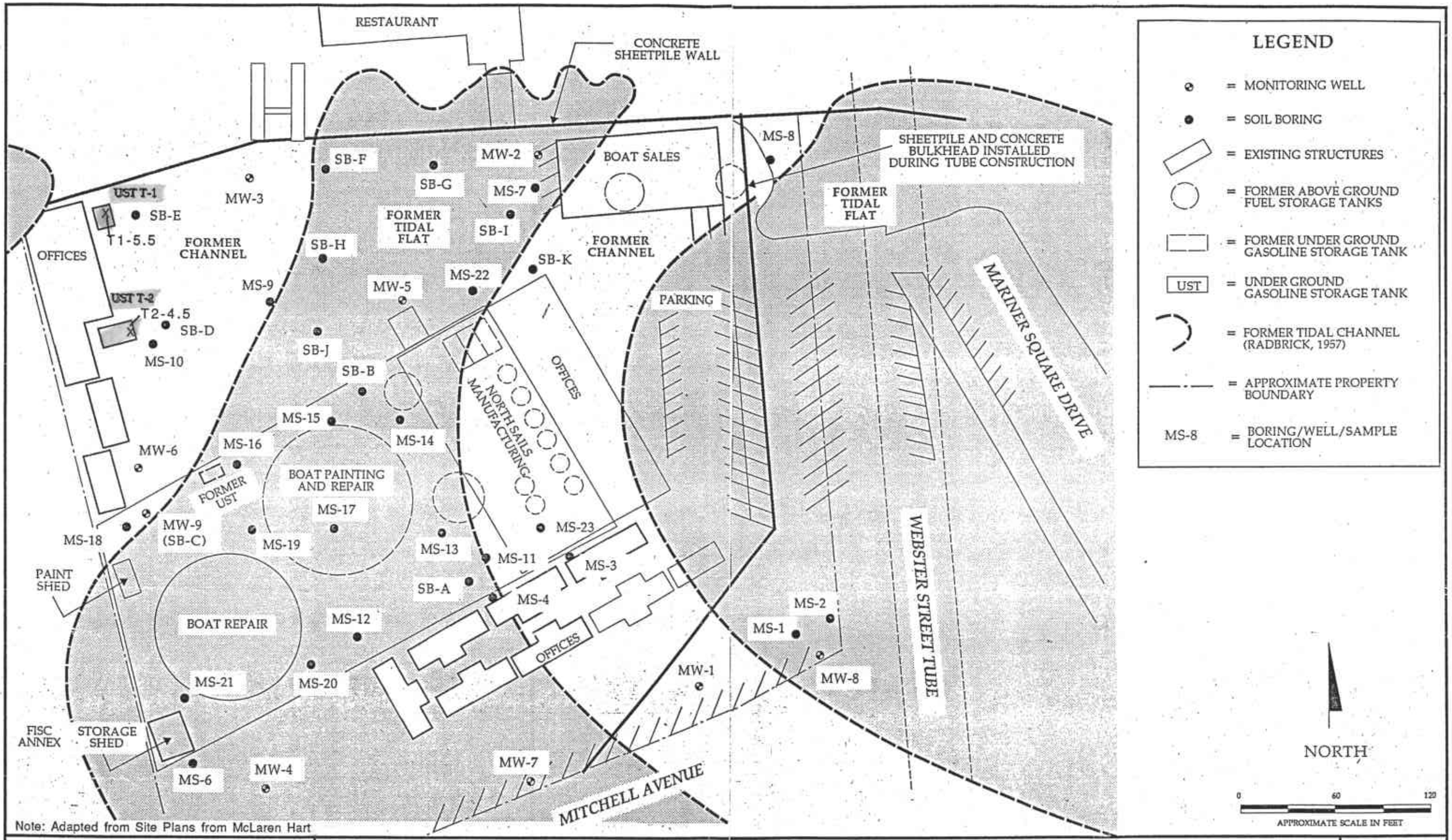

Note: Adapted from Site Plans from McLaren Hart

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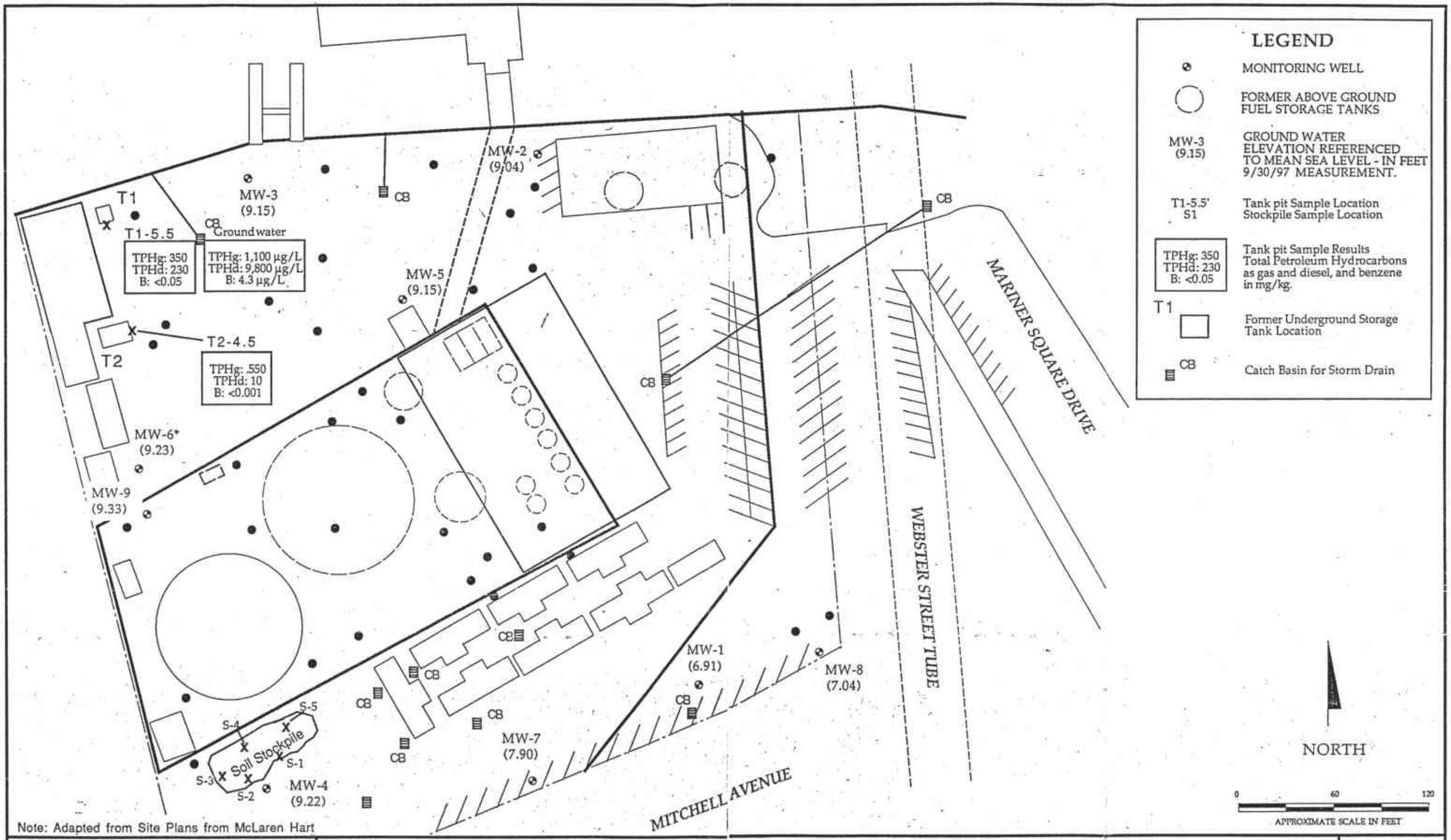
TECHN◆LOGIES, INC.

SITE PLAN

Mariner Square
2415 Mariner Square Drive
Alameda, California

Figure
2

7-285.1 10/97



Note: Adapted from Site Plans from McLaren Hart

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

SOIL SAMPLE LOCATIONS AND RESULTS

Mariner Square
2415 Mariner Square Drive
Alameda, California

Figure 3

7-285.2 10/97

APPENDIX A

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
ENVIRONMENTAL PROTECTION DIVISION
1131 HARBOR BAY PARKWAY, RM 250
ALAMEDA, CA 94502-6577
PHONE # 510/567-6700
FAX # 510/337-9335

Project Specialist

Resubmit 8/4/97
Note changes/additions in RED

ACCEPTED
Underground Storage Tank Closure Permit Application
Alameda County Division of Hazardous Materials
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

These closure/removal plans have been received and found to be acceptable and essentially meet the requirements of State and Local Health Laws. Changes to your closure plans indicated by this Department are to assure compliance with State and local laws. The project proposed herein is now released for issuance of any required building permits for construction/destruction.
One copy of the accepted plans must be on the job and available to all contractors and craftsmen involved with the removal.
Any subsequent alterations of these plans and specifications must be submitted to this Department and to the Fire Department for approval prior to their implementation. Department to determine if such changes meet the requirements of State and local laws.
Notify this Department at least 72 hours prior to the following required inspections:

___ Removal of Tank(s) and Piping
___ Sampling
___ Final Inspection

Issuance of a) permit to operate, b) permanent site closure, is dependent on compliance with accepted plans and all applicable laws and regulations.

"THERE IS A FINANCIAL PENALTY FOR NOT OBTAINING THESE INSPECTIONS."

Contact Specialist:

Alameda Fire Dept. Preliminary Approval

FINAL APPROVAL AN INSPECTION IS REQUIRED

BY _____ DATE 8-5-97

UNDERGROUND TANK CLOSURE PLAN

* * * Complete according to attached instructions * * *

1. Name of Business Mariner Square Associates

   Business Owner or Contact Person (PRINT) John Beery

2. Site Address 2415 Mariner Square Drive

   City Alameda Zip 94501 Phone 521-2727

3. Mailing Address 2900 Main St, Suite 100

   City Alameda Zip 94501 Phone 521-2727

4. Property Owner Same as above.

   Business Name (if applicable) _____

   Address _____

   City, State _____ Zip _____

5. Generator name under which tank will be manifested

   Mariner Square Associates

   EPA ID# under which tank will be manifested CAC001850560

JOB SITE COPY

c) Tank and Piping Transporter

Name Erickson EPA I.D. No. CAD009466392

Hauler License No. 0019 License Exp. Date 98

Address 255 Parr Blvd

City Richmond State Calif Zip

d) Tank and Piping Disposal Site

Name Erickson EPA I.D. No. CAD009466392

Address 255 Parr Bl

City Richmond State Cal. Zip 94801

11. Sample Collector

Name Gary Pischke

Company Hydro Environmental Tech.

Address 2394

City State Zip Phone

12. Laboratory

Name NEI/GTEL

Address 1170 Burnett Ave Ste H

City Concord State Cal. Zip 94520

State Certification No. 2147

13. Have tanks or pipes leaked in the past? Yes[ ] No[ ] Unknown[X]

If yes, describe.

Excavated/Stockpiled Soil	
Stockpiled Soil Volume (estimated)	**Sampling Plan**
< 50 cu. yds	1 sample per 25 yards for disposal

Stockpiled soil must be placed on bermed plastic and must be completely covered by plastic sheeting.

Will the excavated soil be returned to the excavation immediately after tank removal? [ ] yes [ ] no [X] unknown

If yes, explain reasoning _____

If unknown at this point in time, please be aware that excavated soil may not be returned to the excavation without prior approval from Alameda County. This means that the contractor, consultant, or responsible party must communicate with the Specialist IN ADVANCE of backfilling operations.

16. Chemical methods and associated detection limits to be used for analyzing samples:
The Tri-Regional Board recommended minimum verification analyses and practical quantitation reporting limits should be followed.
See attached Table 2.

17. Submit Site Health and Safety Plan (See Instructions) ✓

Contaminant Sought	EPA or Other Sample Preparation Method Number	EPA or Other Analysis Method Number	Method Detection Limit
Tank (1) diesel unknown	TPHd 5030/3550 TPH g BTEX	5030/3550 8020, 8260	Soil < 1.0 ppm < 50.0 ppb GW
(2) Bunker C diesel unknown	5030/3550	5030/3550 8020, 8260	Soil < 1.0 ppm < 50 ppb GW

ENVIRONMENTAL PROTECTION

97 JUL 30 PM 2:14

SITE SAFETY PLAN
FOR

CLIENT: Mariner Square Associates

SITE: Alameda, CA Job No: 7-285.2

ADDRESS: 2415 Mariner Square Drive, Alameda California

SCOPE OF WORK (Check all that apply):

Soil Excavation.....	☒	Soil Stockpile Sampling.....	☒
Drilling.....	☐	Monitoring Well Sampling.....	☐
Testing		System Installation	
Aquifer.....	☐	Ground Water.....	☐
Vapor Extraction.....	☐	Vapor Extraction.....	☐
Air Sparging.....	☐	Air Sparging.....	☐
Tank Removal.....	☒		

PURPOSE AND SCOPE

This Site Safety Plan (SSP) establishes the basic safety guidelines and requirements for the above scope(s) of work at the above site (see Site Location Map - Figure 1). This SSP addresses the expected potential hazards that may be encountered during this project.

The provisions set-forth in this SSP will apply to Hydro-Environmental Technologies, Inc. (HETI) employees and any subcontractors working for HETI at the job site. All personnel working for HETI, including subcontractors, at the job site must read this SSP, and sign the attached Compliance Agreement (Appendix A) before entering the work area.

I. SITE HISTORY / WORKPLAN

JOB SITE COPY

Site History:

The subject site is located in Alameda, California in an area of commercial, light manufacturing and military usage immediately adjacent to and east of the Fleet Industrial Supply Center, Alameda Annex and west of the Oakland Inner Harbor. The site was reclaimed from marshlands in the late 1920's. Available maps indicate tidal channels present in the former marshland now occupied by the site. In the past, the site was used for bulk fuel storage and distribution of refined oils, motor lubricants and fuel oils for use by ships until 1972.

Currently, the site is occupied by railroad boxcars which have been converted to offices, a restaurant and several buildings housing companies catering to the marine industry such as boat sales, storage, repairs, painting and sail manufacturing.

The local geology consists primarily of clayey to silty sand (hydraulic fill) from approximately 7 to 17 feet below ground surface (bgs). Below the hydraulic fill, which was mechanically placed prior to the development of this portion of Alameda, the sediment consists of olive-grey sandy to silty clay with sand lenses, shells and organic matter from approximately 13 to 30 feet bgs (bay mud). Regional ground water flow is predominantly westerly, towards San Francisco Bay.

Proposed Scope of Work

HETI proposes to conduct the work in activities which will fulfill the San SFRWQCB and the Alameda County Health Care Services Agency (ACHCSA) requirements as follows:

Task 2: Field Work Coordination

The extent of the tank pit excavations will be based upon maps available in the approved workplan. The excavation locations will be marked for an underground service alert notification. The tank pit excavation contractor will be contacted for anticipated schedule of work and health and safety considerations.

Task 3: Tankpit Dewatering

After tank removal, dewatering will be accomplished by pumping from a temporary sump placed at the bottom of the tank excavation. Extracted ground water will be directed to a portable holding tank. If the amount of ground water extracted from the pit is less than 20,000 gallons or if concentrations of other restricted chemical constituents that cannot be removed by pre-treatment are exceeded, the water will be disposed of off-site at a recycling facility.

Task 4: Excavation Oversight

A field engineer/geologist will coordinate with the excavation contractor for utility location, soil sampling, and amount and kind of materials removed. The excavation area and soil will be screened for volatile compounds using an organic vapor meter (OVM). The OVM will be used as an initial screen to evaluate the extent of hydrocarbons in soil remaining in the excavation, and the potential for impacts on health and safety.

Following tank removal, the excavation will be filled and compacted with clean soil from on-site and imported fill material. Prior to backfilling the tank excavation, if needed, a ground water treatment material using oxygen releasing compound will be installed as described below.

Task 5: Soil and Water Sampling

Side wall soil samples will be collected for laboratory analysis from the excavator bucket using brass tubes that are hammered into the soil. The ground water elevation is expected to be approximately three to six feet bgs. One soil sample will be collected from each end of the tanks and from side wall locations where significant hydrocarbon concentrations had been observed during excavation. These samples will be sealed with Teflon tape, capped and analyzed on-site by a State of California certified mobile laboratory under chain of custody.

If generated, contaminated soil will be characterized according to the disposal company's requirements, expected to be one composite sample for every 100 cubic yards. Once the analytical results are received, soil will be transported off-site for disposal by a licensed waste hauler.

A ground water grab sample will be collected from the bottom of the excavation after dewatering the tank excavation and allowing it to recharge.

Task 6: Ground Water Treatment Installation

Ground water pumped during tank excavation is anticipated to contain dissolved hydrocarbons. Following tank pit backfilling, there will be an opportunity to treat traces of dissolved hydrocarbons that may remain.

A mixture of soil and oxygen releasing compound (ORC) will be placed in the tank excavation. The ORC will enhance bioremediation of any hydrocarbons remaining within the tankpit. Backfilling will be completed with imported soil.

Task 7: Laboratory Analyses

Soil and water samples collected from the tank excavation will be analyzed for total petroleum hydrocarbons as gasoline (TPHg) and total petroleum hydrocarbons as diesel (TPHd) by EPA method 8015 (modified), total recoverable petroleum hydrocarbons (TRPH) using EPA method 418.1R and benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA method 8020 using a California state-certified laboratory.

Task 8: Summary Report

HETI will present the results of this field work in a comprehensive report. The report will describe the techniques used for assessment, details of the excavation, location of sampling points, analytical results and interpretation of the results in terms of potential risk and need for further remediation, if any.

II. KEY SAFETY PERSONNEL AND RESPONSIBILITIES

All personnel working for HETI at the job site are responsible for project safety. Specific individual responsibilities are listed below:

Project Manager: Gary Pischke

The Project Manager is responsible for preparation of this SSP. He/she has the authority to provide for the auditing of compliance with the provisions of this SSP, suspend or modify work practices, and to report to the Regional Manager any individuals whose conduct does not meet the provisions presented in this SSP. The Project Manager can be reached at (510) 521-2684.

Site Safety Officer: Gary Pischke

The Site Safety Officer (SSO) is responsible for the dissemination of the information contained in this SSP to all HETI personnel working at the job site, and to the responsible representative(s) of each subcontractor firm working for HETI at the job site.

The SSO is responsible for ensuring the following items are adequately addressed:

- Inspection of tools, drilling equipment and safety equipment
- Safety supplies & equipment inventory
- Site-specific training/hazard communication
- Accident/incident reporting
- Decontamination/contamination reduction procedures

The Site Safety Officer shall be responsible to take necessary steps to ensure that employees are protected from physical hazards, which could include;

- Falling objects such as tools or equipment
- Falls from elevations
- Tripping over hoses, pipes, tools, or equipment
- Slipping on wet or oily surfaces
- Insufficient or faulty protective equipment
- Insufficient or faulty operations, equipment, or tools
- Noise

The SSO has the authority to suspend work anytime he/she determines the safety provisions set-forth in this SSP are inadequate to ensure worker safety. The SSO or Project Manager must be present during all phases of the site work.

SSO Pager Number: (888)728-9071

III. JOB HAZARD ANALYSIS / SITE CHARACTERIZATION

CHEMICAL HAZARDS:

The hazardous chemicals which may be encountered at the site are petroleum hydrocarbons, including benzene, toluene, ethylbenzene, and xylene. A summary of relevant chemical, physical and toxicological properties for each chemical hazard associated with aircraft fuel is discussed below:

Benzene:

Colorless liquid with an aromatic odor.

Vapor pressure	75 mm Hg @ 68 °F
Flash point	12 °F
Hazard classification	flammable liquid
Permissable exposure limit (PEL)	none

Benzene is recognized by the National Institute of Occupational Safety and Health (NIOSH) as a potential human carcinogen.

Benzene can enter the body through all four routes of exposure: (1) inhalation; (2) adsorption; (3) ingestion; and (4) injection. Target organs are the blood, central nervous system, skin, bone marrow, eyes, and respiratory system. Acute exposure effects include irritation of the eyes, nose, and respiratory system as well as headache, nausea, staggered gait, depression, and abdominal pain. The chronic effect of over-exposure is the potential for cancer.

Toluene:

Colorless liquid with an aromatic odor.

Vapor pressure	22 mm Hg @ 68 °F
Flash point	40 °F
Hazard classification	flammable liquid
Permissable exposure limit (PEL)	50 ppm

Toluene can enter the body through all four routes of exposure: (1) inhalation; (2) adsorption; (3) ingestion; and (4) injection. Target organs are the central nervous system, liver, kidneys, and skin. Acute exposure effects include fatigue, dizziness, headache, euphoria, dilated pupils, paralysis.

Ethylbenzene:

Colorless liquid with an aromatic odor.

Vapor pressure	7.1 mm Hg @ 68 °F
Flash point	55 °F
Hazard classification	flammable liquid
Permissable exposure limit (PEL)	100 ppm

Ethylbenzene can enter the body through all four routes of exposure: (1) inhalation; (2) adsorption; (3) ingestion; and (4) injection. Target organs are the eyes, upper respiratory system, skin and central nervous system. Acute exposure effects include

irritation of the eyes and mucous membranes, nose, and respiratory system as well as headache, nausea, staggered gait, headache, dermatitis, narcosis and coma.

Xylenes:

Colorless liquid with an aromatic odor.

Vapor pressure	8 mm Hg @ 68 °F
Flash point	63° F to 81 °F
Hazard classification	flammable liquid
Permissable exposure limit (PEL)	100 ppm

Xylenes can enter the body through all four routes of exposure: (1) inhalation; (2) adsorption; (3) ingestion; and (4) injection. Target organs are the central nervous system, eyes, gastrointestinal tract, blood, liver, kidneys and skin. Acute exposure effects include dizziness, excitement, drowsiness, incoordination, abdominal pain, vomiting, and irritation of the eyes, nose and throat.

(PNA)Naphthalene

Colorless to brown solid with an odor of mothballs.

Vapor pressure	0.08 mm Hg @ 68 °F
Flash point	174°F
Hazard classification	Combustible solid
Permissable exposure limit (PEL)	500 ppm

Naphthalene can enter the body through all four routes of exposure: (1) inhalation; (2) adsorption; (3) ingestion; and (4) injection. Target organs are the central nervous system, eyes, blood, liver, skin, and kidneys. Acute exposure effects include dizziness, nausea, drowsiness, incoordination, abdominal pain, vomiting, and irritation of the eyes, headache and confusion.

The controls to limit potential for exposure to the above chemical hazards is addressed below:

- Inhalation of contaminants will be controlled by <u>respirators, when needed</u>

  _____

  _____

  _____

- Ingestion of contaminants will be controlled by prohibiting eating, drinking, smoking, and chewing in the work area. In addition, workers shall wash their hands and face before engaging in any of the above activities.

- Absorption of contaminants will be controlled by gloves and appropriate work cloths. _____

- Injection of contaminants will be controlled by wearing work gloves in the work area.

FIRE HAZARDS:

The potential for fire or explosion exists whenever flammable liquids or vapors are present above lower explosions limit (LEL) concentrations and sufficient oxygen is present to support combustion. These potential fire hazards are addressed below:

- The potential exists for petroleum hydrocarbon vapors to exceed LEL concentrations within the wells. However, well-gas generally does not contain sufficient oxygen to support combustion.

- Other potential fire hazards associated with the scope of work have been mitigated by: _____

- In addition to the above, the HETI truck shall have an operative fire extinguisher on board. All personnel shall be familiar with its location and use.

ELECTRICAL HAZARDS:

The potential electrical hazards expected on the job site are addressed below:

- o Expected voltages: _____
- o No electrical enclosures will be opened unless power is disconnected. Power will be verified disconnected with a meter prior to working on any circuits.

PHYSICAL HAZARDS:

The potential physical hazards expected at the job site are addressed below:

- o The potential for physical injury exists from the operation of moving equipment such as drill rigs, forklifts and trucks. Use of steel toe boots, hard hats, and safety glasses will be required when in the work area. Backup alarms are required on all trucks and forklifts.
- o The potential for physical injury exists from public traffic on the site. The site is ☒ is not ☐ open to public vehicles. Work will ☐ will not ☒ be performed in the public right-of-way. If work is performed in the public right-of-way, orange vests shall be worn, a traffic control plan is attached and an encroachment permit from the appropriate government agency shall be obtained.
- o The potential for burns from hot surfaces exist from the operation of an internal combustion engine ☐, an air compressor ☐. Compressed air piping is hot. All hot surfaces shall be allowed to cool and/or be handled with thick cloth work gloves.
- o The potential for noise hazards exist at the site from the operation of _____. It is not expected that noise levels will exceed the acceptable CAL-OSHA permissible exposure level of 90 dB. However, workers should be aware of the presence of these hazards and take steps to avoid them. Ear / noise protection, though not required, shall be available to all personnel within the job site in the event noise levels exceed worker comfort or protection levels.
- o Personnel should be cognizant of the fact that when protective equipment such as respirators, gloves, and/or protective clothing are worn, visibility, hearing, and manual dexterity are impaired.

HEAT STRESS:

The anticipated weather conditions will be: warm (70s) with afternoon breezes off the Bay.

The potential for heat stress is present if the temperature exceeds 80°F. Some signs and symptoms of heat stress are presented below:

- Heat rash may result from continuous exposure to heat or humid air.

- Heat cramps are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms include: muscle spasms, heavy sweating, dizziness, nausea and fainting.

- Heat exhaustion occurs from increased stress on various body organs including inadequate blood circulation due to cardiovascular insufficiency or dehydration. Signs and symptoms include: pale, cool, moist skin; heavy sweating; dizziness; nausea and fainting.

- Heat stroke is the most serious form of heat stress. Temperature regulation fails and the body temperature rises to critical levels. Immediate action must be taken to cool the body before serious injury and death occurs. Competent medical help must be obtained. Signs and symptoms are: red, hot, unusually dry skin; lack of or reduced perspiration; nausea; dizziness and confusion; strong, rapid pulse and coma.

Preventing heat stress is particularly important because once someone suffers from heat stroke or heat exhaustion, that person may be predisposed to additional heat injuries. To avoid heat stress the following steps shall be taken whenever the ambient temperature is over 80 °F:

1) Field personnel shall have a work/rest cycle of 2 hours work, 15 minutes rest.

2) The Site Safety Officer shall mandate work slowdowns as needed.

IV. JOB HAZARD SUMMARY

In summary, the expected potential hazards to personnel working in the work area are (Check all that apply):

(1) Over exposure to chemical contaminants	☐
(2) Physical injury from equipment being operated at job site	☒
(3) Public traffic	☒
(4) Hot surfaces	☒
(5) Heat stress	☐
(6) Fire	☐
(7) Electrical shock or Power poles	☒
(8) Other	☐

As described in Section III - Job Hazard Analysis, these potential hazards have been mitigated for the protection of both the worker health and safety. The proposed work does not appear to present any potential health risk to workers, the surrounding community, or the environment.

V. EXPOSURE MONITORING PLAN

Periodic monitoring for organic vapors is ☐ is not ☑ required. The Site Safety Officer shall monitor the ambient air in the work area with an organic vapor photoionization meter (Thermo Environmental Model 580B OVM, or equivalent) should their presence be detected by odor. If the meter indicates petroleum hydrocarbon concentrations in the area exceed 300 ppm, the Site Safety Officer shall require personnel in the work area to wear respirators with organic vapor cartridges (MSA 464046, or equivalent).

The manufacturer's calibration procedures for the Model 580B OVM are located within the instrument case. Field calibration shall be performed daily during use.

All personnel working for HETI at the job site shall be monitored for heat stress. Because workers at the job site are expected to be wearing permeable clothing (e.g. standard cotton or synthetic work clothes), monitoring for heat stress will consist of personnel constantly observing each other for any of the heat stress symptoms discussed in Section III.

Field personnel shall be cautioned to inform each other of non-visual effects of the presence of toxins, such as: headaches, dizziness, nausea, blurred vision, cramps, irritation of eyes, skin, or respiratory tract, changes in complexion or skin discoloration, changes in apparent motor coordination, changes in personality or demeanor, excessive salivation or changes in pupillary response or changes in speech ability or pattern.

VI. PERSONAL PROTECTIVE EQUIPMENT

Level D personal protection equipment is expected to be the highest protective level required to complete the field activities for this project. Modified Level C protection may also be required at the discretion of the Site Safety Officer. The following lists summarize the personal protective equipment that shall be available to all field personnel working in the work area:

Level D Protection (shall be worn at all times)

- Boots, steel toe
- Safety glasses, chemical splash goggles, or face shield
- Hard hat
- Work gloves required ☒ optional ☐
- Long leg trousers
- Long sleeves required ☒ optional ☐

Modified Level C Protection (available at all times.)

- Half-face or full face air purifying respirator with organic vapor cartridges to be used should organic vapor concentrations exceed 300 ppm as discussed in Section V of this SSP.
- Hearing protection

VII. SITE CONTROL

The exclusion, contamination reduction, and support zones are shown in Figure 2. these zones shall be marked with natural barriers, cones or tape as appropriate. Personnel without the proper training, personal protective equipment or who have not agreed to follow this SSP shall not be allowed into the exclusion or contamination reduction zones.

VIII. DECONTAMINATION MEASURES

Field personnel shall wash hands and face before entering a clean area. Additional decontamination measures are discussed under General Safe Work Practices (section IX).

IX. GENERAL SAFE WORK PRACTICES

The project operations shall be conducted with the following minimum safety requirements employed:

- Eating, drinking, and smoking shall be restricted to a designated support zone.
- All personnel shall wash hands and face before eating, drinking, or smoking.

X. SANITATION

The location of the nearest running water source and toilet is at office building

A portable potable water cooler or other source of drinking water shall be maintained on site.

XI. STANDARD OPERATING PROCEDURES

The following HETI protocols apply to this scope of work:

- Drilling, Well Construction and Sampling Protocols ☐
- Soil Vapor Extraction Protocol ☐
- Air sparging Protocol ☐

XII EMERGENCY RESPONSE PLAN

In the event of an accident resulting in physical injury, first aid will be administered and the injured worker will be transported to
Alameda Hospital

In the event of a fire or explosion, local fire or response agencies will be called by dialing 9-1-1. The Project Manager shall also be notified.

Emergency Telephone Numbers:

Fire and Police..... 911
Hospital ..... ( )911

Directions to Hospital: See Figure 3
Head out of site on Mariner Square Drive, take right on Mariner Square Loop
Follow Mariner Square Loop to Webster, continue on Webster to Central
Turn Left on Central, continue on Central to right merge with Encinal
Continue on Encinal to Willow, make right on Willow.
Hospital Emergency entrance will be on right on Willow, or turn right on Clinton to enter Emergency entrance.

A fire extinguisher, located in the HETI vehicle will be located on-site during all installation, testing and servicing activities.

Additional Contingency Telephone Numbers:

HETI..... (510) 521-2684
All cases where an accident has occurred will require filling out an incident / accident report and submitting it within 48 hours of the accident.

XIII. TRAINING REQUIREMENTS

All site personnel will be required to have completed the 40 hours of basic OSHA-SARA training for personnel assigned to hazardous waste sites in compliance with OSHA Standard 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response, and all are required to participate in the annual OSHA-SARA 8-hour refresher courses.

XIV. MEDICAL SURVEILLANCE PROGRAM

HETI personnel and subcontractors engaged in field operations shall be participants in their company Medical Surveillance program, and must be cleared by the examining physician(s) to wear respiratory protection devices and protective clothing for working with hazardous materials. The applicable requirements under California Administrative Code (CAC) Title 8, Section 5216, which is available at the HETI office for review, shall be observed. Project-specific medical surveillance is ☐ is not ☒ required.

XV. DOCUMENTATION

All personnel shall sign the compliance agreement (Appendix A).

Daily documentation shall be provided by a daily log, completed by the Site Safety Officer in his/her field notebook. The Site Safety Officer shall record the names of all personnel working for HETI and any site visitor(s). (S)he shall also record accidents, illness and other safety related matters. In the case of an accident, or injury, during field operations, (s)he will prepare and submit an Incident/Accident Report.

In case air monitoring is implemented, OVM readings (including times) shall be recorded in the daily log.

SSP Prepared by: Gary Pischke Date: 7/28/97

SSP Approved by: Gary Pischke Date: 7/28/97

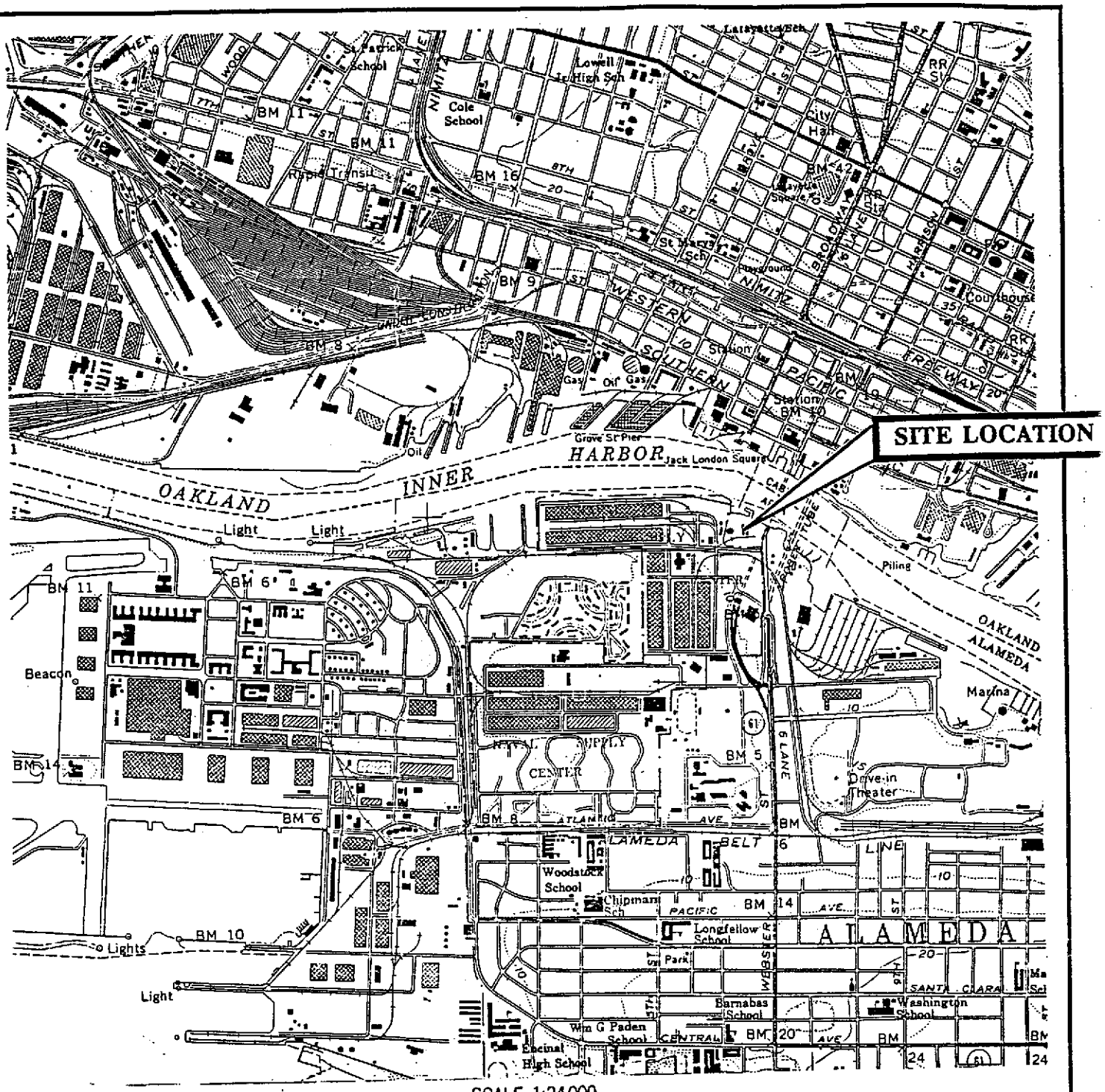
Project Manager

COMPLIANCE AGREEMENT

I have read and understand the Site Safety Plan.

I will comply with the minimum safety requirements set forth in this Site Safety Plan. I agree to notify the responsible employee of HETI should any unsafe acts be witnessed by me while I am on this site.

Print Name	Company	Signature	Date
Gary Pischke	HETI	Gary Pischke	8/6/97



SOURCE: USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)
TITLED: OAKLAND WEST QUADRANGLE
PHOTOREVISED 1980

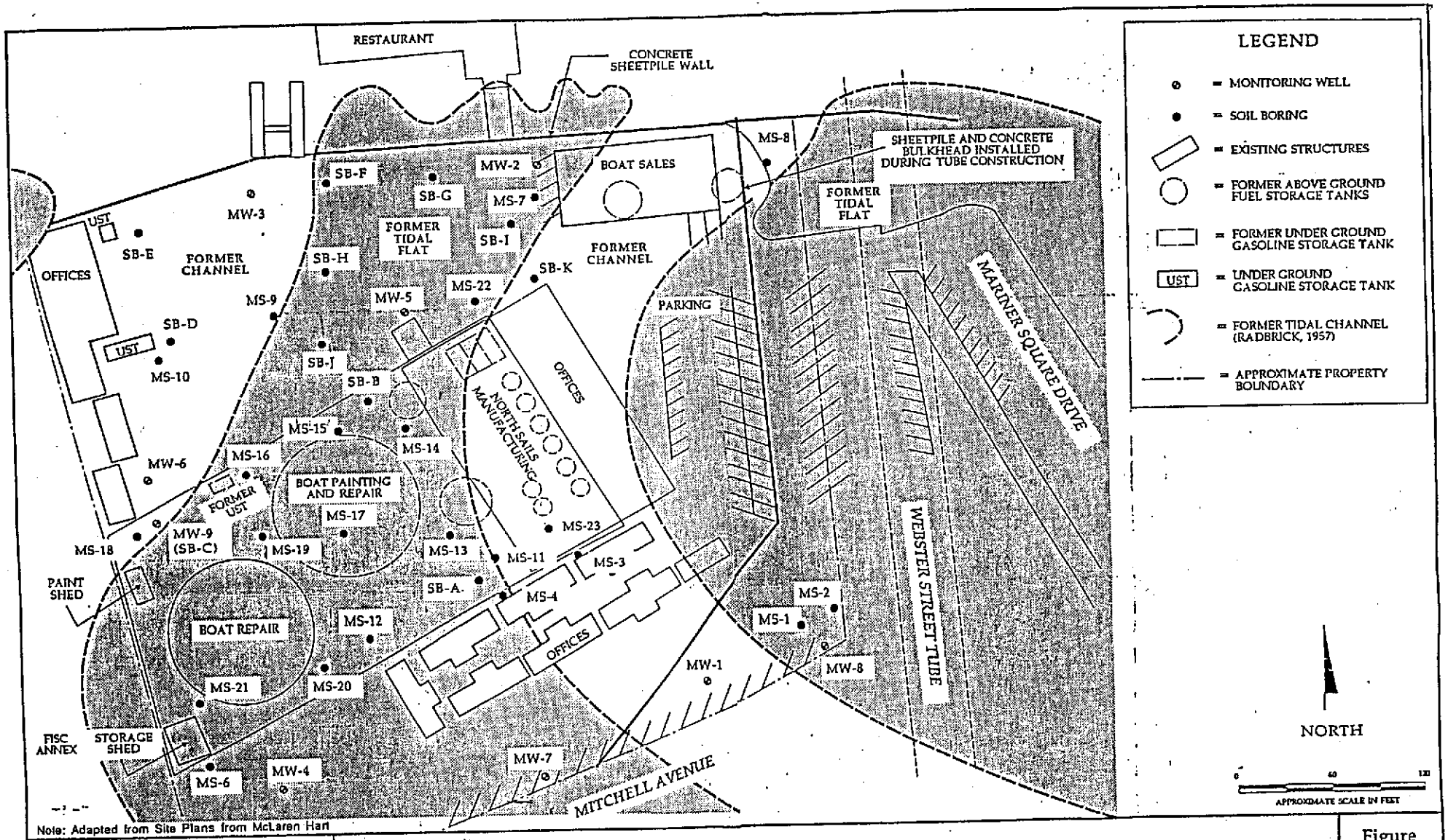
HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

SITE LOCATION MAP

Mariner Square
2415 Mariner Square Drive
Alameda, California

Figure 1

7-285 11/96



Note: Adapted from Site Plans from McLaren Hart

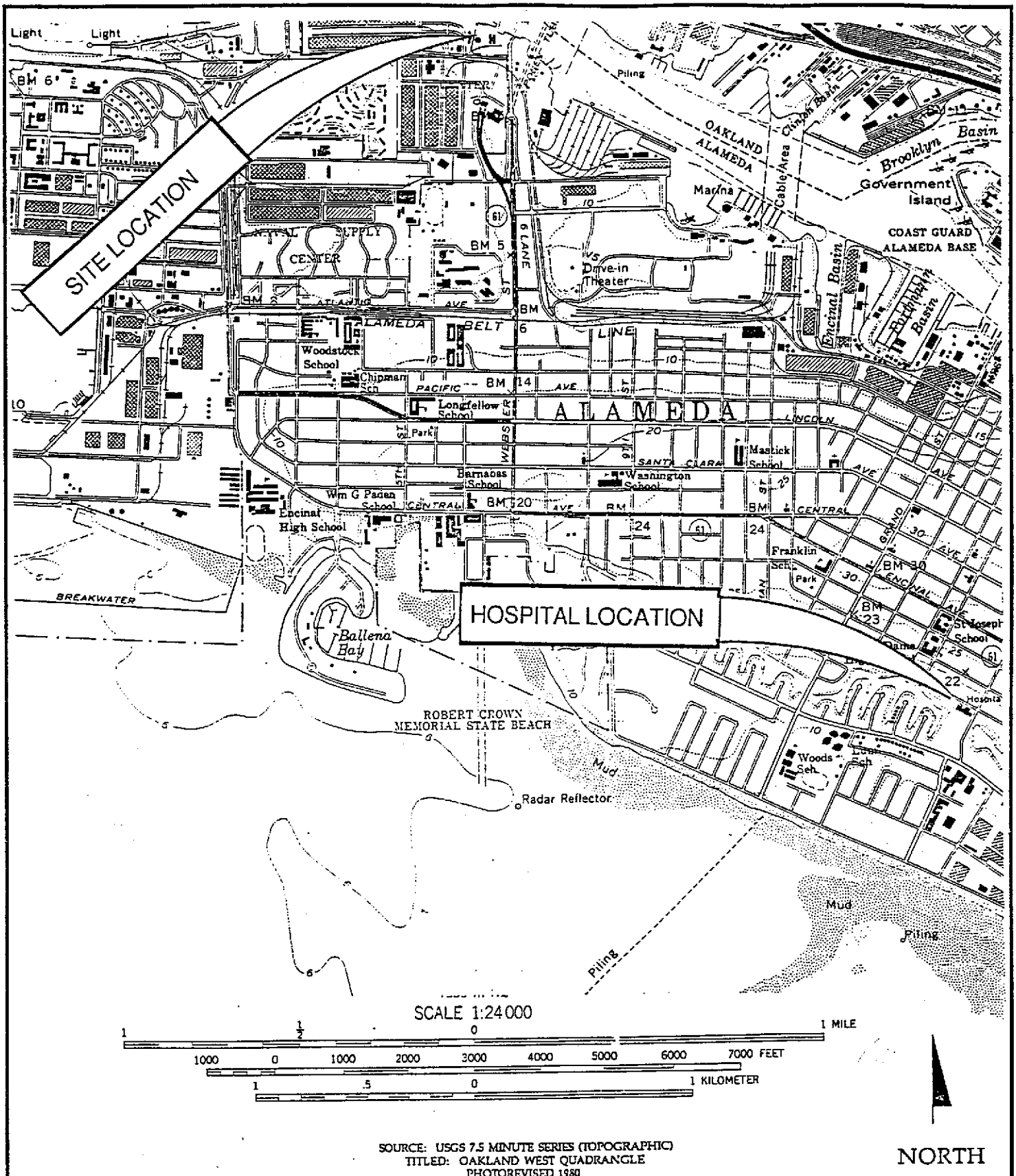
HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

SITE PLAN

Mariner Square
2415 Mariner Square Drive
Alameda, California

Figure 2

7-285.1 11/96



SOURCE: USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)
TITLED: OAKLAND WEST QUADRANGLE
PHOTOREVISED 1980

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

HOSPITAL LOCATION MAP

Mariner Square
2415 Mariner Square Drive
Alameda, California

Figure 3

7-285.2 7/97

APPENDIX B

State of California—Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-99)
Please print or type. *Form designed for use on elite (12-pitch) typewriter.*

See Instructions on back of page 6.

Department of Toxic Substances Control
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAC991159560 Manifest Document No. 00002 — 2. Page 1 of 1 — Information in the shaded areas is not required by Federal law.

GENERATOR

3. Generator's Name and Mailing Address
RICHARD BATZER CORP.
2900 MAIN ST
ALAMEDA, CA 94601
4. Generator's Phone (510) 521-2727

A. State Manifest Document Number: 96727615
B. State Generator's ID: CAC991159560
C. State Transporter's ID: 0513
D. Transporter's Phone: 510 634-4234
E. State Transporter's ID:
F. Transporter's Phone:
G. State Facility's ID: CAL000161741
H. Facility's Phone: 510-634-4234

5. Transporter 1 Company Name: ARTESIAN OIL RECOVERY CO.
6. US EPA ID Number: CAL000161741
7. Transporter 2 Company Name: —
8. US EPA ID Number:
9. Designated Facility Name and Site Address: ARTESIAN OIL RECOVERY CO. 2306 MAGNOLIA ST OAKLAND, CA 94607
10. US EPA ID Number: CAL000161741

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. WASTE OIL/MIXED OIL & WATER, NON RCRA HAZARDOUS WASTE, LIQUID, PG3	001	T	00400	G	State 221 / EPA/Other
b.					State / EPA/Other
c.					State / EPA/Other
d.					State / EPA/Other

J. Additional Descriptions for Materials Listed Above
WASTE OIL
WATER
TRACE FUEL OIL

K. Handling Codes for Wastes Listed Above
a. 01/14 b. c. d.

15. Special Handling Instructions and Additional Information
AVOID SKIN CONTACT
EMERG. # 510 639-1234 OR CAL OES 800 852-7550

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: Richard Campbell — Signature: [signature] — Month 08 Day 04 Year 97

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: DAVID MCCLOY (FOR ARTESIAN) — Signature: [signature] (FOR ACR) — Month 08 Day 04 Year 97

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: — Signature: — Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: — Signature: — Month Day Year

DO NOT WRITE BELOW THIS LINE.

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

96727615

DTSC 8022A (4/97)
EPA 8700—22

Yellow: GENERATOR RETAINS

white -env.health
yellow -facility
pink -files

ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH

Hazardous Materials Inspection Form

1131 Harbor Bay Pkwy
Alameda CA 94502
510/567-6700

II, III

Site ID # _____ Site Name Mariner Sq Today's Date 8/6/97

Site Address 2415 Mariner Sq Dr

City Alameda Zip 94 Phone _____

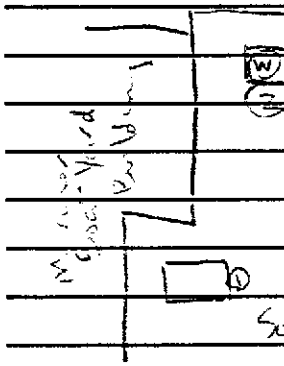
_____ MAX AMT stored > 500 lbs, 55 gal., 200 cft.?

Inspection Categories:

____ I. Haz. Mat/Waste GENERATOR/TRANSPORTER
____ II. Hazardous Materials Business Plan, Acutely Hazardous Materials
__x__ III. Underground Storage Tanks Removal

* Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)

Comments: Inner Harbor



(W) grab water sample from ~6.5' bgs

(1) soil sample collected from sidewall at ~ 4-5' bgs - stained and w/ strong HC odor - Analyze for TPHG, TPHD, BTEX, MTBE and Total Lead

(2) Soil sample collected ~ 6' bgs from south wall, where a concrete bulkhead was encountered, sand soil w/ mod HC odor. Analyze for TPHg, TPHd, TPHMO/TOG, and chlorinated hydrocarbons and Metals: Cd, Cr, Pb, Ni, Zn

(W) Analyze water sample for same constituents as soil from North pit (sample (2))

II, III

Contact Gary Picchiotti
Title Senior Geologist
Signature _____

Inspector Eva Chu 567-6762
Signature _____

white -env.health
yellow -facility
pink -files

ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH

Hazardous Materials Inspection Form

1131 Harbor Bay Pkwy
Alameda CA 94502
510/567-6700

II, III

Site ID # _____ Site Name Mariner Square Today's Date 8/6/97

Site Address 2415 Mariner Sq Dr

City Alameda Zip 94501 Phone _____

_____ MAX AMT stored > 500 lbs, 55 gal., 200 cft.?

Inspection Categories:

____ I. Haz. Mat/Waste GENERATOR/TRANSPORTER
____ II. Hazardous Materials Business Plan, Acutely Hazardous Materials
_X_ III. Underground Storage Tanks Removal

* Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)

Comments:

2 USTs on site for removal Today.
North UST is ~300gal. Holes noted on bottom of tank. Sludge leaking out. The pit did NOT appear to contaminated - i.e. no obvious staining, noted. GW @ ~6.5' bgs. UST was known stored gasoline / other fuel oil.

South tank ~ 500g, was severely corroded with several holes (~2" dia. Pit/soil stained but strong odor when tank was removed, GW had filled UST so tank was placed on stockpiled soil for it to drain. Stockpiled soil will be characterized for disposal at approved landfill. The pit was excavated to the extent possible before a soil sample was collected from the east wall.

A grab water sample was collected from the north pit

II, III

Contact Tom Pischke
Title Senior Geologist
Signature Tom Pischke

Inspector Dan Chu
Signature Dan Chu

APPENDIX C

7-285.2
✓needs revision
10/23/97
revised

NEI/GTEL
ENVIRONMENTAL LABORATORIES, INC.

Midwest Region
4211 May Avenue
Wichita, KS 67209
(316) 945-2624
(800) 633-7936
(316) 945-0506 (FAX)

August 29, 1997

Gary Pischke
Hydro-Environmental Technologies, Inc.
2394 Mariner Square Dr.
Suite 2
Alameda, CA 94501

RE: NEI/GTEL Client ID: HYE01HYE01
Login Number: W7080152
Project ID (number): 7-285.2
Project ID (name): MARINER SQUARE TANK REMOVAL

Dear Gary Pischke:

Enclosed please find the analytical results for the samples received by NEI/GTEL Environmental Laboratories, Inc. on 08/08/97.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by NEI/GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes. This report is to be reproduced only in full.

NEI/GTEL is certified by the California Department of Health Service under Certification Number 2147.

If you have any questions regarding this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
NEI/GTEL Environmental Laboratories, Inc.

Terry R. Loucks
Laboratory Director

ANALYTICAL RESULTS
Volatile Organics

NEI/GTEL Client ID: HYE01HYE01
Login Number: W7080152
Project ID (number): 7-285.2
Project ID (name): MARINER SQUARE TANK REMOVAL

Method: EPA 8260A
Matrix: Low Soil

NEI/GTEL Sample Number	W7080152-04	W7080152-05	--	--
Client ID	T1-5.5	T2-4.5	--	--
Date Sampled	08/06/97	08/06/97	--	--
Date Analyzed	08/13/97	08/13/97	--	--
Dilution Factor	5.00	1.00	--	--

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
Dichlorodifluoromethane	10.	ug/kg	< 50.	< 10.	--	--
Chloromethane	10.	ug/kg	< 50.	< 10.	--	--
Dichlorofluoromethane	10.	ug/kg	< 50.	< 10.	--	--
Bromomethane	10.	ug/kg	< 50.	< 10.	--	--
Vinyl chloride	10.	ug/kg	< 50.	< 10.	--	--
Chloroethane	10.	ug/kg	< 50.	< 10.	--	--
Trichlorofluoromethane	5.0	ug/kg	< 25.	< 5.0	--	--
1,1-Dichloroethene	5.0	ug/kg	< 25.	< 5.0	--	--
Methylene chloride	10.	ug/kg	< 50.	< 10.	--	--
trans-1,2-Dichloroethene	5.0	ug/kg	< 25.	< 5.0	--	--
1,1-Dichloroethane	5.0	ug/kg	< 25.	< 5.0	--	--
cis-1,2-Dichloroethene	5.0	ug/kg	< 25.	< 5.0	--	--
Chloroform	5.0	ug/kg	< 25.	< 5.0	--	--
1,1,1-Trichloroethane	5.0	ug/kg	< 25.	< 5.0	--	--
Carbon tetrachloride	5.0	ug/kg	< 25.	< 5.0	--	--
1,2-Dichloroethane	5.0	ug/kg	< 25.	< 5.0	--	--
Trichloroethene	5.0	ug/kg	< 25.	< 5.0	--	--
1,2-Dichloropropane	5.0	ug/kg	< 25.	< 5.0	--	--
Bromodichloromethane	5.0	ug/kg	< 25.	< 5.0	--	--
2-Chloroethylvinyl ether	10.	ug/kg	< 50.	< 10.	--	--
cis-1,3-Dichloropropene	5.0	ug/kg	< 25.	< 5.0	--	--
trans-1,3-Dichloropropene	5.0	ug/kg	< 25.	< 5.0	--	--
1,1,2-Trichloroethane	5.0	ug/kg	< 25.	< 5.0	--	--
Tetrachloroethene	5.0	ug/kg	< 25.	< 5.0	--	--
Dibromochloromethane	5.0	ug/kg	< 25.	< 5.0	--	--
Chlorobenzene	5.0	ug/kg	< 25.	< 5.0	--	--
Bromoform	5.0	ug/kg	< 25.	< 5.0	--	--
1,1,2,2-Tetrachloroethane	5.0	ug/kg	< 25.	< 5.0	--	--
1,3-Dichlorobenzene	10.	ug/kg	< 50.	< 10.	--	--
1,4-Dichlorobenzene	10.	ug/kg	< 50.	< 10.	--	--
1,2-Dichlorobenzene	10.	ug/kg	< 50.	< 10.	--	--
Percent Solids	--	%	81.9	96.4	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8260A:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". SW-846, Third Edition including promulgated Update II.

W7080152-04:

NEI/GTEL Wichita, KS

ANALYTICAL RESULTS
Volatile Organics

NEI/GTEL Client ID: HYE01HYE01
Login Number: W7080152
Project ID (number): 7-285.2
Project ID (name): MARINER SQUARE TANK REMOVAL

Method: EPA 8260A
Matrix: Low Soil

NEI/GTEL Sample Number	W7080152-04	W7080152-05	--	--
Client ID	T1-5.5	T2-4.5	--	--
Date Sampled	08/06/97	08/06/97	--	--
Date Analyzed	08/13/97	08/13/97	--	--
Dilution Factor	5.00	1.00	--	--

Analyte	Reporting Limit	Units	Concentration:Wet Weight	

Notes: (continued)

Reported values for 1.2.4-TMB; 1.3.5-TMB ; p-Isopropyltoluene and Napthalene are from 100X dilution sample analysis.

ANALYTICAL RESULTS
Results For Multiple Methods

NEI/GTEL Client ID: HYE01HYE01
Login Number: W7080152
Project ID (number): 7-285.2
Project ID (name): MARINER SQUARE TANK REMOVAL

Method: See Below
Matrix: Aqueous

	NEI/GTEL Sample Number	W7080152-03	--	--	--
	Client ID	T1-0	--	--	--
	Date Sampled	08/06/97	--	--	--
EPA 6010A	Date Prepared	08/18/97	--	--	--
EPA 6010A	Date Analyzed	08/22/97	--	--	--
EPA 6010A	Dilution Factor	1.00	--	--	--
EPA 7421	Date Prepared	08/13/97	--	--	--
EPA 7421	Date Analyzed	08/18/97	--	--	--
EPA 7421	Dilution Factor	100.	--	--	--

Analyte		Reporting Limit	Units	Concentration:			
Inorganics (MT, WC)							
Cadmium	EPA 6010A	20.	ug/L	< 20.	--	--	--
Chromium	EPA 6010A	30.	ug/L	280	--	--	--
Lead	EPA 7421	4.0	ug/L	3000	--	--	--
Nickel	EPA 6010A	40.	ug/L	330	--	--	--
Zinc	EPA 6010A	20.	ug/L	2300	--	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 6010A:

Digestion for Total Metals by EPA Method 3010A.

EPA 7421:

Digestion for Total Metals by EPA Method 3020A.

EPA 6010A, EPA 7421:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including Update 2.

ANALYTICAL RESULTS
Results For Multiple Methods

NEI/GTEL Client ID: HYE01HYE01
Login Number: W7080152
Project ID (number): 7-285.2
Project ID (name): MARINER SQUARE TANK REMOVAL

Method: See Below
Matrix: Solids

	NEI/GTEL Sample Number	W7080152-04	W7080152-05	--	--
	Client ID	T1-5.5	T2-4.5	--	--
	Date Sampled	08/06/97	08/06/97	--	--
EPA 6010A	Date Prepared	08/14/97	08/14/97	--	--
EPA 6010A	Date Analyzed	08/13/97	08/13/97	--	--
EPA 6010A	Dilution Factor	1.00	1.00	--	--
EPA 7421	Date Prepared	08/12/97	08/12/97	--	--
EPA 7421	Date Analyzed	08/15/97	08/15/97	--	--
EPA 7421	Dilution Factor	2.00	5.00	--	--

Analyte		Reporting Limit	Units	Concentration:Wet Weight			
Inorganics (MT, WC)							
Cadmium	EPA 6010A	2.0	mg/kg	< 2.0	< 2.0	--	--
Chromium	EPA 6010A	3.0	mg/kg	22.	40.	--	--
Lead	EPA 7421	0.40	mg/kg	3.5	5.1	--	--
Nickel	EPA 6010A	4.0	mg/kg	18.	33.	--	--
Zinc	EPA 6010A	2.0	mg/kg	19.	190	--	--
Percent Solids	--		%	81.9	96.4	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 6010A, EPA 7421:

Digestion by EPA Method 3050A. "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including Update 2.

ANALYTICAL RESULTS
Metals

NEI/GTEL Client ID: HYE01HYE01
Login Number: W7080152
Project ID (number): 7-285.2
Project ID (name): MARINER SQUARE TANK REMOVAL

Method: EPA 7421
Matrix: Solids

NEI/GTEL Sample Number	W7080152-06	W7080152-07	--	--
Client ID	S1-4	S5	--	--
Date Sampled	08/07/97	08/07/97	--	--
Date Prepared	08/12/97	08/12/97		
Date Analyzed	08/15/97	08/15/97	--	--
Dilution Factor	20.0	20.0	--	--

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
Lead	0.40	mg/kg	81.	51.	--	--
Percent Solids	--	%	74.4	91.6	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 7421:

Digestion by EPA Method 3050A. "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including Update 2.

ANALYTICAL RESULTS
Total Petroleum Hydrocarbons

NEI/GTEL Client ID: HYE01HYE01
Login Number: W7080152
Project ID (number): 7-285.2
Project ID (name): MARINER SQUARE TANK REMOVAL

Method: EPA 418.1 MOD
Matrix: Solids

NEI/GTEL Sample Number	W7080152-04	W7080152-05	--	--
Client ID	T1-5.5	T2-4.5	--	--
Date Sampled	08/06/97	08/06/97	--	--
Date Prepared	08/18/97	08/18/97		
Date Analyzed	08/19/97	08/19/97	--	--
Dilution Factor	10.0	1.00	--	--

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
Total Petroleum Hydrocarbons	10	mg/kg	8900	12.	--	--
Percent Solids	--	%	81.9	96.4	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 418.1 MOD:

Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, US EPA. Extraction modified for soils using EPA 3550 (sonication).

ANALYTICAL RESULTS
Total Petroleum Hydrocarbons By GC

NEI/GTEL Client ID: HYE01HYE01
Login Number: W7080152
Project ID (number): 7-285.2
Project ID (name): MARINER SQUARE TANK REMOVAL

Method: GC
Matrix: Aqueous

NEI/GTEL Sample Number	W7080152-02	--	--	--
Client ID	T1-D	--	--	--
Date Sampled	08/06/97	--	--	--
Date Prepared	08/13/97			
Date Analyzed	08/18/97	--	--	--
Dilution Factor	10.0	--	--	--

Analyte	Reporting Limit	Units	Concentration:			
TPH as Diesel	50	ug/L	9800	--	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

GC:

Extraction by EPA Method 3510 (liquid/liquid). ASTM Method D3328(modified) is used for qualitative identification of fuel patterns. The method has been modified to include quantitation by applying calibration and quality assurance guidelines outlined in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. This method is equivalent to California State Water Resources Board LUFT Manual protocols, May 1988 revision.

W7080152-02:

No matrix spike data is available due to limited sample volume. The LCS and LCSD have been used to demonstrate method accuracy and precision. Qualitative identification of diesel fuel is uncertain because the material present does not match laboratory standards. Quantitation of diesel fuel is uncertain due to matrix interferences. Chromatographic data indicates the presence of material, which is heavier than diesel fuel, in this sample.

ANALYTICAL RESULTS
Total Petroleum Hydrocarbons By GC

NEI/GTEL Client ID: HYE01HYE01
Login Number: W7080152
Project ID (number): 7-285.2
Project ID (name): MARINER SQUARE TANK REMOVAL

Method: GC
Matrix: Solids

NEI/GTEL Sample Number	W7080152-04	W7080152-05	W7080152-06	W7080152-07
Client ID	T1-5.5	T2-4.5	S1-4	S5
Date Sampled	08/06/97	08/06/97	08/07/97	08/07/97
Date Prepared	08/12/97	08/12/97	08/12/97	08/12/97
Date Analyzed	08/14/97	08/14/97	08/14/97	08/14/97
Dilution Factor	12.0	1.00	12.0	3.00

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
TPH as Diesel	10.	mg/kg	230	10.	1400	62.
Percent Solids	--	%	81.9	96.4	74.4	91.6

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

GC:

Extraction by EPA Method 3550 (sonication). ASTM Method D3328(modified) is used for qualitative identification of fuel patterns. The method has been modified to include quantitation by applying calibration and quality assurance guidelines outlined in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. This method is equivalent to the California LUFT manual DHS method for diesel fuel.

W7080152-04:

Qualitative identification of diesel fuel is uncertain because the material present does not match laboratory standards. Quantitation of diesel fuel is uncertain due to matrix interferences. Surrogate recovery is not available, due to the elevated dilution factor. The reported concentration for this sample should be considered an estimate. Chromatographic data indicates the presence of material, which is heavier than diesel fuel, in this sample.

W7080152-05:

Chromatographic data indicates the presence of material, which is heavier than diesel fuel, in this sample.

W7080152-06:

Chromatographic data indicates the presence of material, which is heavier than diesel fuel, in this sample.

W7080152-07:

Qualitative identification of diesel fuel is uncertain because the material present does not match laboratory standards. Quantitation of diesel fuel is uncertain due to matrix interferences. Chromatographic data indicates the presence of material, which is heavier than diesel fuel, in this sample.

ANALYTICAL RESULTS
Total Petroleum Hydrocarbons

NEI/GTEL Client ID: HYE01HYE01
Login Number: W7080152
Project ID (number): 7-285.2
Project ID (name): MARINER SQUARE TANK REMOVAL

Method: EPA 418.1
Matrix: Aqueous

NEI/GTEL Sample Number	W7080152-03	--	--	--
Client ID	T1-0	--	--	--
Date Sampled	08/06/97	--	--	--
Date Prepared	08/14/97			
Date Analyzed	08/15/97	--	--	--
Dilution Factor	1.00	--	--	--

Analyte	Reporting Limit	Units	Concentration:			
Total Petroleum Hydrocarbons	0.5	mg/L	29.	--	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 418.1:

"Methods for Chemical Analysis of Water and Wastes", EPA 600/4-79-020, USEPA EMSL, Cincinnati, OH, Revised, March 1983.

W7080152-03:

Sample was received at pH 7.

NEI/GTEL
ENVIRONMENTAL LABORATORIES, INC.

Midwest Region
4211 May Avenue
Wichita, KS 67209
(316) 945-2624
(800) 633-7936
(316) 945-0506 (FAX)

October 23, 1997

Gary Pischke
Hydro-Environmental Technologies, Inc.
2394 Mariner Square Dr.
Suite 2
Alameda, CA 94501

RE: NEI/GTEL Client ID: HYE01HYE01
Login Number: W7080152
Project ID (number): 7-285.2
Project ID (name): MARINER SQUARE TANK REMOVAL

Dear Gary Pischke:

This report, previously dated 08/29/97, is a reissue.

Enclosed please find the analytical results for the samples received by NEI/GTEL Environmental Laboratories, Inc. on 08/08/97.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by NEI/GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes. This report is to be reproduced only in full.

NEI/GTEL is certified by the California Department of Health Service under Certification Number 2147.

If you have any questions regarding this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
NEI/GTEL Environmental Laboratories, Inc.

Terry R. Loucks
Laboratory Director

ANALYTICAL RESULTS
Volatile Organics

NEI/GTEL Client ID: HYE01HYE01
Login Number: W7080152
Project ID (number): 7-285.2
Project ID (name): MARINER SQUARE TANK REMOVAL

Method: EPA 8020A
Matrix: Aqueous

NEI/GTEL Sample Number	W7080152-01	--	--	--
Client ID	T1-G	--	--	--
Date Sampled	08/06/97	--	--	--
Date Analyzed	08/11/97	--	--	--
Dilution Factor	1.00	--	--	--

Analyte	Reporting Limit	Units	Concentration:			
MTBE	10.	ug/L	< 10.	--	--	--
Benzene	0.5	ug/L	4.3	--	--	--
Toluene	1.0	ug/L	9.0	--	--	--
Ethylbenzene	1.0	ug/L	12.	--	--	--
Xylenes (total)	2.0	ug/L	84.	--	--	--
BTEX (total)	--	ug/L	110	--	--	--
TPH as Gas	100	ug/L	1100	--	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8020A:

Gasoline range hydrocarbons (TPH) quantitated by GC/FID with purge and trap and modified EPA Method 8015. Analyte list modified to include additional compounds. "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update II.

ANALYTICAL RESULTS
Volatile Organics

NEI/GTEL Client ID: HYE01HYE01
Login Number: W7080152
Project ID (number): 7-285.2
Project ID (name): MARINER SQUARE TANK REMOVAL

Method: EPA 8020A
Matrix: Solids

NEI/GTEL Sample Number	W7080152-04	W7080152-06	W7080152-07	--
Client ID	T1-5.5	S1-4	S5	--
Date Sampled	08/06/97	08/07/97	08/07/97	--
Date Analyzed	08/12/97	08/12/97	08/12/97	--
Dilution Factor	1.00	1.00	1.00	--

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
MTBE	1.0	mg/kg	< 1.0	< 1.0	< 1.0	--
Benzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	--
Toluene	0.10	mg/kg	< 0.10	< 0.10	< 0.10	--
Ethylbenzene	0.10	mg/kg	0.30	< 0.10	< 0.10	--
Xylenes (total)	0.20	mg/kg	0.71	1.2	< 0.20	--
TPH as Gasoline	10.	mg/kg	350	510	55.	--
Percent Solids	--	%	81.9	74.4	91.6	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8020A:

Gasoline range hydrocarbons (TPH) quantitated by GC/FID with purge and trap and modified EPA Method 8015. "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update II.

W7080152-04:

Methanol extraction necessary due to high levels of target or non-target analytes.

W7080152-06:

Methanol extraction necessary due to high levels of target or non-target analytes.

W7080152-07:

Methanol extraction necessary due to high levels of target or non-target analytes.

ANALYTICAL RESULTS
Volatile Organics

NEI/GTEL Client ID: HYE01HYE01
Login Number: W7080152
Project ID (number): 7-285.2
Project ID (name): MARINER SQUARE TANK REMOVAL

Method: EPA 8020A
Matrix: Low Soil

NEI/GTEL Sample Number	W7080152-05	--	--	--
Client ID	T2-4.5	--	--	--
Date Sampled	08/06/97	--	--	--
Date Analyzed	08/11/97	--	--	--
Dilution Factor	1.00	--	--	--

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
MTBE	10.	ug/kg	< 10.	--	--	--
Benzene	1.0	ug/kg	< 1.0	--	--	--
Toluene	2.0	ug/kg	< 2.0	--	--	--
Ethylbenzene	2.0	ug/kg	< 2.0	--	--	--
Xylenes (total)	4.0	ug/kg	< 4.0	--	--	--
TPH as Gasoline	100	ug/kg	550	--	--	--
Percent Solids	--	%	96.4	--	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8020A:

Gasoline range hydrocarbons (TPH) quantitated by GC/FID with purge and trap and modified EPA Method 8015. "Test Methods for Evaluating Solid Waste. Physical/Chemical Methods", SW-846, Third Edition including promulgated Update II.

ANALYTICAL RESULTS
Volatile Organics

NEI/GTEL Client ID: HYE01HYE01
Login Number: W7080152
Project ID (number): 7-285.2
Project ID (name): MARINER SQUARE TANK REMOVAL

Method: EPA 8010B
Matrix: Aqueous

NEI/GTEL Sample Number	W7080152-01	--	--	--
Client ID	T1-G	--	--	--
Date Sampled	08/06/97	--	--	--
Date Analyzed	08/14/97	--	--	--
Dilution Factor	1.00	--	--	--

Analyte	Reporting Limit	Units	Concentration:			
Dichlorodifluoromethane	5.0	ug/L	< 5.0	--	--	--
Chloromethane	2.0	ug/L	< 2.0	--	--	--
Vinyl Chloride	1.0	ug/L	< 1.0	--	--	--
Bromomethane	2.0	ug/L	< 2.0	--	--	--
Chloroethane	1.0	ug/L	< 1.0	--	--	--
Trichlorofluoromethane	1.0	ug/L	< 1.0	--	--	--
1,1-Dichloroethene	1.0	ug/L	< 1.0	--	--	--
Methylene chloride	1.0	ug/L	< 1.0	--	--	--
trans-1,2-Dichloroethene	1.0	ug/L	< 1.0	--	--	--
1,1-Dichloroethane	1.0	ug/L	< 1.0	--	--	--
cis-1,2-Dichloroethene	1.0	ug/L	< 1.0	--	--	--
Chloroform	1.0	ug/L	< 1.0	--	--	--
1,1,1-Trichloroethane	1.0	ug/L	< 1.0	--	--	--
Carbon tetrachloride	1.0	ug/L	< 1.0	--	--	--
1,2-Dichloroethane	1.0	ug/L	< 1.0	--	--	--
Trichloroethene	1.0	ug/L	< 1.0	--	--	--
1,2-Dichloropropane	1.0	ug/L	< 1.0	--	--	--
Bromodichloromethane	1.0	ug/L	< 1.0	--	--	--
2-Chloroethylvinyl ether	1.0	ug/L	< 1.0	--	--	--
cis-1,3-Dichloropropene	1.0	ug/L	< 1.0	--	--	--
trans-1,3-Dichloropropene	1.0	ug/L	< 1.0	--	--	--
1,1,2-Trichloroethane	1.0	ug/L	< 1.0	--	--	--
Tetrachloroethene	1.0	ug/L	< 1.0	--	--	--
Dibromochloromethane	1.0	ug/L	< 1.0	--	--	--
Chlorobenzene	1.0	ug/L	< 1.0	--	--	--
Bromoform	2.0	ug/L	< 2.0	--	--	--
1,1,2,2-Tetrachloroethane	1.0	ug/L	< 1.0	--	--	--
1,3-Dichlorobenzene	1.0	ug/L	< 1.0	--	--	--
1,4-Dichlorobenzene	1.0	ug/L	< 1.0	--	--	--
1,2-Dichlorobenzene	1.0	ug/L	< 1.0	--	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8010B:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update II.

CHAIN OF CUSTODY RECORD

SAMPLER
Printed Name: Gary Pischke
Signature: Gary Pischke

DELIVER TO: NEI/GTEL

ATTENTION: Bruce Thrupp.

SEND RESULTS TO: 2394-
HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.
~~2363~~ MARINER SQUARE DR., SUITE ~~245~~
ALAMEDA, CA 94501
(510) 521-2684, (FAX) 521-5078
ATTENTION: Gary Pischke

SEND INVOICE TO:
John Beery
Mariner Square Associates
2900 Main St, Ste 100
Alameda, Cal. 94501

HETICAL JOB No.: ~~8~~ 7-285.2

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Gary Pischke	John Weber	8/7/97	12:54p
Relinquished by: John Weber	Received by:		
Relinquished by:	Received by: LABORATORY T. Thrupp	8/8/97	0918

PROJECT NAME: Mariner Square Tank Removal

PAGE 1 OF

Sample Number	DATE & TIME	No. & Type Container	TPH g, BTEX (EPA 8015 mod)	TPH D (EPA 8015 mod)	TOTAL Petroleum Oil & Grease	HTBE	STLC-Pb, Cd, Cr, Ni & Zn	5 Metals	8010 Solvents
T1-G	8/6 12:10p	3 VOA	X			X			
T1-D	8/6 12:15p	1 liter		X	X				
T1-O	8/6 12:18p	1 liter					X	X	X
T1-5.5	8/6 1:00p	1 Brass Tube	X	X	X	X	X	X	X
T2-4.5	8/6 12:45p	1 Brass Tube	X	X	X	X	X	X	X
S1	8/7	1 glass jar							
S2	8/7	1 glass jar	X	X	X	X	Composite		
S3	8/7	1 " "							
S4	8/7	1 " "							
S5	8/7	1 " "	X	X	X	X			

Lab Remarks: E H Q 2 Q 5 N

Special Instructions: Analyses as required by RWQCB for LUFT

Turnaround:
- ☐ 5 DAY
- ☐ 72 HOURS
- ☒ 10 DAY
- ☐ 24 HOURS

CHAIN OF CUSTODY RECORD

SAMPLER
Printed Name: Gary Pischke
Signature: Gary Pischke
DELIVER TO: NEI/GTEL
ATTENTION: Bruce Thrupp.

SEND RESULTS TO: 2394
HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.
~~2363~~ MARINER SQUARE DR., SUITE ~~245~~
ALAMEDA, CA 94501
(510) 521-2684, (FAX) 521-5078
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HETICAL JOB No.: ~~8~~ 7-285.2

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Gary Pischke	John Weber	8/7/97	12:54p
Relinquished by: John Weber	Received by:		
Relinquished by:	Received by: LABORATORY T. Thrupp	8/8/97	0918

PROJECT NAME: Mariner Square Tank Removal — PAGE 1 OF

Sample Number	DATE & TIME	No. & Type Container	TPH$_g$, BTEX (EPA 8015 mod)	TPH$_d$ (EPA 8015 mod)	TOG/TPH Oil & Grease (5520 E&F)	MTBE	8240 (624) / 8260	8270 (625) PAH's	5 Metals	8010 Solvents
T1-G	8/6 12:10p	3 VOA	X			X				
T1-D	8/6 12:15p	1 liter		X	X					
T1-O	8/6 12:18p	1 liter					X	X	X	
T1-5.5	8/6 1:00p	1 Brass Tube	X	X	X	X	X	X	X	
T2-4.5	8/6 12:45p	1 Brass Tube	X	X	X	X	X	X	X	
S1	8/7	1 glass jar								
S2	8/7	1 glass jar	X	X	+	X	Composite			
S3	8/7	1 " "								
S4	8/7	1 " "								
S5	8/7	1 " "	X	X	X	X				

Lab Remarks: E + Q 2 Q - 5 - 2

Special Instructions: Analyses as required by RWQCB for LUFT sites.

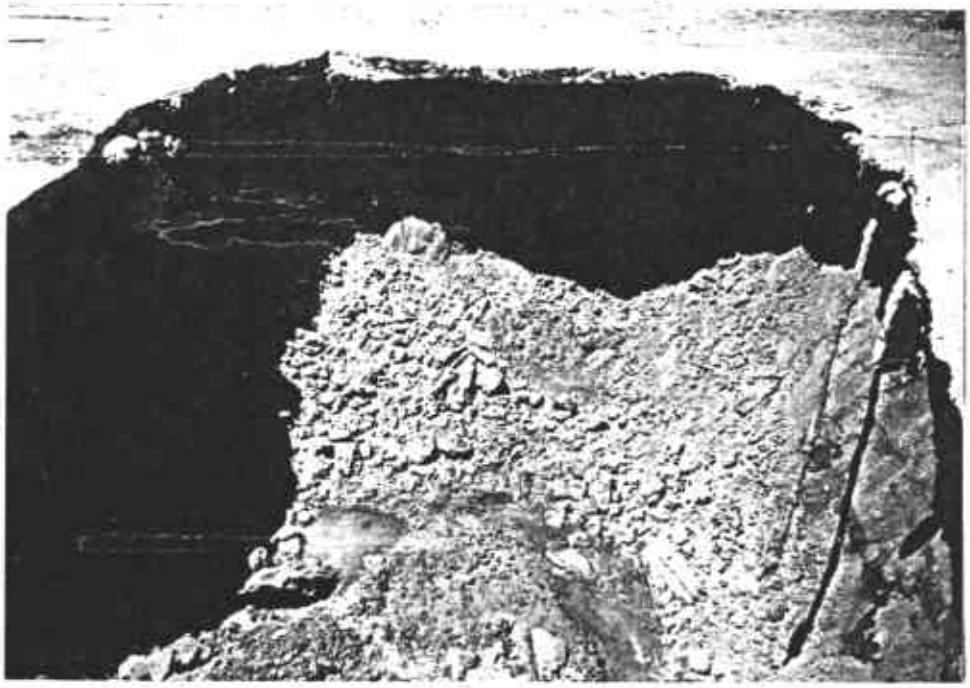
Turnaround:
- ☐ 5 DAY
- ☐ 72 HOURS
- ☒ 10 DAY
- ☐ 24 HOURS

APPENDIX D

1) View of tank pits, looking southwest. T1 is in foreground; T2 is at excavator.

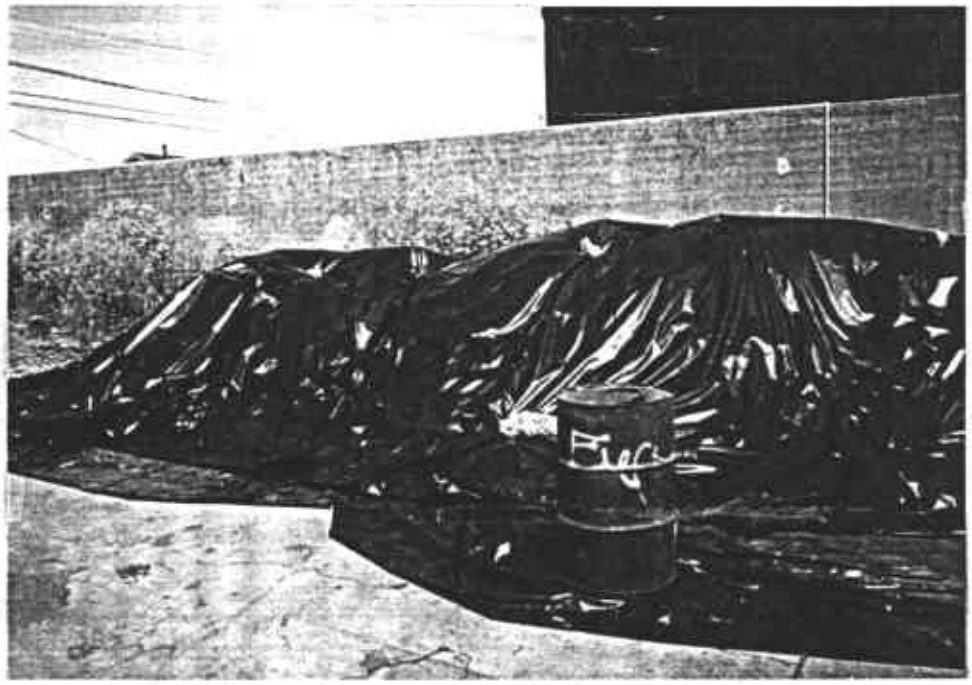
2) T1 Tank pit excavation, view looking north.

3) Bottom view of tank T1. Note holes and corrosion.



4) Tank T2 excavation, looking west.

5) View of tank T2, partially crushed by excavator; fluid from tank ponded in stockpile.



6) View of stockpile generated from both tank pits.