SOIL, FOUNDATION AND GEOLOGICAL ENGINEERS

TERRA SEARCH INC.

1580 NORTH FOURTH STREET, SAN JOSE, CALIFORNIA 95112-4676, (408) 287-9460

PM 3:23

WORK PLAN

SOIL AND GROUNDWATER INVESTIGATION

Prepared For

J & M, Inc.
Post Office Box 128
Hayward, California 94543

Site Location:
3826 Depot Road
Hayward, California 94545

Project Number E6301

March 26, 1991

11840
DUBLIN BOULEVARD, DUBLIN, CALIFORNIA 94568, (415) 833-9297

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

I. INTRODUCTION

A. STATEMENT OF SCOPE OF WORK

The purpose of this Work Plan is to summarize a proposed initial subsurface investigation pursuant to the outline described in Appendix A of the "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites", by the California Regional Water Quality Control Board, San Francisco Bay Region (latest edition) as supported by the "Leaking Underground Fuel Tank ('LUFT') Field Manual" by the California Water Resources Control Board in context with the "Regional Board Staff Recommendations for Initial Evaluation and Investigation of Underground Tanks".

The following can be contacted for further information regarding this Work Plan:

Landowner:	Manuel Marques, Jr.
Representative:	Leo Neu
Company:	J&M, Inc.
License:	Gen. Eng. Contractor 94-1419318
Address:	3826 Depot Road, Hayward, CA 94543
Telephone:	(415) 782-3434
Consultant:	TERRASEARCH, Inc.
Project Manager:	Richard C. Kent, California Registered Geologist No. 4231
Onsite Safety Coordinator:	Neddal Ali-Adeeb, Staff Engineer
Address:	11840 Dublin Blvd., Dublin, CA 94568
Telephone:	[415] 833-9297

B. SITE LOCATION

The property is located at 3826 Depot Road, Hayward, California 94545 ("Site") (see Figure 1 - "Vicinity Map" and Figure 2 - "Site Plan Map"). The Site is adjacent to a pallet storage business (to the southwest), St. Francis Electric vehicle storage yard (to the east), and an apparent wrecking junk yard (to the west). A State of California Water Resources Control Board Underground Storage Tank Program Facility/Site Information and/or Permit Application was signed by the landowner on August 16, 1990. A State of California Water Resources Control Board Underground Storage Tank Program Tank Permit Application Information was signed by the landowner on August 16, 1990 for each existing and removed tank on the Site.

The Site is located approximately 1.1-miles east of the nominal tideline of the San Francisco Bay and approximately 1.25-miles south of the Hayward Airport, Hayward, California. Businesses within the vicinity of the Site are a mixture of older industrial-type businesses currently being renovated or demolished and replaced with offices and commercial business.

C. SITE HISTORY

1. Type Of Business

The Site is currently utilized for on-ground storage of general construction supplies and equipment. Three (3) buildings exist on the Site: two (2) serve as offices and one (1) is a vehicle maintenance shop with open bay doors for entrance and a small enclosed office. Regular leaded gasoline is stored and dispensed on-Site through two (2) underground storage tanks and one (1) dispenser. One (1) water well, located approximately fifty-five (55)-feet south of the fuel dispenser is reportedly to be about forty (40)-feet deep. Water lines from the well service a hose connector at the southeast corner of the maintenance shop, thence to a hose connector at the fuel service island, and thence to the office building in the northeast portion of the Site. An off-site water well was observed approximately two (2)-feet west, and approximately eighty-seven (87)-feet north, of the Site's southwestern corner (on the pallet storage business property). An east-west sewer drainage system exists on-Site, approximately seventy-two (72)-feet south of Depot Road, and includes three (3) surface grates to allow entrance of surface runoff water. The west end of the sewer system appears to be directly in-line with the previous location of the diesel underground storage tanks.

Typical construction supplies and equipment on-Site at the submittal time of this Work Plan include pipe of various types, lengths and condition (concrete, clay, steel, plastic, and black); miscellaneous materials of primarily large metal pipe fittings; stacked 55-gallon barrels that apparently contained vehicle motor oil and lubricating grease (some barrels are empty); 55-gallon barrels with waste oil in a vaulted, concrete, aboveground secondary containment structure; rock and soil piles with less than 15-cubic yards each; and vehicles including compactor, water truck, pickups, excavator, backhoes, loader and end-dump trucks.

2. Previous Businesses

The existing business has been on-Site for at least the past thirty (30)-years. The history of previous businesses that utilized the Site, if any, is unknown.

3. Tank Activities

a) Tank Descriptions

The following table summarizes available information regarding underground storage tanks on the Site.

Table 1 - UST Summary Information

	TANK NO 1	TANK NO 2	TANK NO 3	TANK NO 4
Tank material	unlined steel	unlined steel	unlined steel	unlined steel
Status	removed	removed	in-service	in-service
Product in tank	diesel	diesel	leaded gasoline	leaded gasoline
Estimated capacity - gallons	7,000	4,000	1,000	550
Depth to tank top (feet)	approx. 3.5	approx. 3.5	approx. 3.5	approx. 3.5
Depth to groundwater (feet)	approx. 7	approx. 7	approx. 7	approx. 7
Leak detection system	visual	visual	visual	visual
Last annual inspection	none	none	none	none
Date tank installed	early 1970's	early 1970's	1960's	1960's
Date tank last in service	early 1980's	early 1980's	current	current
Pipeline length (feet)	n/a	n/a	n/a	n/a
Distance to dispensers (feet)	directly above	directly above	directly above	directly above
Backfill material	unk	unk	unk	unk

b) Tank Removal

Two (2) UST's ("Tank #1" And "#2" in Table 1) previously stored diesel and were apparently excavated in June 1990 by personnel of J&M, Inc.. No records or manifests apparently exist regarding the excavation and tank removal operations. Both tanks were hauled to the southern portion of the Site and apparently rinsed and cleaned with water which discharged to the surface.

The 4,000-gallon tank was apparently torch cut into pieces and hauled off-Site. At the time of preparing this Work Plan, approximately one-half of the right-side of the 7,000-gallon UST remains on-Site. The remainder of the 7,000-gallon UST was apparently torch cut and hauled off-Site. No apparent manifests exist for hauling the tank pieces off-Site. The condition of the tanks at the time of removal is unknown and no apparent records exist.

c) Waste Removal

Apparently all product waste and cleaning waste fluid was placed on the ground surface during cleaning operations after removing tanks #1 and #2 (diesel) from the

excavations. Subsequently on August 20, 1990, laboratory samplers collected seven (7) soil samples at approximately two (2)-inches depth from two (2) areas where the tanks were torch cut and washed (see also Table 2 below and Appendix A). Analysis of samples composited from each of two (2) areas where tanks #1 and #2 were washed indicated 230 ppm and 190 ppm of total petroleum hydrocarbons as diesel ("TPHd"). An off-site soil sample was collected in the driveway west of the Site (apparent runoff area) and an analysis indicated 110 ppm of TPHd. In addition, typical gasoline constituents BTXE were detected in these composite soil samples up to 1.2 ppm.

d) Filing Status

This Work Plan has been prepared in partial response to a required action letter dated November 28, 1990; and, to a Notice of Violation dated July 25, 1990 from the Alameda County Health Care Services to J&M, Inc.. The Agency has requested that the following minimal work be performed as summarized below:

- Site History Description
- Site Description including Hydrogeologic Setting
- Plan for Investigation of the Extent of Soil and Groundwater Contamination
- Install Three (3) Groundwater Monitoring Wells
- Schedule for Sampling Groundwater a Minimum of One (1) Year
- Technical Report Following Initial Subsurface Site Investigation
- Remediation or Disposal of Contaminated Soil
- Disposition of Contaminated Fuel Tanks

e) Previous Tank Testing

The two (2) existing or two (2) removed underground storage tanks have not been tested for tightness and leakage.

f) Product Loss Estimate

An unknown quantity of petroleum hydrocarbons as diesel was discharged over a period of time into the soil and groundwater surrounding the former underground storage tanks #1 and #2. It is assumed that discharge to the soil was through overspill during filling operations or a lack of integrity in tank(s) and pipelines. The source of the detectable gasoline constituents found in soil and groundwater samples is unknown at this time.

4. Other Spill, Leak or Accident History

Detectable petroleum hydrocarbons have been identified in soil and groundwater samples collected from the Site as discussed elsewhere in this Work Plan.

5. Previous Subsurface Work

Four (4) soil and one (1) groundwater samples were collected on August 20, 1990 and analyzed (see Table 2 below) for TPHd and BTXE from the previous location of removed tanks #1 and #2 (diesel) per the Notice of Violation dated July 25, 1990 (see Appendix A for location map). Detectable levels of diesel and gasoline constituents were found in the soil and water samples. The water sample was collected as a surface sample from the re-excavated tank locations, at approximately six (6)-feet depth below grade.

II. SITE DESCRIPTION

A. VICINITY DESCRIPTION AND HYDROGEOLOGIC SETTING

The site is located in the San Francisco plain, a northwest-southeast trending structural depression, bordered on the east by the Hayward fault and the Diablo Range, and bordered on the west by San Francisco Bay. The Site is slightly above sea level and 1.1-miles from the nominal tideline of the San Francisco Bay. The area is underlain by late Quaternary alluvial deposits that are generally comprised of clays, silts, sands and gravels. The alluvial deposits are laterally continuous, poorly permeable, and generally prevent significant quantities of surface water and precipitation from percolating into deeper water bearing strata. In this area, these alluvial deposits are generally underlain by fine sands, silts and gravels of the Santa Clara Formation. Regional ground-water flow is generally west-southwest toward the Bay. The area is principally drained by two streams, San Lorenzo Creek to the north of the Site and Alameda Creek, both which discharge directly into San Francisco Bay.

The area is generally underlain by unconsolidated alluvial fan deposits of Pliocene-Pleistocene age near a discrete alluvial fan deposit known as the San Lorenzo Cone. The deposits were laid down by the ancestral San Lorenzo Creek as it emerged from the foothills of the Diablo Range. Westward sloping sand and gravel beds were deposited by the braided creek, and during times of flood, finer grain layers of silt and clay were deposited. The total thickness of the unconsolidated deposits reportedly is in excess of 1,000 feet.

Apparently the depth of vicinity water supplies range from 32 to 581 feet and the depth to ground-water ranges from 16 to 90 feet. Local municipality water is imported from Hetch Hetchy Reservoir in the Sierra Nevada. Ground-water has not been apparently actively used by the City of Hayward for drinking water for approximately 30 years.

Aquifers in the San Lorenzo Cone are compromised of well sorted, permeable gravel and sand beds deposited by the San Lorenzo Creek. The aquifers are generally confined by the inter-bedded, finer grain silt and clay deposits. The deposits in San Lorenzo Cone can be divided into five distinct zones: 1) shallow relatively permeable deposits within 500 feet of the land surface; 2) aquifers between depths of about 50 to 100 feet, known collectively as the Newark Aquifer; 3) aquifers between depths of about 130 and 220 feet, known collectively as the Centerville Aquifer; 4) aquifers between depths of 250 and 400 feet, known collectively as the Fremont Aquifer; and 5) aquifers deeper than 400 feet.

The shallow relatively permeable zone within the San Lorenzo Cone generally is comprised of silty sand, is of limited areal extent and often occurs under unconfined, perched conditions. Recharge to the shallow zone occurs by infiltration of direct precipitation and streamflow. Ground-water in the shallow relatively permeable zone generally flows towards San Francisco Bay.

The Newark aquifer is semi-confined by a 25 to 60 foot thick clay layer and generally consists of interfingering sand and gravel lenses separated by clay layers approximately 5 to 10 feet thick. Infiltrations of streamflow at the apex of the San Lorenzo Cone and leakage through the upper clay confining layer allow recharge of this aquifer. Ground water in the Newark Aquifer generally flows towards San Francisco Bay.

The Centerville and Fremont Aquifers are both confined by thick clay layers that extend westward beneath San Francisco Bay. The Aquifers consist of discrete sand and gravel lenses ranging from 5 to 60 feet in thickness. Recharge to these aquifers likely occurs by lateral ground water flow and leakage. The direction of ground water flow in both aquifers has not been documented.

The deeper aquifers are generally comprised of sand, gravel and cobbles deposited by Alameda Creek to the south. They are believed to be recharged by subsurface inflow from the south and leakage from the Fremont Aquifer. The direction of ground water flow in the deeper aquifers has not been documented.

B. VICINITY and SITE MAP

Figure 1 - "Vicinity Map" depicts a summary of vicinity surface features, such as streets, railroads, and significant buildings, public buildings and areas. Figure 2 - "Site Plan Map" depicts a summary of adjacent streets, site building locations, tank locations, island locations, piping to pumps from tanks, known subsurface conduits, underground utilities, and similar equipment.

C. EXISTING SOIL CONTAMINATION AND EXCAVATION RESULTS

1. Sampling Procedures

Any documented procedures during the previous collection of soil and water samples by laboratory samplers on August 20, 1990 are not available for our review.

2. Depth To Groundwater

An Alameda County Department of Environmental Health Site Inspection Form dated August 20, 1990 indicates that the groundwater was about six (6)-feet below the surface, within the tank excavation, during soil and water sampling on August 20, 1990. Apparently, other sources indicate that the groundwater may rise to three (3)-feet below the surface due to tidal influences from the San Francisco Bay.

3. Soil in Excavation

Any documented descriptions of the geologic units exposed within the excavation during sample collection by laboratory samplers on August 20, 1990 are not available for our review.

4. Soil and Groundwater Sampling Results

Four (4) soil and one (1) groundwater sample were collected on August 20, 1990 and analyzed (see Table 2 below) for TPHd and BTXE from the previous location of removed tanks #1 and #2 (diesel). The water sample was collected as a surface sample from the re-excavated tank location, at approximately six (6)-feet depth below grade. A chain-of-custody record is included in Appendix A.

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

Diesel Tanks Excavation

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

Torch Cut and Wash Areas (diesel tanks)

Composite	TPHd	Benzene	Toluene	Xylenes	Ethylbenzene
Soil Sample # 6,7,8	230,000 µg/kg	<50 µg/kg	210 µg/kg	1,200 µg/kg	130 µg/kg
Soil Sample # 9,10,11	190,000 µg/kg	<50 µg/kg	<50 µg/kg	<200 µg/kg	<50 µg/kg
Soil Sample #12	110,000 µg/kg	<50 µg/kg	<50 µg/kg	<200 µg/kg	<50 µg/kg

5. Underground Utilities

A preliminary field reconnaissance has indicated that water from an existing water well serves an outside faucet at the corner of the maintenance shop; a faucet at the gasoline dispenser service island; and, apparently to an unknown source within the office building located in the northeastern portion of the Site. Electric service to the office building near Depot Road is overhead. A closed catch trench is aligned parallel to Depot Road within the Site and is served by three (3) grates for surface runoff (see Figure 2 - Site Plan Map"). Other underground utilities, if any, have not been identified, although some may exist.

6. Methods Used to Store and Dispose of Contaminated Soil

The method and disposal of soil excavated during the initial tank removal in June 1990, or the re-excavation on August 20, 1990, is unknown. The surface area of the previous tanks' excavation was covered with leveled asphalt at the time of a preliminary field reconnaissance on February 11, 1991.

7. Permits

At the time of preparing this Work Plan, no permits were reviewed or available for the existing underground tanks, previous tanks, or contaminated soil and groundwater removal and remediation.

III. EXTENT OF SOIL CONTAMINATION PLAN

A. SOIL BORINGS

1. Location and Depth

One (1) soil sample would be collected above the water table at approximately two and one-half (2.5)-feet depth from each of three (3) borings. Proposed soil boring locations are shown on Figure 3 - "Proposed Monitor Wells and Soil Borings Locations". The purpose of drilling shallow soil borings would be to collect soil samples for analysis of TPH as diesel and gasoline, and gasoline constituents of BTXE. The borings are proposed in locations where previous soil contamination as TPHd was detected above 100 ppm near where the tanks were washed and torch cut. TPHg and BTXE analyses are proposed because these constituents were detected in the soil and groundwater from where the tanks were excavated.

2. Soil Classification System, Soil Sampling Method and Rationale

Soil will be classified according to the Unified Soil Classification System and ASTM 2488. Relatively undisturbed soil samples will be collected during drilling per ASTM D-1568 by a clean drive sampler with three (3) inside 2.5-inch by 6-inch brass sample retainers. Hand auger and sampler techniques will utilize one (1) brass retainer. The drilling sampler will be driven 18-inches with a 140-pound hammer falling about 30-inches. The hammer blows for each 6-inches of driven material will be recorded and used to describe the general consistency or density of the soil sample. Soil will be extruded from one retainer, examined and classified. The retainer with soil to be analyzed will contain no headspace and both ends will be covered with aluminum foil, capped with a polyethylene lid, taped with aluminum coated fiber tape, labeled with sample number, date and time collected, and requested analysis, and placed in a closed ice chest containing 'blu-ice' for delivery to a California Department of Health Services certified laboratory. All samples will be accompanied by a chain-of-custody and request for analysis which will be signed and dated at the time of transferring possession of the samples by each person authorized to turn over and receive the samples.

3. Drilling Method and Decontamination Procedures

The borings may be drilled by a hand auger or drill rig, depending upon the availability of the equipment at the time of drilling. Hand auger borings would be a nominal four (4)-inch diameter, while drill rig borings would be a nominal five (5)-inch

diameter boring. Non-disposable drilling and sampling equipment, including augers, will be cleaned with steam or triple rinsed with Alconox detergent solution and air dried. Waste cleaning water will be placed in 55-gallon barrels, labeled and retained on Site for disposal by the landowner. A Geologic Log will be completed for each boring to include soil classification, moisture content, and field observations about apparent soil contamination.

4. Boring Abandonment Method

All borings will be abandoned and backfilled from total depth to the surface with a bentonite-grout mixture.

5. Soil Sampling Analyses

All soil samples will be analyzed for total petroleum hydrocarbons ("TPH") as diesel ("TPHd"), gasoline ("TPHg"), benzene, toluene, total xylenes, and ethylbenzene ("BTXE"), and organic lead. Analytical procedures will follow those outlined in "Regional Board Staff Recommendations for Initial Evaluation and Investigation of Underground Tanks, Tri-Regional Recommendations" by the North Coast, San Francisco Bay, and Central Valley California Regional Water Quality Control Boards as supported by the "Leaking Underground Fuel Tank ('LUFT') Field Manual" by the State Water Resources Control Board.

Gasoline is a mixture of over 200 petroleum derived chemicals plus a few synthetic products that are added to improve fuel performance. The majority of gasoline hydrocarbon components include 4 to 12 carbons. Gasoline will be reported as Total Petroleum Hydrocarbons to detect aliphatic (straight chain hydrocarbons) and aromatic (hydrocarbons with more than one benzene ring) constituents with low boiling points. It can also be reported as volatile or purgeable hydrocarbons. The sample will be prepared using EPA Method 5030 - Purge and Trap. The sample will be analyzed using a GC-FID (gas chromatograph with a flame ionization detector) according to DHS-LUFT recommended procedures which are similar to EPA Method 8020 (Aromatic Volatile Organics) or EPA Method 8015 (Purgeable Non-Halogenated Volatile Organics). The sample may also be analyzed according to EPA Method 8240 (Volatile Organics) using a GC-MS (gas chromatograph/mass spectrometer). The chromatograph of the sample will be compared to a type chromatograph for gasoline as part of the laboratory quality control and assurance. The required practical detection limit will be 1.0 parts per million ("ppm").

Diesel consists primarily of straight chain hydrocarbons (alkenes and alkanes) with 10 to 23 carbons and will be detected as Total Petroleum Hydrocarbons as diesel with high boiling points including possible small amounts of aromatic hydrocarbons such as benzene.

It can also be reported as semivolatile or extractable hydrocarbons. The sample will be prepared using EPA Method 3550-Sonification. The sample will be analyzed using a GC-FID (gas chromatograph with a flame ionization detector) according to DHS-LUFT recommended procedures which are similar to EPA Method 8020 (Aromatic Volatile Organics) or EPA Method 8015 (Purgeable Non-Halogenated Volatile Organics). The sample may also be analyzed according to EPA Method 8240 (Volatile Organics) using a GC-MS (gas chromatograph/mass spectrometer) or EPA Method 418.1 using an infrared spectropy technique. The chromatograph of the sample will be compared to a type chromatograph for diesel as part of the laboratory quality control and assurance. The required practical detection limit will be 1.0 parts per million ("ppm").

BTXE are highly mobile, typical gasoline compounds with 6, 7, 8, and 9 carbons respectively. The sample will be prepared using EPA Method 5030 - Purge and Trap. The sample will be analyzed using a GC-FID (gas chromatograph with a flame ionization detector) according to EPA Method 8020 (Aromatic Volatile Organics) or EPA Method 8015 (Purgeable Non-Halogenated Volatile Organics). The sample may also be analyzed according to EPA Method 8240 (Volatile Organics) using a GC-MS (gas chromatograph/mass spectrometer). The required practical detection limit will be 5.0 parts per billion ("ppb").

Because leaded gasoline is currently dispensed at the Site, organic lead will be analyzed in all soil samples. The sample will be prepared according to DHS methods using a rapid organic extraction technique with xylene. The extract will be analyzed by a flame atomic absorption spectrophotometer. The required practical detection limit will be 0.5 ppm.

6. Temporary On-Site Soil Storage

Excess soil from drilling will be immediately placed in 55-gallon barrels and temporarily stored on-Site. Each barrel will be labeled with information including date filled, source, matrix type, known or suspected contaminant, barrel owner. owner contact name and telephone number. The owner will be responsible for proper disposal of the barrels should it be determined from laboratory analyses that soil in barrels is contaminated.

IV. EXTENT OF GROUNDWATER CONTAMINATION PLAN

A. GROUNDWATER MONITOR WELLS

1. Location and Depth

Three (3) groundwater monitor wells are proposed at locations shown on Figure 3 - "Proposed Monitor Wells and Soil Borings Locations". The proposed depth of each monitor well is approximately fifteen (15)-feet. The purpose of installing three (3) groundwater monitor wells would be to collect soil and water samples for analysis of TPH as diesel and gasoline, and gasoline constituents of BTXE as directed by ACHCA, and estimate groundwater gradients. The proposed locations of the wells are upgradient (one well) and downgradient (two wells) to the previous diesel tank excavation. The proposed locations were selected by assuming the groundwater gradient to be toward the Bay. Soil samples would be collected at a maximum of five (5)-foot intervals from the surface or at significant changes in lithology.

A Groundwater Protection Ordinance Permit to install the monitor wells will be obtained from the Alameda County Flood Control and Water Conservation District, Zone 7 Water Resources Management.

2. Soil Sampling Method and Rationale

Soil will be classified according to the Unified Soil Classification System and ASTM 2488. Relatively undisturbed soil samples will be collected during drilling per ASTM D-1568 by a clean drive sampler with three (3) inside 2.5-inch by 6-inch brass sample retainers. Hand auger and sampler techniques will utilize one (1) brass retainer. The drilling sampler will be driven 18-inches with a 140-pound hammer falling about 30-inches. The hammer blows for each 6-inches of driven material will be recorded and used to describe the general consistency or density of the soil sample. Soil will be examined and classified. The retainer with the soil to be analyzed will contain no headspace and both ends will be covered with aluminum foil, capped with a polyethylene lid, taped with aluminum coated fiber tape, labeled with sample number, date and time collected, and requested analysis, and placed in a closed ice chest containing 'blu-ice' for delivery to a California Department of Health Services certified laboratory. All samples will be accompanied by a chain-of-custody and request for analysis which will be signed and dated at the time of transferring possession of the samples by each person authorized to turn over and receive the samples.

3. Drilling Method and Decontamination Procedures

The borings for the monitor wells will be drilled with a nominal 10.75-inch outside diameter, hollow-stem, auger by a California C-57 licensed water well driller. Non-disposable drilling and sampling equipment, including augers, will be cleaned with steam or triple rinsed with Alconox detergent solution and air dried. Waste cleaning water will be placed in 55-gallon barrels, labeled and retained on Site for disposal by the landowner. A Geologic Log will be completed for each boring to include soil classification, moisture content, and field observations about apparent soil contamination.

4. Well Installation Method

Each monitor well will be designed to collect water samples from the first encounter of water beneath the Site, at approximate depths of near six (6)-feet. Possible fluctuations in the groundwater table due to tidal influence from the San Francisco Bay are assumed to cause the groundwater table to rise and fall around the six (6)-foot depth horizon. Proposed well screens would be installed from about five (5)-feet to fifteen (15)-feet depth.

The screen and blank well casing would be constructed of four (4)-inch diameter Schedule 40, polyvinyl chloride ("PVC") flush coupled, threaded pipe. The screen would be slotted at a nominal machine cut of 0.020-inch width. The filter pack would consist of nominal clean, graded 2-12 sand. Upon boring to a depth of approximately fifteen (15)-feet, the well casing, consisting of a threaded end cap on a ten (10)-foot section of screen in turn threaded fit to about five (5)-feet of blank casing, would be assembled and lowered to total depth. The filter pack would be placed (by measuring with a weighted tape measure) into the annular space to about four (4)-feet depth (approximately one-foot above the well screen). An aquifer seal of bentonite pellets would be placed from approximately four (4)-feet to three (3)-feet depth. A surface seal of bentonite (5%) and Portland Type II cement would be placed from three (3)-feet to the surface. A lockable, water tight well cover would be installed on the well casing and a vault traffic box would be cemented around the well at the surface. The final well construction would be depicted on an as-built well sketch.

5. Well Development Method

The monitor wells will be developed at least seventy-two (72) hours after installation, or thereafter when it is determined that the seals have stabilized and cured. The purpose of development will be to clean the well and restore as much of the natural hydraulic properties as possible adjacent to the filter pack and clear the pack of fine material that may impede water flow into the well. Development will be by surging and bailing or by pumping with a submersible pump. Well development will proceed until the water quality

parameters have stabilized and/or the maximum extent possible of water clarity has been achieved. Water parameters to be measured during development include pH, specific conductance and temperature.

6. Groundwater Sampling Method

Groundwater samples for analysis of gasoline and light volatiles will be collected in 40-ml glass volatile organic analysis ("VOA") vials with Teflon septums as specified by the RWQCB and EPA. All sample containers will be new (except containing a preservative prepared by the laboratory). Separate vials will be used for water samples to be analyzed for gasoline and gasoline constituents (e.g. BTEX). Closure of each sample container will be accomplished with a plastic screw cap onto a Teflon faced septum which is used to seal the sample without headspace. Water samples for diesel analysis will be collected in amber glass liter bottles. Sample containers will be labelled with self-adhesive labels containing the project number and name, date and time of collection, location, and sampler initials. Sample vials and bottles will be filled to overflow to remove entrapped air, and then inverted and tapped to test for air bubbles.

Samples will be collected following purging of the well until pH, conductivity and temperature stabilize. The instrument to measure well parameters will be triple rinsed to prevent cross-contamination. At least four well volumes will be removed during purging. The well will be allowed to recover to at least 80% of the water level prior to purging before collecting samples. Water samples will be collected with disposable or dedicated bailers and a nozzle attached to the bottom of the bailer allowing no air contact to minimize the loss of volatiles from the bailer to the sample container. Prior to sampling, each well will be checked for free product by the wetted-tape method using hydrocarbon sensitive ointment or chalk. The wells will be sampled beginning at the well with the least suspected contamination. All samples will be accompanied from the field to laboratory by a chain-of-custody and request for analysis which will be signed and dated at the time of transferring possession of the samples by each person authorized to turn over and receive the samples. A travel blank set will accompany samples and a field blank will be used when the number of groundwater samples is greater than six (6). A daily field and sample log will be kept to document the sampling activities.

7. Groundwater Sampling Analyses

All water samples will be analyzed for total petroleum hydrocarbons ("TPH") as diesel ("TPHd"), gasoline ("TPHg"), benzene, toluene, total xylenes, and ethylbenzene ("BTXE"), and TEL and EDB. Analytical procedures will follow those outlined in "Regional Board Staff Recommendations for Initial Evaluation and Investigation of

Underground Tanks, Tri-Regional Recommendations" by the North Coast, San Francisco Bay, and Central Valley California Regional Water Quality Control Boards as supported by the "Leaking Underground Fuel Tank ('LUFT') Field Manual" by the State Water Resources Control Board.

The water samples for gasoline analysis will be prepared using EPA Method 5030 - Purge and Trap. The sample will be analyzed using a GC-PID (gas chromatograph with a photoionization detector) according to EPA Method 602-Purgable Aromatics or 624-Purgables using a Gas Chromatograph/Mass Spectrometer. The chromatograph of the sample will be compared to a type chromatograph for gasoline as part of the laboratory quality control and assurance. The required practical detection limit will be 50.0 ppb.

The water samples for diesel analysis will be prepared using EPA Method 3510-Separatory Funnel Extraction. The sample will be analyzed using a DHS method by GC-PID (gas chromatograph with a photoionization detector). The chromatograph of the sample will be compared to a type chromatograph for diesel as part of the laboratory quality control and assurance. The required practical detection limit will be 50.0 ppb.

The water samples for BTXE analysis will be prepared using EPA Method 5030 - Purge and Trap. The sample will be analyzed using a GC-FID (gas chromatograph with a flame ionization detector) according to EPA Method 602-Purgable Aromatics or 624-Purgables using a Gas Chromatograph/Mass Spectrometer. The required practical detection limit will be 0.5 ppb.

Because leaded gasoline is currently dispensed at the Site, ethylene dibromide ("EDB") and tetraethyl lead ("TEL") will be analyzed in all water samples. Samples will be prepared according to the DHS liquid/liquid extraction method. The extract will be analyzed by atomic absorption using a modified EPA Method 8010. The required practical detection limit will be 0.5 ppm.

8. Temporary On-Site Water Storage

Excess water from development, purging and sampling will be immediately placed in 55-gallon barrels and temporarily stored on-Site. Each barrel will be labeled with information including date filled, source, matrix type, known or suspected contaminant, barrel owner. owner contact name and telephone number. The owner will be responsible for proper disposal of the barrels should it be determined from laboratory analyses that soil in barrels is contaminated.

V. LIMITATIONS

This Work Plan specifically excludes an investigation for radon or other radioactive materials, as well as, asbestos and related materials.

Since hazardous materials are known, assumed or suspected to exist at the Site, Terrasearch is required to take appropriate precautions to protect the health and safety of personnel and the public, to comply with applicable laws and regulations, and to follow procedures that TI deems prudent to minimize physical risks to employees, subcontractors and the public. If Client knows or has any reason to assume or suspect that hazardous materials may exist at the Site, Client has so informed TI. Client has done it's best to inform TI of known or suspected hazardous materials' type, quantity and location.

Client recognizes a duty of care to the public that requires Client to conform to applicable codes, standards, regulations and ordinances, principally to protect public health and safety. TI likewise owes a duty to the public, in that the public, through it's professional registration laws, has granted TI an exclusive license to perform functions which require skill and knowledge, to protect public health and safety. TI at all times will endeavor to perform in a faithful and trustworthy manner, in this regard, to do best to alert Client to any matter of which TI becomes aware and believes requires Client's immediate attention to help protect public health and safety, or which TI believes requires Client to issue a notice or report to certain public officials, or to otherwise conform with applicable codes, standards, regulations or ordinances.

If Client for any reason should decide to disregard TI's recommendations in these respects, TI shall employ best judgement in deciding whether or not TI shall notify public officials. Client agrees that such decisions are TI's to make, in light of TI's public responsibilities as TI perceives them and, in any event, TI should not be held liable in any respect for failing to report conditions which were Client's responsibilities to report.

It is possible that exploration will fail to reveal the presence of hazardous materials at areas where hazardous materials were assumed, suspected or expected to exist. Client understands that TI's failure to discover hazardous materials through appropriate and mutually agreed-upon sampling techniques does not guarantee that hazardous materials do not exist at the Site. Similarly, a Site which in fact is unaffected by hazardous materials at the time of TI's exploration, may later, due to natural causes or human intervention, become contaminated. Client agrees that it will not hold TI liable for failing to discover hazardous materials whose exact location is not possible to foretell from the surface, or for

failing to discover hazardous materials which in fact did not exist at specific sampling locations at the time such samples were obtained.

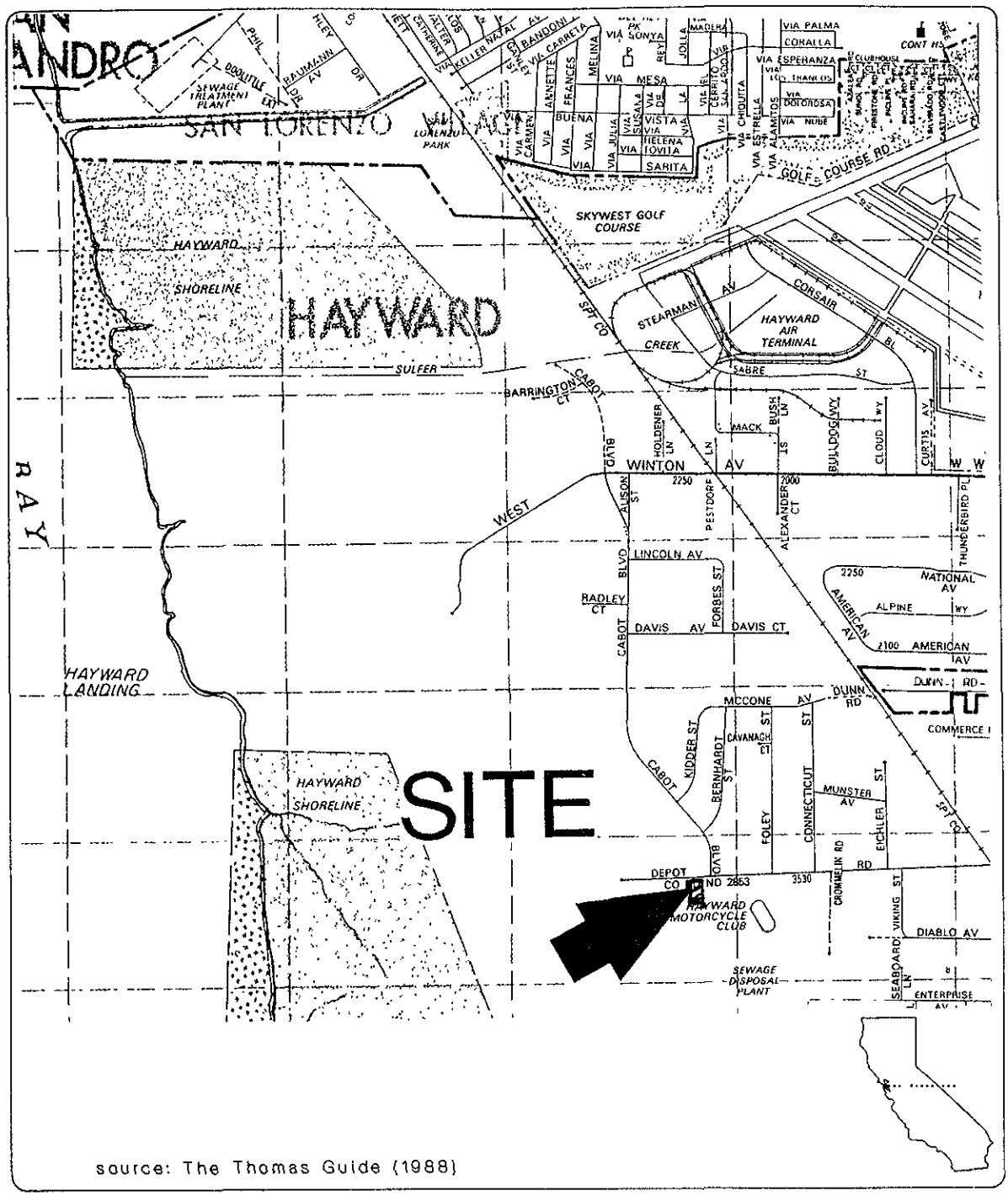
Respectfully submitted,
TERRASEARCH, INC.

I certify that I am qualified to perform or supervise work outlined in this Work Plan.

Richard C. Kent, California Registered Geologist No. 4231

I declare, under penalty of perjury, that the information and/or recommendations contained in this Work Plan are true and correct to the best of my knowledge.

Mr. Manuel Marques, Jr., Landowner
3826 Depot Road, Hayward, CA 94545

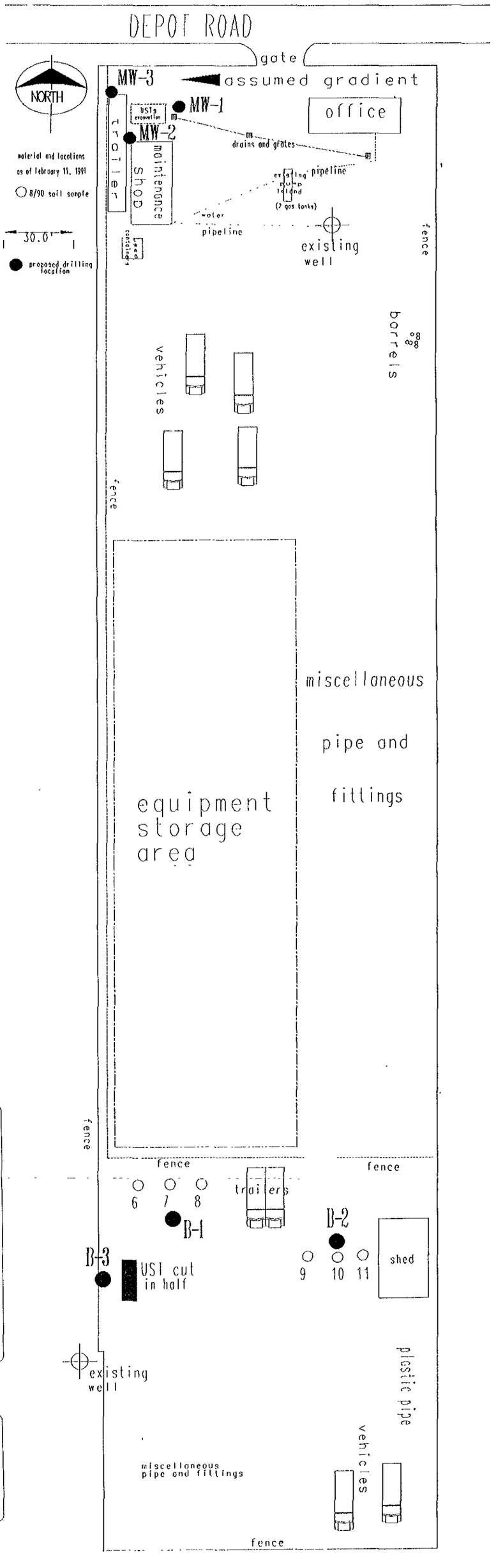


VICINITY MAP

Figure 1

SITE PLAN MAP

Figure 2



PROPOSED WELLS AND BORINGS

Figure 3

WORK PLAN
J&M, Inc

3826 Depot Road
Hayward, CA 94545

APPENDIX A
PREVIOUS ANALYTICAL LABORATORY REPORTS

Trace Analysis Laboratory, Inc.
5423 Investment Boulevard, #8 • Hayward, California 94545
Telephone (415) 783-6960
Facsimile (415) 783-1512

TAL

LOG NO.: 9038
DATE SAMPLED: 8/20/90
DATE RECEIVED: 8/20/90
DATE EXTRACTED: 8/27/90
DATE ANALYZED: 8/28/90
DATE REPORTED: 9/05/90

CUSTOMER: J and M, Inc.

REQUESTER: Leo New

PROJECT: J and M, Inc., 3826 Depot Road, Hayward

Sample Type: Water

Method and Constituent	Units	No. 1 Concentration	No. 1 Detection Limit
DHS Method:			
Total Petroleum Hydrocarbons as Diesel	ug/l	8,100	50

Trace Analysis Laboratory, Inc.

LOG NO.: 9038
DATE SAMPLED: 8/20/90
DATE RECEIVED: 8/20/90
DATE ANALYZED: 8/30/90
DATE REPORTED: 9/05/90
PAGE: Two

Sample Type: Water

Method and Constituent	Units	No. 1 Concentration	No. 1 Detection Limit	
Modified EPA Method 8020:				
Benzene	ug/l	4.7	0.5	0.5
Toluene	ug/l	9.1	2	100
Xylenes	ug/l	22	2	620
Ethylbenzene	ug/l	6.0	0.5	620

TAL Trace Analysis Laboratory, Inc.

LOG NO.: 9038
DATE SAMPLED: 8/20/90
DATE RECEIVED: 8/20/90
DATE EXTRACTED: 8/27/90
DATE ANALYZED: 8/28/90
DATE REPORTED: 9/05/90
PAGE: Three

Sample Type: Soil

Method and Constituent	Units	No. 2 Concentration	No. 2 Detection Limit	No. 3 Concentration	No. 3 Detection Limit	No. 4 Concentration	No. 4 Detection Limit
DHS Method:							
Total Petroleum Hydrocarbons as Diesel	ug/kg	< 3,000	3,000	< 3,000	3,000	110,000	3,000

Sample Type: Soil

Method and Constituent	Units	No. 5 Concentration	No. 5 Detection Limit	Composite of: No.6, No.7, No.8 Concentration	Composite of: No.6, No.7, No.8 Detection Limit	Composite of: No.9, No.10, No.11 Concentration	Composite of: No.9, No.10, No.11 Detection Limit
DHS Method:							
Total Petroleum Hydrocarbons as Diesel	ug/kg	< 3,000	3,000	230,000	3,000	190,000	3,000

LOG NO.:	9038
DATE SAMPLED:	8/20/90
DATE RECEIVED:	8/20/90
DATE EXTRACTED:	8/27/90
DATE ANALYZED:	8/28/90
DATE REPORTED:	9/05/90
PAGE:	Four

Sample Type: Soil

Method and Constituent	Units	No. 12 Concentration	No. 12 Detection Limit
DHS Method:			
Total Petroleum Hydrocarbons as Diesel	ug/kg	110,000	3,000

LOG NO.: 9038
DATE SAMPLED: 8/20/90
DATE RECEIVED: 8/20/90
DATE EXTRACTED: 8/30/90
DATE ANALYZED: 8/30/90 and 8/31/90
DATE REPORTED: 9/05/90
PAGE: Five

Sample Type: Soil

Method and Constituent	Units	No. 2 Concentration	No. 2 Detection Limit	No. 3 Concentration	No. 3 Detection Limit	No. 4 Concentration	No. 4 Detection Limit
Modified EPA Method 8020:							
Benzene	ug/kg	< 50	50	< 50	50	< 700	700
Toluene	ug/kg	< 50	50	< 50	50	6,200	800
Xylenes	ug/kg	< 200	200	< 200	200	4,700	3,000
Ethylbenzene	ug/kg	< 50	50	< 50	50	1,300	900

Sample Type: Soil

Method and Constituent	Units	No. 5 Concentration	No. 5 Detection Limit	Composite of: No.6, No.7, No.8 Concentration	Composite of: No.6, No.7, No.8 Detection Limit	Composite of: No.9, No.10, No.11 Concentration	Composite of: No.9, No.10, No.11 Detection Limit
Modified EPA Method 8020:							
Benzene	ug/kg	< 50	50	< 50	50	< 50	50
Toluene	ug/kg	< 50	50	210	50	< 50	50
Xylenes	ug/kg	< 200	200	1,200	200	< 200	200
Ethylbenzene	ug/kg	< 50	50	130	50	< 50	50

LOG NO.: 9038
DATE SAMPLED: 8/20/90
DATE RECEIVED: 8/20/90
DATE EXTRACTED: 8/30/90
DATE ANALYZED: 8/30/90 and 8/31/90
DATE REPORTED: 9/05/90
PAGE: Six

Sample Type: Soil

Method and Constituent	Units	No. 12 Concentration	No. 12 Detection Limit
Modified EPA Method 8020:			
Benzene	ug/kg	< 50	50
Toluene	ug/kg	< 50	50
Xylenes	ug/kg	< 200	200
Ethylbenzene	ug/kg	< 50	50

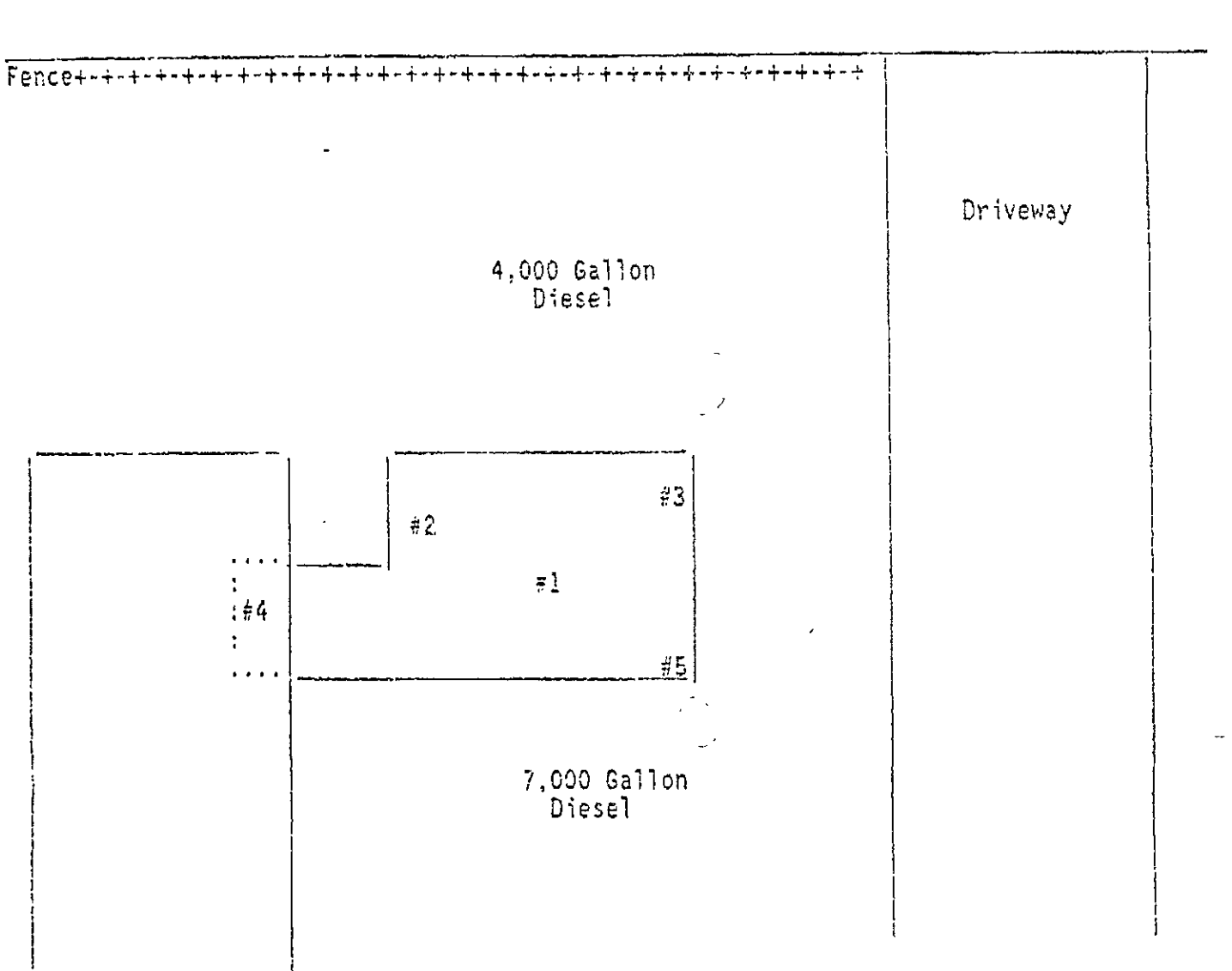
Louis W. DuPuis
Quality Assurance/Quality Control Manager

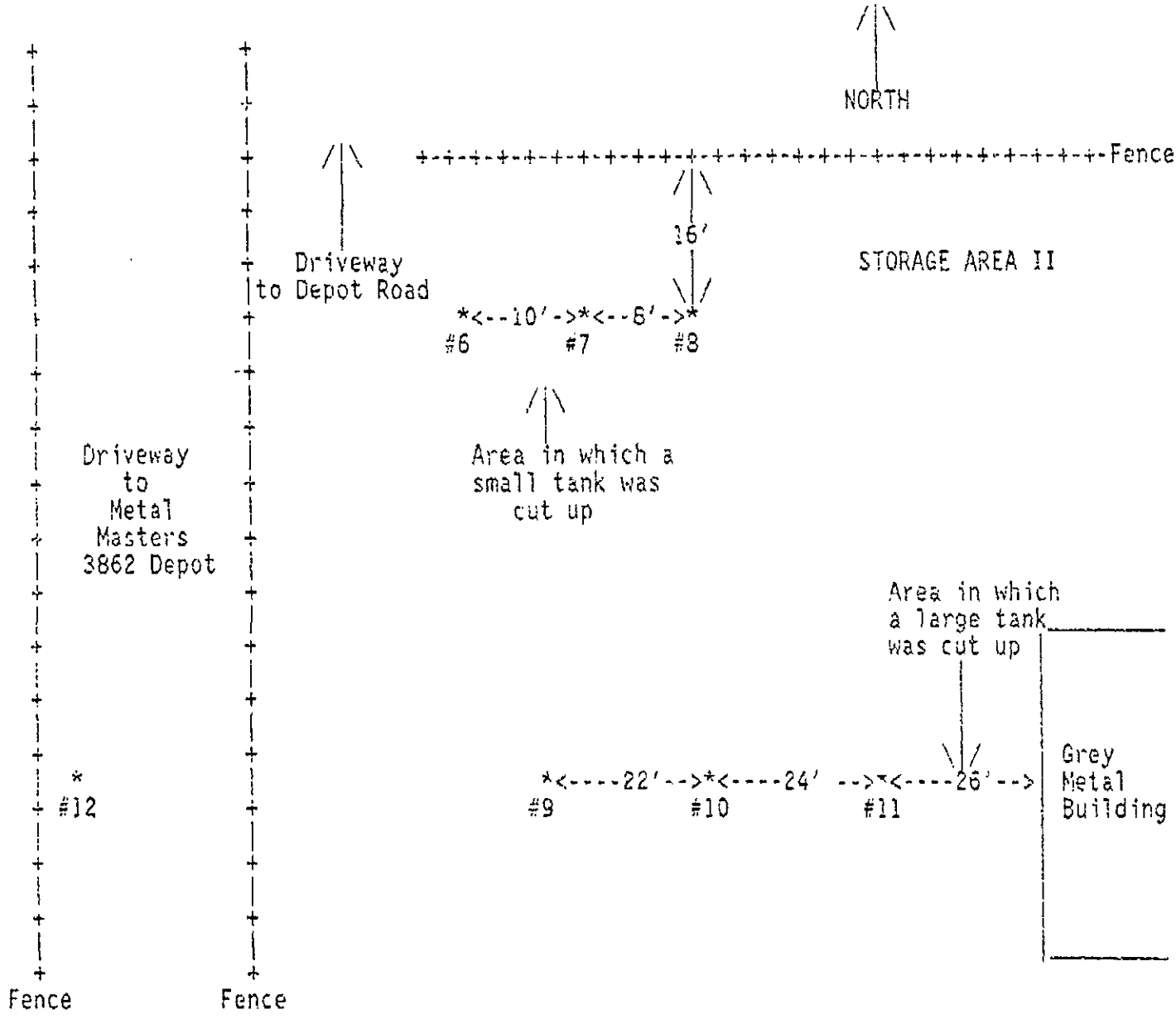
Trace Analysis Laboratory, Inc.

J and M
3826 Depot Road
Hayward, CA

North

DEPOT ROAD




NORTH
Fence
Driveway to Depot Road
16'
STORAGE AREA II
<--10'-><--6'->*
#6
#7
#8
Area in which a small tank was cut up
Driveway to Metal Masters 3862 Depot
Area in which a large tank was cut up
<----22'--><----24'-->*<----26'-->
#9
#10
#11
Grey Metal Building
*
#12
Fence
Fence

Trace Analysis Laboratory, Inc.
3423 Investment Boulevard, #8 • Hayward, California 94545
(415) 783-6960

TAL

CHAIN OF CUSTODY RECORD

PROJ. NO.:

PROJECT NAME: Jand M, 1826 Depot Road, Hayward

SAMPLERS: (Signature) Louis Du Pui
Louis DuPuis, Trace Analysis

9038

reg TAT

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TPHD	BTXE					REMARKS
No. 1	8/20	11:37 am		X	water	2-Vorl 1-1 Ltr	X	X					
No. 2		11:47 am		X	soil 3" deep	1-BT	X	X					wall, at high water level
No. 3		11:52 am		X	soil, 3" deep	1-BT	X	X					wall, at high water level
No. 4		12:02 pm		X	Soil, 3" deep	1-BT	X	X					wall at high water level
No. 5		12:05 pm		X	Soil, 3" deep	1-BT	X	X					wall at high water level
No. 6		12:16 pm		X	soil, 4" deep	1-BT	X	X					
No. 7		12:20 pm		X	↓ ↓	1-BT	X	X	Composite 6, 7, 8				
No. 8		12:18 pm		X	↓ ↓	1-BT	X	X					
9		12:23 pm		X		1-BT	X	X					
10		12:30 pm		X		1-BT	X	X	Composite 9, 10, 11				
11		12:33 pm		X		1-BT	X	X					
12	↓	12:44 pm		X	↓ ↓	1-BT	X	X					
	1997												

- 1 l, ice, 240 ml
- 1 BT, ice

Green

Y-8

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)

Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks
				CEO NEW [signature]

APPENDIX B
FACILITY AND TANK PERMIT APPLICATIONS

STATE OF CALIFORNIA — WATER RESOURCES CONTROL BOARD

FORM 'A': SITE

UNDERGROUND STORAGE TANK PROGRAM
FACILITY/SITE, INFORMATION and/or PERMIT APPLICATION

COMPLETE THIS FORM FOR EACH FACILITY/SITE

No. 35274

MARK ONLY ONE ITEM: [ ] 1 NEW PERMIT [X] 3 RENEWAL PERMIT [ ] 5 CHANGE OF INFORMATION [ ] 7 PERMANENTLY CLOSED SITE [ ] 2 INTERIM PERMIT [ ] 4 AMENDED PERMIT [ ] 6 TEMPORARY SITE CLOSURE

I. FACILITY/SITE INFORMATION & ADDRESS — (MUST BE COMPLETED)

FACILITY/SITE NAME: J & M Inc

CARE OF ADDRESS INFORMATION:

ADDRESS: 3826 Depot Road

NEAREST CROSS STREET: Cabot

[✓] CORPORATION [ ] INDIVIDUAL [ ] PARTNERSHIP [ ] LOCAL-AGENCY [ ] COUNTY-AGENCY [ ] STATE-AGENCY [ ] FEDERAL-AGENCY

CITY NAME: Hayward,

STATE: CA | ZIP CODE: 94545 | SITE PHONE #, WITH AREA CODE: (415) 782-3434

TYPE OF BUSINESS: [ ] 1 GAS STATION [ ] 2 DISTRIBUTOR [ ] 3 FARM [ ] 4 PROCESSOR [XX] 5 OTHER

[✓] Box if INDIAN RESERVATION or TRUST LANDS [ ]

EPA ID #: None

# of TANK's AT THIS SITE: 2

EMERGENCY CONTACT PERSON (PRIMARY)

DAYS NAME (LAST, FIRST): Marques Manuel Jr — PHONE # WITH AREA CODE: (415) 782-3434

NIGHTS NAME (LAST, FIRST): Marques Manuel Jr — PHONE # WITH AREA CODE: (415) 351-2530

EMERGENCY CONTACT PERSON (SECONDARY)

DAYS NAME (LAST, FIRST): Marques Manuel — PHONE # WITH AREA CODE: (415) 782-3434

NIGHTS NAME (LAST, FIRST): Marques Manuel — PHONE # WITH AREA CODE: (415) 672-6751

II. PROPERTY OWNER INFORMATION & ADDRESS — (MUST BE COMPLETED)

NAME: Manuel Marques Jr

CARE OF ADDRESS INFORMATION:

MAILING or STREET ADDRESS: P.O. Box 128

[✓] CORPORATION [ ] INDIVIDUAL [ ] PARTNERSHIP [ ] LOCAL-AGENCY [ ] COUNTY-AGENCY [ ] STATE-AGENCY [ ] FEDERAL-AGENCY

CITY NAME: Hayward,

STATE: CA | ZIP CODE: 94543 | PHONE #, WITH AREA CODE: (415) 782-3434

III. TANK OWNER INFORMATION & ADDRESS — (MUST BE COMPLETED)

NAME: Manuel Marques Jr

CARE OF ADDRESS INFORMATION:

MAILING or STREET ADDRESS: P.O. Box 128

[✓] CORPORATION [ ] INDIVIDUAL [ ] PARTNERSHIP [ ] LOCAL-AGENCY [ ] COUNTY-AGENCY [ ] STATE-AGENCY [ ] FEDERAL-AGENCY

CITY NAME: Hayward,

STATE: CA | ZIP CODE: 94543 | PHONE #, WITH AREA CODE: (415) 782-3434

IV. LEGAL NOTIFICATION AND BILLING ADDRESS

CHECK ONE (1) BOX INDICATING WHICH ABOVE ADDRESS SHOULD BE USED FOR BOTH LEGAL NOTIFICATION AND BILLING: I. [ ] II. [ ] III. [ ]

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT.

APPLICANT'S NAME (PRINTED & SIGNATURE): MANUEL MARQUES JR — DATE: AUG. 16, 1990

LOCAL AGENCY USE ONLY

COUNTY # | JURISDICTION # | AGENCY # | FACILITY ID # | # of TANKS at SITE

CURRENT LOCAL AGENCY FACILITY ID # | APPROVED BY NAME | PHONE # WITH AREA CODE

PERMIT NUMBER | PERMIT APPROVAL DATE | PERMIT EXPIRATION DATE

LOCATION CODE | CENSUS TRACT # | SUPERVISOR-DISTRICT CODE | BUSINESS PLAN FILED YES [ ] NO [ ] | DATE FILED

CHECK # | PERMIT AMOUNT | SURCHARGE AMOUNT | FEE CODE | RECEIPT # | BY:

THIS FORM MUST BE ACCOMPANIED BY AT LEAST (1) OR MORE TANK PERMIT FORM 'B' APPLICATION(S), UNLESS THIS IS A CHANGE OF SITE INFORMATION ONLY.

FORM A (3-2-88)

DATA PROCESSING COPY

STATE OF CALIFORNIA

FORM 'B': TANK

UNDERGROUND STORAGE TANK PROGRAM
TANK PERMIT APPLICATION INFORMATION

COMPLETE A SEPARATE FORM WITH THE FOLLOWING INFORMATION FOR EACH TANK.

No. 66746

MARK ONLY ONE ITEM

- [X] 1 NEW PERMIT
- [ ] 2 INTERIM PERMIT
- [ ] 3 RENEWAL PERMIT
- [ ] 4 AMENDED PERMIT
- [ ] 5 CHANGE OF INFORMATION
- [ ] 6 TEMPORARY TANK CLOSURE
- [ ] 7 PERMANENTLY CLOSED TANK
- [ ] 8 TANK REMOVED

FARM TANK - YES [ ] NO [X]

FACILITY/SITE NAME WHERE TANK IS INSTALLED:

I. TANK DESCRIPTION COMPLETE ALL ITEMS - IF UNKNOWN — SO SPECIFY

A. OWNERS TANK ID #

B. MANUFACTURED BY.

C. YEAR INSTALLED 1960

D. TANK CAPACITY IN GALLONS: 500 + 1000

II. TANK CONTENTS IF (A.1), IS MARKED, COMPLETE ITEM C. IF (A.1), IS NOT MARKED, COMPLETE ITEM D.

A
- [X] 1 MOTOR VEHICLE FUEL
- [ ] 2 PETROLEUM
- [ ] 3 CHEMICAL PRODUCT
- [ ] 4 OIL
- [ ] 5 HAZARDOUS
- [ ] 80 EMPTY
- [ ] 95 UNKNOWN

B.
- [ ] 1 PRODUCT
- [ ] 2 WASTE

C.
- [ ] 1 UNLEADED
- [X] 2 LEADED
- [ ] 3 DIESEL
- [ ] 4 GASAHOL
- [ ] 5 JET FUEL
- [ ] 6 AVIATION GAS
- [ ] 7 METHANOL
- [ ] 99 OTHER (DESCRIBE IN ITEM D, BELOW)

D. IF NOT MOTOR VEHICLE FUEL, ENTER NAME OF HAZARDOUS SUBSTANCE STORED & C.A.S # C.A.S #.

III. TANK CONSTRUCTION MARK ONE ITEM ONLY IN BOX A, B, C, & D

A. TYPE OF SYSTEM
- [ ] 1 DOUBLE WALLED
- [X] 2 SINGLE WALLED
- [ ] 3 SINGLE WALLED WITH EXTERIOR LINER
- [ ] 4 SECONDARY CONTAINMENT
- [ ] 95 UNKNOWN
- [ ] 99 OTHER

B. TANK MATERIAL
- [X] 1 STEEL/IRON
- [ ] 2 STAINLESS STEEL
- [ ] 3 FIBERGLASS
- [ ] 4 STEEL CLAD W/FIBERGLASS REINFORCED PLASTIC
- [ ] 5 CONCRETE
- [ ] 6 POLYVINYL CHLORIDE
- [ ] 7 ALUMINUM
- [ ] 8 100% METHANOL COMPATIBLE FRP
- [ ] 9 BRONZE
- [ ] 10 GALVANIZED STEEL
- [ ] 95 UNKNOWN
- [ ] 99 OTHER

C. INTERIOR LINING
- [ ] 1 RUBBER LINED
- [ ] 2 ALKYD LINING
- [ ] 3 EPOXY LINING
- [ ] 4 PHENOLIC LINING
- [ ] 5 GLASS LINING
- [X] 6 UNLINED
- [ ] 95 UNKNOWN
- [ ] IS LINING MATERIAL COMPATIBLE WITH 100% METHANOL? [ ] YES [ ] NO
- [ ] 99 OTHER

D. CORROSION PROTECTION
- [ ] 1 POLYETHLENE WRAP
- [X] 2 TAR OR ASPHALT
- [ ] 3 VINYL WRAP
- [ ] 4 FIBERGLASS REINFORCED PLASTIC
- [ ] 5 CATHODIC PROTECTION
- [ ] 91 NONE
- [ ] 95 UNKNOWN
- [ ] 99 OTHER

IV. PIPING INFORMATION CIRCLE A IF ABOVE GROUND, U IF UNDERGROUND, BOTH IF APPLICABLE

A. SYSTEM TYPE A (U) 1 SUCTION; A U 2 PRESSURE; A U 3 GRAVITY; A U 91 NONE; A U 95 UNKNOWN; A U 99 OTHER

B. CONSTRUCTION A (U) 1 SINGLE WALLED; A U 2 DOUBLE WALLED; A U 3 LINED TRENCH; A U 91 NONE; A U 95 UNKNOWN; A U 99 OTHER

C. MATERIAL A (U) 1 STEEL/IRON; A U 2 STAINLESS STEEL; A U 3 POLYVINYL CHLORIDE (PVC); A U 4 FIBERGLASS PIPE; A U 91 NONE; A U 5 ALUMINUM; A U 6 CONCRETE; A U 7 STEEL CLAD W/FRP; A U 8 100% METHANOL COMPATIBLE FRP; A U 9 GALVANIZED STEEL; A U 95 UNKNOWN; A U 99 OTHER

V. LEAK DETECTION SYSTEM CIRCLE P FOR PRIMARY, OR S FOR SECONDARY. A PRIMARY LEAK DETECTION SYSTEM MUST BE CIRCLED.

(P) S 1 VISUAL CHECK; P S 2 INVENTORY RECONCILIATION; P S 3 VADOSE WELLS; P S 4 ELECTRONIC MONITOR; P S 5 GROUND WATER MONITORING WELLS; P S 6 PRECISION TESTING; P S 7 PRESSURE TESTING; P S 91 NONE; P S 95 UNKNOWN; P S 99 OTHER

VI. INFORMATION ON TANK PERMANENTLY CLOSED IN PLACE

1. ESTIMATED DATE LAST USED (MO/YR)

2. ESTIMATED QUANTITY OF SUBSTANCE REMAINING IN GALLONS

3. WAS TANK FILLED WITH INERT MATERIAL? [ ] YES [ ] NO

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT.

APPLICANT'S NAME (PRINTED & SIGNATURE): MANUEL MARQUES JR

DATE: Aug. 16, 1990

LOCAL AGENCY USE ONLY

COUNTY # | JURISDICTION # | AGENCY # | FACILITY ID # | TANK ID #

CURRENT LOCAL AGENCY FACILITY ID # | APPROVED BY NAME | PHONE # WITH AREA CODE

PERMIT NUMBER | PERMIT APPROVAL DATE | PERMIT EXPIRATION DATE

CHECK # | PERMIT AMOUNT | SURCHARGE AMT. | FEE CODE | RECEIPT # | BY:

FORM B (6-25-88) THIS FORM MUST BE ACCOMPANIED BY A FACILITY/SITE APPLICATION, FORM 'A', UNLESS A CURRENT FORM 'A' HAS BEEN FILED

DATA PROCESSING COPY

STATE OF CALIFORNIA — WATER RESOURCES CONTROL BOARD

FORM 'B': TANK

UNDERGROUND STORAGE TANK PROGRAM
TANK PERMIT APPLICATION INFORMATION

COMPLETE A SEPARATE FORM WITH THE FOLLOWING INFORMATION FOR EACH TANK.

No. 66745

MARK ONLY ONE ITEM							
	☐ 1 NEW PERMIT	☐ 3 RENEWAL PERMIT	☐ 5 CHANGE OF INFORMATION	☐ 7 PERMANENTLY CLOSED TANK
	☐ 2 INTERIM PERMIT	☐ 4 AMENDED PERMIT	☐ 6 TEMPORARY TANK CLOSURE	☒ 8 TANK REMOVED

FACILITY/SITE NAME WHERE TANK IS INSTALLED: FARM TANK - YES ☐ NO ☒

I. TANK DESCRIPTION — COMPLETE ALL ITEMS - IF UNKNOWN — SO SPECIFY

A. OWNERS TANK ID #	B. MANUFACTURED BY:
C. YEAR INSTALLED	D. TANK CAPACITY IN GALLONS: 7,000

II. TANK CONTENTS — IF (A.1), IS MARKED, COMPLETE ITEM C. IF (A.1), IS NOT MARKED, COMPLETE ITEM D.

A		B.	C		
☒ 1 MOTOR VEHICLE FUEL	☐ 2 PETROLEUM	☒ 1 PRODUCT	☐ 1 UNLEADED	☐ 2 LEADED	☒ 3 DIESEL
☐ 3 CHEMICAL PRODUCT	☐ 4 OIL	☐ 2 WASTE	☐ 4 GASAHOL	☐ 5 JET FUEL	☐ 6 AVIATION GAS
☐ 5 HAZARDOUS	☐ 80 EMPTY ☐ 95 UNKNOWN		☐ 7 METHANOL	☐ 99 OTHER (DESCRIBE IN ITEM D. BELOW)	

D. IF NOT MOTOR VEHICLE FUEL, ENTER NAME OF HAZARDOUS SUBSTANCE STORED & C.A.S. # C.A.S. #

III. TANK CONSTRUCTION — MARK ONE ITEM ONLY IN BOX A, B, C, & D

A. TYPE OF SYSTEM	☐ 1 DOUBLE WALLED	☐ 3 SINGLE WALLED WITH EXTERIOR LINER	☐ 95 UNKNOWN	
	☒ 2 SINGLE WALLED	☐ 4 SECONDARY CONTAINMENT	☐ 99 OTHER	
B. TANK MATERIAL	☒ 1 STEEL/IRON	☐ 2 STAINLESS STEEL	☐ 3 FIBERGLASS	☐ 4 STEEL CLAD W/FIBERGLASS REINFORCED PLASTIC
	☐ 5 CONCRETE	☐ 6 POLYVINYL CHLORIDE	☐ 7 ALUMINUM	☐ 8 100% METHANOL COMPATIBLE FRP
	☐ 9 BRONZE	☐ 10 GALVANIZED STEEL	☐ 95 UNKNOWN	☐ 99 OTHER
C. INTERIOR LINING	☐ 1 RUBBER LINED	☐ 2 ALKYD LINING	☐ 3 EPOXY LINING	☐ 4 PHENOLIC LINING
	☐ 5 GLASS LINING	☒ 6 UNLINED		☐ 95 UNKNOWN
	☐ IS LINING MATERIAL COMPATIBLE WITH 100% METHANOL?	☐ YES ☐ NO		☐ 99 OTHER
D. CORROSION PROTECTION	☐ 1 POLYETHLENE WRAP	☒ 2 TAR OR ASPHALT	☐ 3 VINYL WRAP	☐ 4 FIBERGLASS REINFORCED PLASTIC
	☐ 5 CATHODIC PROTECTION	☐ 91 NONE	☐ 95 UNKNOWN	☐ 99 OTHER

IV. PIPING INFORMATION — CIRCLE A IF ABOVE GROUND U IF UNDERGROUND, BOTH IF APPLICABLE

A. SYSTEM TYPE	A (U) 1 SUCTION	A U 2 PRESSURE	A U 3 GRAVITY	A U 91 NONE	A U 95 UNKNOWN A U 99 OTHER
B. CONSTRUCTION	A (U) 1 SINGLE WALLED	A U 2 DOUBLE WALLED	A U 3 LINED TRENCH	A U 91 NONE	A U 95 UNKNOWN A U 99 OTHER
C. MATERIAL	A (U) 1 STEEL/IRON	A U 2 STAINLESS STEEL	A U 3 POLYVINYL CHLORIDE (PVC)	A U 4 FIBERGLASS PIPE	A U 91 NONE
	A U 5 ALUMINUM	A U 6 CONCRETE	A U 7 STEEL CLAD W/FRP	A U 8 100% METHANOL COMPATIBLE FRP	
	A U 9 GALVANIZED STEEL	A U 95 UNKNOWN	A U 99 OTHER		

LEAK DETECTION SYSTEM — CIRCLE P FOR PRIMARY, OR S FOR SECONDARY. A PRIMARY LEAK DETECTION SYSTEM MUST BE CIRCLED.

(P) S 1 VISUAL CHECK	P S 2 INVENTORY RECONCILIATION	P S 3 VADOSE WELLS	P S 4 ELECTRONIC MONITOR	P S 5 GROUND WATER MONITORING WELLS
P S 6 PRECISION TESTING	P S 7 PRESSURE TESTING	P S 91 NONE	P S 95 UNKNOWN	P S 99 OTHER

V. INFORMATION ON TANK PERMANENTLY CLOSED IN PLACE

1 ESTIMATED DATE LAST USED (MO/YR)	2 ESTIMATED QUANTITY OF SUBSTANCE REMAINING IN GALLONS	3 WAS TANK FILLED WITH INERT MATERIAL?
		☐ YES ☐ NO

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT.

APPLICANT'S NAME (PRINTED & SIGNATURE)	DATE
MANUEL MARQUES JR	Aug 16, 1990

LOCAL AGENCY USE ONLY

COUNTY #	JURISDICTION #	AGENCY #	FACILITY ID #	TANK ID #

CURRENT LOCAL AGENCY FACILITY ID #	APPROVED BY NAME	PHONE # WITH AREA CODE

PERMIT NUMBER	PERMIT APPROVAL DATE	PERMIT EXPIRATION DATE

CHECK #	PERMIT AMOUNT	SURCHARGE AMT.	FEE CODE	RECEIPT #	BY:

FORM B (6-29-88) THIS FORM MUST BE ACCOMPANIED BY A FACILITY/SITE APPLICATION, FORM 'A', UNLESS A CURRENT FORM 'A' HAS BEEN FILED

STATE OF CALIFORNIA — WATER RESOURCES CONTROL BOARD

FORM 'B': TANK

UNDERGROUND STORAGE TANK PROGRAM
TANK PERMIT APPLICATION INFORMATION

COMPLETE A SEPARATE FORM WITH THE FOLLOWING INFORMATION FOR EACH TANK.

NO. 68747

MARK ONLY ONE ITEM							
	☐ 1 NEW PERMIT	☐ 3 RENEWAL PERMIT	☐ 5 CHANGE OF INFORMATION	☐ 7 PERMANENTLY CLOSED TANK
	☐ 2 INTERIM PERMIT	☐ 4 AMENDED PERMIT	☐ 6 TEMPORARY TANK CLOSURE	☒ 8 TANK REMOVED

FACILITY/SITE NAME WHERE TANK IS INSTALLED: FARM TANK - YES ☐ NO ☐

I. TANK DESCRIPTION — COMPLETE ALL ITEMS - IF UNKNOWN — SO SPECIFY

A. OWNERS TANK ID #	B. MANUFACTURED BY:
C. YEAR INSTALLED	D. TANK CAPACITY IN GALLONS: 4,000

II. TANK CONTENTS — IF (A.1), IS MARKED, COMPLETE ITEM C. IF (A.1), IS NOT MARKED, COMPLETE ITEM D.

A.			B.	C.		
☒ 1 MOTOR VEHICLE FUEL	☒ 2 PETROLEUM		☒ 1 PRODUCT	☐ 1 UNLEADED	☐ 2 LEADED	☒ 3 DIESEL
☐ 3 CHEMICAL PRODUCT	☐ 4 OIL		☐ 2 WASTE	☐ 4 GASAHOL	☐ 5 JET FUEL	☐ 6 AVIATION GAS
☐ 5 HAZARDOUS	☐ 80 EMPTY	☐ 95 UNKNOWN		☐ 7 METHANOL	☐ 99 OTHER (DESCRIBE IN ITEM D, BELOW)	

D. IF NOT MOTOR VEHICLE FUEL, ENTER NAME OF HAZARDOUS SUBSTANCE STORED & C.A.S # C.A.S. #:

III. TANK CONSTRUCTION — MARK ONE ITEM ONLY IN BOX A, B, C, & D

A. TYPE OF SYSTEM	☐ 1 DOUBLE WALLED	☐ 3 SINGLE WALLED WITH EXTERIOR LINER		☐ 95 UNKNOWN
	☒ 2 SINGLE WALLED	☐ 4 SECONDARY CONTAINMENT		☐ 99 OTHER
B. TANK MATERIAL	☒ 1 STEEL/IRON	☐ 2 STAINLESS STEEL	☐ 3 FIBERGLASS	☐ 4 STEEL CLAD W/FIBERGLASS REINFORCED PLASTIC
	☐ 5 CONCRETE	☐ 6 POLYVINYL CHLORIDE	☐ 7 ALUMINUM	☐ 8 100% METHANOL COMPATIBLE FRP
	☐ 9 BRONZE	☐ 10 GALVANIZED STEEL	☐ 95 UNKNOWN	☐ 99 OTHER
C. INTERIOR LINING	☐ 1 RUBBER LINED	☐ 2 ALKYD LINING	☐ 3 EPOXY LINING	☐ 4 PHENOLIC LINING
	☐ 5 GLASS LINING	☒ 6 UNLINED		☐ 95 UNKNOWN
	☐ IS LINING MATERIAL COMPATIBLE WITH 100% METHANOL?		☐ YES ☐ NO	☐ 99 OTHER
D. CORROSION PROTECTION	☐ 1 POLYETHLENE WRAP	☒ 2 TAR OR ASPHALT	☐ 3 VINYL WRAP	☐ 4 FIBERGLASS REINFORCED PLASTIC
	☐ 5 CATHODIC PROTECTION	☐ 91 NONE	☐ 95 UNKNOWN	☐ 99 OTHER

IV. PIPING INFORMATION — CIRCLE A IF ABOVE GROUND, U IF UNDERGROUND, BOTH IF APPLICABLE

A. SYSTEM TYPE	A (U) 1 SUCTION	A U 2 PRESSURE	A U 3 GRAVITY	A U 91 NONE	A U 95 UNKNOWN	A U 99 OTHER
B. CONSTRUCTION	A (U) 1 SINGLE WALLED	A U 2 DOUBLE WALLED	A U 3 LINED TRENCH	A U 91 NONE	A U 95 UNKNOWN	A U 99 OTHER
C. MATERIAL	A (U) 1 STEEL/IRON	A U 2 STAINLESS STEEL	A U 3 POLYVINYL CHLORIDE (PVC)	A U 4 FIBERGLASS PIPE	A U 91 NONE	
	A U 5 ALUMINUM	A U 6 CONCRETE	A U 7 STEEL CLAD W/FRP	A U 8 100% METHANOL COMPATIBLE FRP		
	A U 9 GALVANIZED STEEL	A U 95 UNKNOWN	A U 99 OTHER			

V. LEAK DETECTION SYSTEM — CIRCLE P FOR PRIMARY, OR S FOR SECONDARY. A PRIMARY LEAK DETECTION SYSTEM MUST BE CIRCLED.

(P) S 1 VISUAL CHECK	P S 2 INVENTORY RECONCILIATION	P S 3 VADOSE WELLS	P S 4 ELECTRONIC MONITOR	P S 5 GROUND WATER MONITORING WELLS
P S 6 PRECISION TESTING	P S 7 PRESSURE TESTING	P S 91 NONE	P S 95 UNKNOWN	P S 99 OTHER

VI. INFORMATION ON TANK PERMANENTLY CLOSED IN PLACE

1. ESTIMATED DATE LAST USED (MO/YR)	2. ESTIMATED QUANTITY OF SUBSTANCE REMAINING IN GALLONS	3. WAS TANK FILLED WITH INERT MATERIAL? ☐ YES ☐ NO

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT.

APPLICANT'S NAME (PRINTED & SIGNATURE)	DATE
MANUEL MARQUES JR	Aug. 16, 1990

LOCAL AGENCY USE ONLY

COUNTY #	JURISDICTION #	AGENCY #	FACILITY ID #	TANK ID #

CURRENT LOCAL AGENCY FACILITY ID #	APPROVED BY NAME	PHONE # WITH AREA CODE

PERMIT NUMBER	PERMIT APPROVAL DATE	PERMIT EXPIRATION DATE

CHECK #	PERMIT AMOUNT	SURCHARGE AMT.	FEE CODE	RECEIPT #	BY:

FORM B (6-29-88) THIS FORM MUST BE ACCOMPANIED BY A FACILITY/SITE APPLICATION, **FORM 'A'**, UNLESS A CURRENT FORM 'A' HAS BEEN FILED

STATE OF CALIFORNIA — WATER RESOURCES CONTROL BOARD

FORM 'B': TANK

UNDERGROUND STORAGE TANK PROGRAM
TANK PERMIT APPLICATION INFORMATION

COMPLETE A SEPARATE FORM WITH THE FOLLOWING INFORMATION FOR EACH TANK.

MARK ONLY ONE ITEM

- ☐ 1 NEW PERMIT
- ☐ 2 INTERIM PERMIT
- ☐ 3 RENEWAL PERMIT
- ☐ 4 AMENDED PERMIT
- ☐ 5 CHANGE OF INFORMATION
- ☐ 6 TEMPORARY TANK CLOSURE
- ☐ 7 PERMANENTLY CLOSED TANK
- ☐ 8 TANK REMOVED

FACILITY/SITE NAME WHERE TANK IS INSTALLED: **FARM TANK - YES** ☐ **NO** ☐

I. TANK DESCRIPTION — COMPLETE ALL ITEMS - IF UNKNOWN — SO SPECIFY

A. OWNERS TANK ID #	B. MANUFACTURED BY:
C. YEAR INSTALLED: 1960	D. TANK CAPACITY IN GALLONS: 550

II. TANK CONTENTS — IF (A.1), IS MARKED, COMPLETE ITEM C. IF (A.1), IS NOT MARKED, COMPLETE ITEM D.

A.
- ☒ 1 MOTOR VEHICLE FUEL
- ☐ 2 PETROLEUM
- ☐ 3 CHEMICAL PRODUCT
- ☐ 4 OIL
- ☐ 5 HAZARDOUS
- ☐ 80 EMPTY
- ☐ 95 UNKNOWN

B.
- ☐ 1 PRODUCT
- ☐ 2 WASTE

C.
- ☐ 1 UNLEADED
- ☒ 2 LEADED
- ☐ 3 DIESEL
- ☐ 4 GASAHOL
- ☐ 5 JET FUEL
- ☐ 6 AVIATION GAS
- ☐ 7 METHANOL
- ☐ 99 OTHER (DESCRIBE IN ITEM D, BELOW)

D. IF NOT MOTOR VEHICLE FUEL, ENTER NAME OF HAZARDOUS SUBSTANCE STORED & C.A.S # — C.A.S. #:

III. TANK CONSTRUCTION — MARK ONE ITEM ONLY IN BOX A, B, C, & D

A. TYPE OF SYSTEM
- ☐ 1 DOUBLE WALLED
- ☒ 2 SINGLE WALLED
- ☐ 3 SINGLE WALLED WITH EXTERIOR LINER
- ☐ 4 SECONDARY CONTAINMENT
- ☐ 95 UNKNOWN
- ☐ 99 OTHER ____

B. TANK MATERIAL
- ☒ 1 STEEL/IRON
- ☐ 2 STAINLESS STEEL
- ☐ 3 FIBERGLASS
- ☐ 4 STEEL CLAD W/FIBERGLASS REINFORCED PLASTIC
- ☐ 5 CONCRETE
- ☐ 6 POLYVINYL CHLORIDE
- ☐ 7 ALUMINUM
- ☐ 8 100% METHANOL COMPATIBLE FRP
- ☐ 9 BRONZE
- ☐ 10 GALVANIZED STEEL
- ☐ 95 UNKNOWN
- ☐ 99 OTHER ____

C. INTERIOR LINING
- ☐ 1 RUBBER LINED
- ☐ 2 ALKYD LINING
- ☐ 3 EPOXY LINING
- ☐ 4 PHENOLIC LINING
- ☐ 5 GLASS LINING
- ☒ 6 UNLINED
- ☐ 95 UNKNOWN
- ☐ IS LINING MATERIAL COMPATIBLE WITH 100% METHANOL? ☐ YES ☐ NO
- ☐ 99 OTHER ____

D. CORROSION PROTECTION
- ☐ 1 POLYETHLENE WRAP
- ☒ 2 TAR OR ASPHALT
- ☐ 3 VINYL WRAP
- ☐ 4 FIBERGLASS REINFORCED PLASTIC
- ☐ 5 CATHODIC PROTECTION
- ☐ 91 NONE
- ☐ 95 UNKNOWN
- ☐ 99 OTHER ____

IV. PIPING INFORMATION — CIRCLE A IF ABOVE GROUND, U IF UNDERGROUND, BOTH IF APPLICABLE

A. SYSTEM TYPE	A (U) 1 SUCTION	A U 2 PRESSURE	A U 3 GRAVITY	A U 91 NONE	A U 95 UNKNOWN	A U 99 OTHER
B. CONSTRUCTION	A (U) 1 SINGLE WALLED	A U 2 DOUBLE WALLED	A U 3 LINED TRENCH	A U 91 NONE	A U 95 UNKNOWN	A U 99 OTHER
C. MATERIAL	A (U) 1 STEEL/IRON	A U 2 STAINLESS STEEL	A U 3 POLYVINYL CHLORIDE (PVC)	A U 4 FIBERGLASS PIPE	A U 91 NONE	
	A U 5 ALUMINUM	A U 6 CONCRETE	A U 7 STEEL CLAD W/FRP	A U 8 100% METHANOL COMPATIBLE FRP		
	A U 9 GALVANIZED STEEL	A U 95 UNKNOWN	A U 99 OTHER ____			

V. LEAK DETECTION SYSTEM — CIRCLE P FOR PRIMARY, OR S FOR SECONDARY, A PRIMARY LEAK DETECTION SYSTEM MUST BE CIRCLED.

(P) S 1 VISUAL CHECK	P S 2 INVENTORY RECONCILIATION	P S 3 VADOSE WELLS	P S 4 ELECTRONIC MONITOR	P S 5 GROUND WATER MONITORING WELLS	
P S 6 PRECISION TESTING	P S 7 PRESSURE TESTING	P S 91 NONE	P S 95 UNKNOWN	P S 99 OTHER ____	

VI. INFORMATION ON TANK PERMANENTLY CLOSED IN PLACE

1 ESTIMATED DATE LAST USED (MO/YR)	2 ESTIMATED QUANTITY OF SUBSTANCE REMAINING IN GALLONS	3 WAS TANK FILLED WITH INERT MATERIAL? ☐ YES ☐ NO

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT.

APPLICANT'S NAME (PRINTED & SIGNATURE)	DATE
[illegible]	8-29-90

LOCAL AGENCY USE ONLY

COUNTY #	JURISDICTION #	AGENCY #	FACILITY ID #	TANK ID #

CURRENT LOCAL AGENCY FACILITY ID #	APPROVED BY NAME	PHONE # WITH AREA CODE

PERMIT NUMBER	PERMIT APPROVAL DATE	PERMIT EXPIRATION DATE

CHECK #	PERMIT AMOUNT	SURCHARGE AMT.	FEE CODE	RECEIPT #	BY:

APPENDIX C

AGENCY LETTERS OF REQUIRED ACTION AND VIOLATION NOTICE

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

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Program
80 Swan Way, Rm. 200
Oakland, CA 94621
(415)

July 25, 1990

Manuel Marques, Jr.
J & M, Inc.
3826 Depot Rd.
Hayward, CA 94545

NOTICE OF VIOLATION

Dear Mr. Marques:

On June 28 and 29, 1990, I inspected your premises and discussed underground storage tank (UST) requirements with J & M employee Leo Neu. During my visit on June 29, I noted that two tanks toward the rear of the facility had been cut up and rinsed. I observed that water mixed with an oily liquid had flowed from the washed tanks, across your property and onto the driveway of the neighboring property, 3862 Depot Rd.

I then learned the following from Mr. Neu: The two cut up tanks had been excavated from the front of your property the previous week by J & M employees using company owned equipment. The tanks had been removed to the back of the property and stored there until June 29th, when they were cut into pieces and rinsed. No government agencies had been notified of the excavation and no soil or groundwater samples were taken to determine possible contamination from the tank contents.

Alameda County Ordinance Code Section 3-141.6 authorizes this office to levy fines upon UST owners for failure to submit closure plans and obtain necessary inspections. J & M, Inc., must remit a check, payable to Alameda County, for $558.00 as payment of this fine. In addition, you are required to submit a closure plan describing your tank removal activities and include a separate check for $558.00 to cover the costs of this agency's oversight of past and future removal and remediation activities in connection with the two excavated tanks.

The following violations of the Health and Safety Code (HSC) and the California Code of Regulations (CCR) were noted during the above mentioned site inspections:

1. Section 2670 (f) CCR - Failure to submit a closure plan to this agency for the removal of two underground tanks excavated on or about June 21, 1990. You must submit a closure plan for the removal operations. Tank permit and tank closure forms have been supplied to your company by my staff.

Section 2672 (d) CCR and 25298 (b)(4) HSC requires that tank owners investigate soil and groundwater contamination that may have occured in connection with the operation of removed tanks. You are required, upon contracting for soil and groundwater sampling and analysis services, to excavate all backfilled soil from the former tank location. Sample for total petroleum hydrocarbons (TPH D) as diesel and for benzene, toluene, ethyl benzene, and xylene (BTEX) as follows:

Sample groundwater in the pit. At least one groundwater sample must be taken. Sample undisturbed, native soil directly beneath the spots where the two tanks rested. At least one sample must be taken from beneath the smaller of the two tanks near the fill end. At least two samples must be taken from beneath the larger of the two tanks, one from each end. These samples must be taken according to Regional Water Quality Control Board guidelines and analyzed by a state certified laboratory.

2. Section 25189.5 (a) HSC - Residual diesel fuel, tank rinsate, and removed tanks were improperly disposed of. The tanks were cut and rinsed on site. No attempt was made to contain the residual fuel or rinsate. Residual fuel and tank rinsate are classified as hazardous waste and must be contained and subsequently disposed of under manifest at a permitted hazardous waste facility. Excavated fuel tanks destined for disposal must be transported under manifest to a permitted treatment facility for decontamination prior to disposal. In no case may tank rinsate be discharged onto the soil surface when no method of containment exists. Pursuant to section 25299.37 (a), HSC, you are required to begin a remediation of this contaminated soil. At a minimum, you must:

a. Establish TPH D levels throughout the stained area. At least three soil samples must be taken: One from beneath each of the tanks locations as of the time of the rinsing operation, and one from the stained area of the neighboring property's driveway (3862 Depot Rd.)
b. Remove and dispose of or remediate all soil from the stained area contaminated above detectable levels.

Submit a written work plan including a site diagram, a description of how you will determine the full lateral and vertical extent of contamination, sampling locations, sample analysis results from a state certified laboratory, and the intended treatment of the contaminated soil.

You must obtain an EPA Identification Number prior to shipping any hazardous waste from your site. Contaminated soil and groundwater collected as part of your remediation must be properly contained and disposed of. In no case shall hazardous waste storage exceed 90 days.

3. Section 25292 HSC and 2641 (a) CCR - The 1,500 gallon operating tank is not being monitored for detection of possible leaks. As discussed at the time of the inspection, an acceptable monitoring plan would include:

a. A yearly tank tightness test performed by a licensed tester. Arrange for a test and inform this office of the projected test date.
b. Inventory reconciliation that compares inputs minus outputs to a direct reading of tank contents. Fuel delivery amounts and metered withdrawals must be tracked using a written log. A running balance must be kept daily, and this balance must be reconciled with a daily reading taken from a gauged dip stick. A method of distinguishing between fuel level and water level in the tank must be used, such as using a water indicating paste applied to the gauged dip stick.
c. Observation of the appearance and performance of pipes for indication of leaks

Please submit to this office by August 10, 1990, the following documents pertaining to violations noted in the course of the inspection:

1. A completed tank closure plan accompanied by two separate checks for tank removal and penalty fees.
2. A completed form B tank permit application for the each of the removed tanks
3. A written summary of your progress in contracting for soil and groundwater sampling and analysis services. Include a timetable for beginning and completing this work.
4. A written timetable for the tank tightness test and monitoring plan for the remaining fuel tank.

Please note that 25299(a), HSC states that any UST owner or operator is liable for a civil penalty of not less than $500 or more than $5000 per day for failing to properly close an underground storage tank.

Upon approval of your sampling and closure plan, you must inform this office at least 48 hours prior to any soil excavation from the tank pit or rinsing area or to any soil or groundwater sampling. You may contact me with any questions at 271-4320.

Sincerely,

Pamela J. Evans

Pamela J. Evans
Hazardous Materials Specialist

c: Gil Jensen, Alameda County District Attorney's Office
Lester Feldman, Regional Water Quality Control Board
Howard Hatayama, California Department of Health Services
Ted Ferreira, Alameda County Fire Dept

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

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Program
80 Swan Way, Rm. 200
Oakland, CA 94621
(415)

November 28, 1990

Leo Neu
J & M, Inc.
3826 Depot Rd.
Hayward CA 94545

RE: Soil and Groundwater Sampling Results

Dear Mr. Neu:

Analyses of soil and groundwater samples from your site show contamination by petroleum fuel constituents. As stated in my correspondence dated August 21, 1990, you are required to submit a plan for remediation to this office. You were instructed to provide a plan by September 30, 1990, and then given an extension to November 20, 1990. As yet, no remediation plan has been submitted to this office. Your soil and groundwater remediation plan is due **no later than December 15, 1990.** It must, at a minimum, include the following elements:

I. Site History: You have provided some information on the permit application relevant to storage and use of petroleum fuels. For each existing and former underground tank on site, provide information about tank testing dates and results. Also describe the condition of removed tank and piping.

II. Site Description: Include a map showing streets, site buildings, existing and former underground tank and piping locations, subsurface conduits and utilities, onsite and nearby wells, streams, and water bodies. Also describe the hydrogeologic setting of the site and surrounding area.

III. Plan for Investigation of the Extent of Soil and Groundwater Contamination: Describe the method by which the depth and lateral extent of the contamination will be determined.

Consult the following document for sampling protocols: "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites", 10 August, 1990. A copy of this document may be obtained by calling the Regional Water Quality Control Board (RWQCB) at 464-1269.

A. Sampling results have shown groundwater to be contaminated. In order to characterize groundwater quality, you must install a minimum of three monitoring wells to determine groundwater gradient and to determine extent, concentration, and movement of groundwater contamination.

B. Specify your proposed groundwater monitoring schedule. Wells must be sampled at least monthly initially. Sampling must continue for a minimum of one year.

C. A technical report must be submitted by a qualified individual which presents and interprets the information generated during the initial subsurface site investigation. This report must include the following items:

1. Site history
2. Boring and well construction logs
3. Records of field observations and data
4. Chain-of-custody forms
5. Water level data
6. Water level contour map showing groundwater gradient
7. Contaminant plume maps
8. Laboratory issued analytical results for all samples
9. Summaries of soil and groundwater contaminant concentrations
10. Description of any remedial work performed
11. Copies of manifests for any hazardous wastes hauled offsite.
12. Any recommendations for additional investigative or remedial work

All reports and proposals must be signed by a California -Certified Engineering Geologist, a California-Registered Geologist or a California-Registered Civil Engineer (See Regional Board document). A statement of qualifications should be included in all workplans and reports.

IV. Remediation or Disposal of Contaminated Soil: Describe your proposed remediation or disposal method for all contaminated soil from the tank pit and tank rinse area. Also address groundwater remediation.

V. Disposition of Contaminated Fuel Tanks

All proposals, reports, and analytical results pertaining to this investigation and remediation must be sent to this office and to:

Richard Hiett
RWQCB
1800 Harrison St., Ste. 700
Oakland CA 94612

This office is working in conjunction with the RWQCB. This is a formal request for technical reports pursuant to California Water Code Section 13267 (b). Failure to respond will result in referral of this case to the RWQCB for enforcement and may subject your company to civil liabilities of up to $1000 per day.

Any extensions of time deadlines must be agreed upon in advance and confirmed in writing with this office. You may contact me with any questions at 271-4320.

Sincerely,

Pamela J. Evans

Pamela J. Evans
Hazardous Materials Specialist

c: Gil Jensen, Alameda County District Attorney's Office
Richard Hiett, Regional Water Quality Control Board

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

DEPARTMENT OF ENVIRONMENTAL HEALT
Hazardous Materials Program
80 Swan Way, Rm. 200
Oakland, CA 94621
(415)

August 21, 1990

Leo Neu
J & M, Inc.
3826 Depot Rd.
Hayward CA 94545

RE: Soil and Groundwater Sampling Performed August 20, 1990

Dear Mr. Neu:

As we discussed yesterday, I will expect sample analysis results and a tank closure plan from J & M by September 15, 1990. The closure plan must be accompanied by a check, payable to Alameda County, to cover the fines and fees outlined in the Notice of Violation issued July 25, 1990. The plan must also describe your proposed disposal method for the disassembled tanks and any contaminated soil from the tank pit and tank rinse area.

Should analysis results indicate groundwater contamination exists, you will be required to submit a plan for remediation no later than September 30, 1990. You may contact me with any questions at 271-4320.

Sincerely,

Pamela J. Evans

Pamela J. Evans
Hazardous Materials Specialist

c: Gil Jensen, Alameda County District Attorney's Office
Richard Hiett, Regional Water Quality Control Board

APPENDIX D

HAZARDOUS WASTE MANIFEST

FOR USED OIL

State of California—Health and Welfare Agency
Form Approved OMB No. 2050—0039 (Expires 9-30-91)

Department of Health Services
Toxic Substances Control Division
Sacramento, California

Please print or type. (Form designed for use on elite (12-pitch typewriter).

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. | Manifest Document No.

2. Page 1 of | Information in the shaded areas is not required by Federal law

3. Generator's Name and Mailing Address: S+M INC 3826 Dept RD Hayward CA 94543

A. State Manifest Document Number: 89637122

B. State Generator's ID:

4. Generator's Phone: (415) 782-3434

5. Transporter 1 Company Name: ALVISO INDEPENDENT OIL

6. US EPA ID Number: CAD980695340

C. State Transporter's ID: 001243

D. Transporter's Phone: (408) 262-2715

7. Transporter 2 Company Name:

8. US EPA ID Number:

E. State Transporter's ID:

F. Transporter's Phone:

9. Designated Facility Name and Site Address: ALVISO INDEPENDENT OIL, 1110 TAYLOR, ALVISO, CALIF. 95002

10. US EPA ID Number: CAD980695340

G. State Facility's ID: CAD980695340

H. Facility's Phone: (408) 262-2715

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. WASTE OIL N.O.S COMBUSTIBLE LIQUID NA 1270 - WATER -	001	TT	2000	G	State 221 / EPA/Other
b.					State / EPA/Other
c.					State / EPA/Other
d.					State / EPA/Other

J. Additional Descriptions for Materials Listed Above
1.1 USED OIL
1.2 WATER

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

15. Special Handling Instructions and Additional Information

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: C F O NEA | Signature | Month Day Year: 5/1/90

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month Day Year: 05/1/90

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: LARRY EARL | Signature | Month Day Year: 05/1/90

Do Not Write Below This Line

8022 A (1/88)
8700—22
v. 9-88) Previous editions are obsolete.

Yellow. TSDF SENDS THIS COPY TO GENERATOR WITHIN 30 DAYS

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

APPENDIX E
FIELD FORMS AND REFERENCE SUMMARIES

DAILY FIELD REPORT

TERRASEARCH ENVIRONMENTAL

DAY/DATE:	SHEET 1 of
PROJECT NAME:	PROJECT NO.:
SITE LOCATION:	

Weather (circle) Fair Overcast Fog Rain Snow	Wind: Calm Light Moderate Strong
Temp.: <0 0-32 33-54 55-79 >80	Wind from: N NE E SE S SW W NW
Humidity %: <25 26-49 50-74 >75	Precip.: None Mist Light Moderate Heavy

WORK PERFORMED:

continued on SHEET 2? Yes No

PROBLEM ENCOUNTERED:	CORRECTIVE ACTION TAKEN:

EQUIPMENT ON-SITE:

SAMPLING PERFORMED: **(complete a separate soil or water field log)**

PERSONNEL AND VISITORS ON-SITE: **(include company, agency, title)**

TELEPHONE CALLS MADE: **(include name, phone no., subject of conversation)**

SIGNATURE (each sheet) print name:	(sign)

TERRASEARCH, INC. (ENVIRONMENTAL)
Dublin, San Jose and Fairfield, California

GEOLOGIC LOG

SHEET ____ of ____

LOCATION SKETCH MAP:

Project No./Name:	CLIENT:
Project Location:	**Drill Hole No.:**
Drilling Co./Foreman:	Geologist:
Drilling Method/C57/Rig:	Sampling Method(s):

Drilling Start Date/Time:	Drilling End Date/Time:	Elevation:	Total Depth:	Surface Conditions:	Samples: ___ soil 55-gal bbls: _____
Depth 1st Water Date/Time:	Geophys. Logs: -	Sec-Tws-Rng	Laboratory:	C-O-C Number:	

DEPTH (feet)	SAMPLE NO.	SPT	Time	HC Odor	USCS CLASS	NAME	DENSITY	COLOR	MOISTURE	REMARKS
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

GEOLOGIC LOG - REFERENCE SUMMARIES (ENVIRONMENTAL)

Based On UNIFIED SOIL CLASSIFICATION SYSTEM and ASTM 2488

CAUTION - DO NOT USE THIS TABLE FOR GEOTECHNICAL PURPOSES

lower case = field (UPPER CASE = LABORATORY)

COARSE-GRAINED:

gw - well graded gravel ..... wg-gravel with sand; little or no fines
gp - poorly graded gravel ..... pg-gravel with sand; little or no fines
gm - silty gravel and silty gravel with sand
gc - clayey gravel and clayey gravel with sand
gw-gm - well graded gravel with silt ..... wg-gravel with silt and sand
gw-gc - well graded gravel with clay ..... wg-gravel with clay and sand
gp-gm - poorly graded gravel with silt ..... pg-gravel with silt and sand
gp-gc - poorly graded gravel with clay ..... pg-gravel with clay and sand
sw - well graded sand ..... wg-sand with gravel
sp - poorly graded sand ..... pg-sand with gravel
sw-sm - well graded sand with silt ..... wg-sand with silt and gravel
sw-sc - well graded sand with silt and gravel ..... wg-sand with clay and gravel
sp-sm - poorly graded sand with silt ..... pg-sand with silt and gravel
sp-sc - poorly graded sand with clay ..... pg-sand with clay and gravel
sm - silty sand and silty sand with gravel
sc - clayey sand and clayey sand with gravel

FINE-GRAINED:

ml - silt; silt w/sand; silt w/gravel; sandy silt; gravelly silt; gravelly silt w/sand
cl - lean clay; with sand; with gravel; sandy lean clay with gravel
mh - elastic silt; w/sand; w/gravel; sandy elastic silt; gravelly elastic silt w/sand
ch - fat clay; fat clay w/sand; sandy clay with gravel; gravelly fat clay w/sand
ol/oh - organic soil; w/sand; w/gravel; sandy organics soil w/sand or gravel

GRAIN ANGULARITY TERMS

angular
subangular
subrounded
rounded

CEMENTATION TERMINOLOGY

weak
moderate
strong

USE SYMBOL FOR: water level and date (open triangle = first encounter)

RELATIVE DENSITY / BLOWS/FOOT

Granular	
very loose	0 - 4
loose	5 - 10
medium dense	11 - 30
dense	31 - 50
very dense	>50
Fine-Grained	
very soft	0 - 2
soft	2 - 4
medium stiff	5 - 8
stiff	9 - 15
very stiff	16 - 30
hard	>30

NATURAL STATE MOISTURE TERMS:

CLAY

DRY - crumbles
MOIST - crumbs stick together
WET - soft and sticks to fingers

SILT

DRY - no color change in sun
MOIST - much color change in sun
WET - holds molded shape
SATURATED - free water drains

SAND

DRY - oven dried (not field)
HUMID - grains run freely
DAMP - cool, slight darkening in sun, grains adhere slightly
MOIST - cool, darker color in sun, grains adhere
WET - cool, makes hands wet, close to water table
SATURATED - below water table

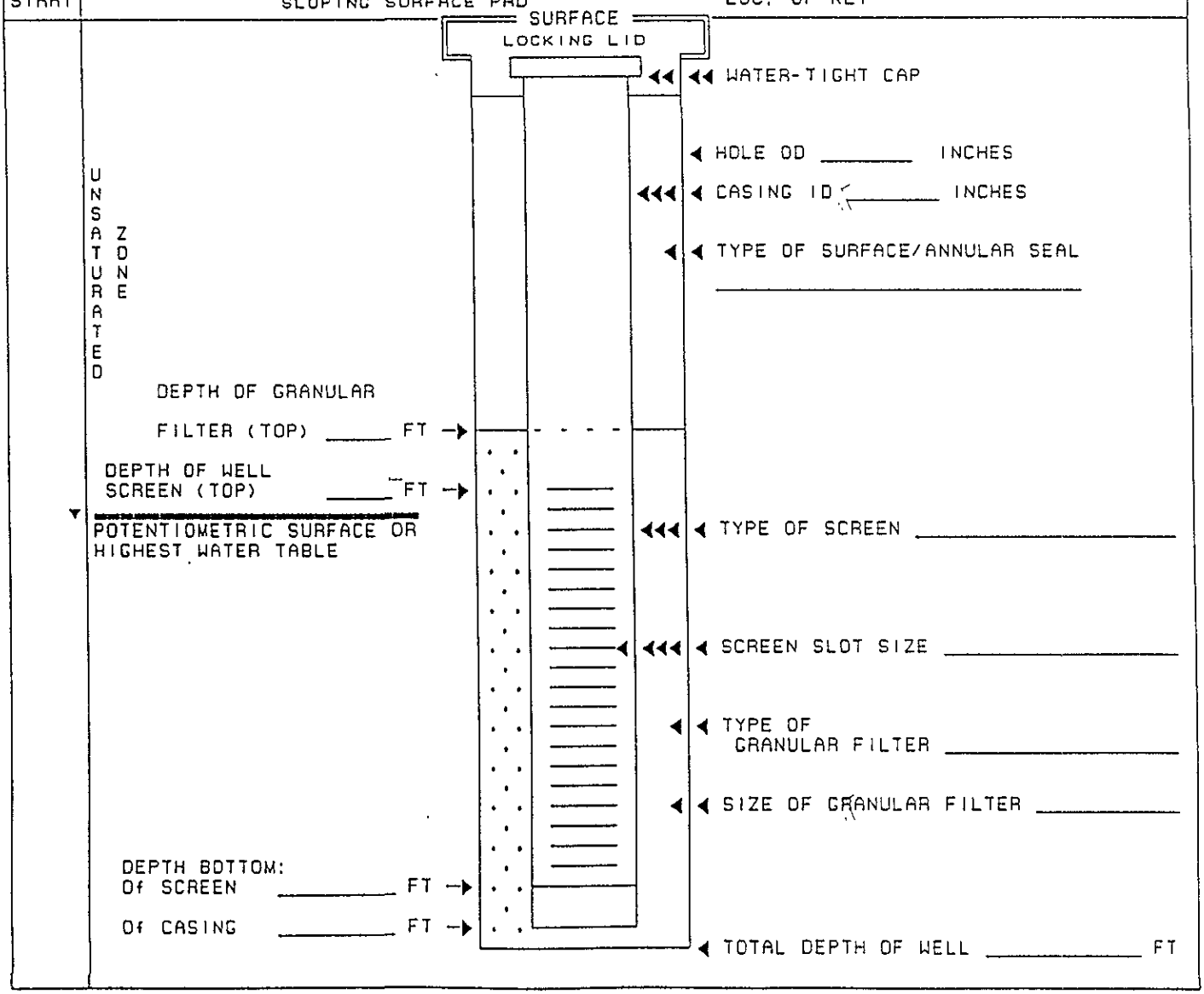
MISCELLANEOUS TERMS:

nonplastic - 1/8 thread cannot be rolled
low plasticity - 1/8 thread barely rolled
medium plasticity - 1/8 thread easy to roll; cannot re-roll after reaching plastic limit
high plasticity - much time rolling to reach limit; can be formed without crumbling
fissured - breaks along definite planes; little resistance
blocky - cohesive soil can be broken into angular lumps which resist breakdown
stratified - alternating layers material and/or color >6mm thick
laminated - alternating layers material and/or color <6mm thick
lensed - inclusion of pockets different soil
homogeneous - same color and appearance throughout
slickensided - fracture planes polished or glossy, striated

AS-BUILT WELL SKETCH

SHEET OF

LOCATION OF BORING . .	PROJECT INFORMATION NO.: NAME: LOCATION:	CLIENT: WELL NO. INSTALLED DATE/TIME START END
SURFACE CONDITIONS:	DRILLING CO./FOREMAN DRILLING METHOD/RIG MODEL	ELEVATION - DATUM - TOTAL DEPTH -
1ST GROUNDWATER DATE TIME / GEOLOGIST	GEOPHYS. LOGS:	SEC - TOWNSHP - RANGE
DEVELOPMENT METHOD	TYPE OF WELL (circle) MONITOR PUMP TEST OBSERVATION INJECTION DOMESTIC VAPOR OTHER _____	
CASING VOLUME		REMARKS:
GEN. STRAT	SLOPING SURFACE PAD	PADLOCK ID. NO. - LOC. OF KEY -



CHAIN-OF-CUSTODY RECORD

Send Report and Invoice To:

Terrasearch, Inc. (Environmental)
1580 N. Fourth Street
San Jose, California 95112-4676
(408) 453-1180

Sheet ____ of ____

C-O-C Control No.: _____
Project Name: _____
Project No.: _____
Samplers: _____
Carrier/Airbill No.: _____

LABORATORY NAME: _____ Telephone: _____ FAX: _____
Address: _____ *Certificate No.:* _____ *Contact:* _____

SIGNATURES (Name, Company, Date and Time):

Relinquished By: _____ Received By: _____

REQUEST FOR ANALYSIS

Sample No.	Sample Location	Date/Time Collected	Sample Type	Container Type/Size	Preservative	REQUESTED ANALYSIS	Detection Limit	Comment

White-Terrasearch Project File Yellow-Terrasearch Field File Pink - Laboratory Copy

TERRASEARCH, INC. (ENVIRONMENTAL)

INSTRUCTIONS FOR COMPLETING CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS FORM

Sheet: Number each COC and RFA sheet consecutively and total.

C-O-C Control No.: This is a unique number assigned to each record. The number is created by using the digits (not letters) of the PROJECT NUMBER, then YEAR-MONTH-DAY, For example: 6277900103 is Project Number 6277, (19)90, January (0)3rd.

Project Name and Number: Record the name of the project or client/site location. Record the project/billing number.

Samplers: List the names of all persons present during sampling.

Carrier/Airbill Number: Record the commercial carrier name and waybill, airbill or unique transportation identification number. Include the telephone number and contact person. If hand delivered by sampler, then write N/A in space.

Laboratory: Record the name, address, telephone and contact person where the samples are being shipped. Do not list more than one laboratory per C-O-C record.

Signatures: When releasing custody of the samples, sign the "Relinquished By" line. Be sure to witness the signature of the person signing "Received By". The date and time MUST be included.

Sample Number: List the unique sample number which MUST correspond to the identifying label on the sample container.

Sample Location: Record where the sample was taken and include an abbreviated description of the physical location. Record further details on a separate Sample Log Form if necessary.

Date and Time Collected: Record the date and exact time in 24-hour clock. Include the information for each sample.

Sample Type: Such as soil, water, sludge, wipe, air, bulk. Do not use "matrix".

Container Type and Volume: Record the dimensions, type, volume and color of the container.

Preservative: Such as, ice, blu-ice, nitric acid, sulfuric acid.

Requested Analysis: List each requested analysis per sample. DO NOT USE DITTO MARKS. Abbreviate as little as possible. Name exact method if known.

Detection Limit: Use the Drinking Water MCL standard or lowest possible detectable limit.

Comment: Indicate to the laboratory any special processing required. Indicate required "turnaround" times if other than normal. Indicate "Other Side" if space is required for further explanations and use the space below to enter the information.

Use the space below for comments, remarks, and sketches specific to the samples.

APPENDIX F

SITE SAFETY PLAN

TABLE OF CONTENTS

1. INTRODUCTION

This Plan describes for the worker basic minimum procedural and equipment requirements for onsite protection and outlines a contingency for emergency situations. Operating conditions may change during progress of the work which may require some modifications to certain portions of this Plan. This Plan shall be available to employees at the site, to their designated representatives, regulatory officials, and to all subcontractors involved in the project. The Plan is intended to identify, evaluate, and control safety and health hazards, and provide for emergency response.

All persons potentially exposed to site-specific contaminants during investigation sampling, excavation sampling, and/or remediation of any contaminated soil, water, or hazardous materials of any kind are subject to this health and safety and emergency response plan. Such persons shall include, but not be limited to, site visitors, inspectors, site personnel, and subcontractors. In addition, all contractors must comply with applicable OSHA (in California CAL-OSHA) standards which are unique to their trade or profession.

Each individual contractor is responsible for the health and safety requirements of its employees and representatives and subcontractors, and should comply with this Plan or shall prepare a separate health and safety plan.

All personnel shall be trained in the health and safety requirements of this health and safety plan in accordance with 29 CFR 1910.1200. All personnel required to wear respirators during work tasks shall be properly trained in the use of respirators, and shall have undergone qualitative fit testing.

2. RESPONSIBILITIES OF KEY PERSONNEL

The Project Manager will ensure that all requirements of this health and safety plan are implemented and followed by all persons and Team Members involved in the project.

Each contractor will establish clear lines of authority by designating a Project Safety Manager for enforcing compliance with the health and safety policies and procedures. Such enforcement includes providing field supervision, maintaining restricted work areas, enforcing safe work and hygiene practices, ensuring proper use of personal protective equipment, and communicating approved modified safety requirements to their respective site personnel and employees.

Each contractor will assign an Onsite Safety Coordinator who will be responsible for the field technical coordination of the health and safety plan. Specific duties will include: conducting periodic safety inspections, maintaining first aid kits and providing first aid as necessary, notifying the proper response agency in the event of an emergency, conducting site specific employee training and information sessions, conducting general air monitoring and employee personal exposure monitoring, and completing the necessary record keeping. Each Coordinator will be required to attend a health and safety meeting to be conducted at the site. Additional meetings may also be held during the project schedule.

The Project Manager, Project Safety Managers, or Onsite Safety Coordinators will each have the authority to stop any unsafe act or correct any unsafe conditions associated with the project. In addition, any individual on the site has the authority to stop any activity which creates an immediate danger to life or health.

3. SITE HISTORY

A preliminary site evaluation shall be performed prior to site entry by a trained person to aid in the selection of appropriate employee protection methods prior to site entry. During site entry, a more detailed evaluation of the site specific hazards shall be performed to further aid in the selection of appropriate engineering controls and PPE requirements. All immediately dangerous to life or health (IDLH) conditions shall be identified during the site evaluation.

A site-specific health and safety plan has been developed and is described below.

Proposed dates of field work:

3rd week in March 1991

Location:

Address: 3826 Depot Road, Hayward, California

A Site Map is shown in Figure 2 of the Work Plan.

Approximate acreage: 2.25

Topographic features: flat, approximately 1.1-miles east of nominal Bay tideline

Accessibility: through Depot Road gate; all other sides are fenced without gates

Known dispersion pathways: soil cuttings; asphalt cover on old UST excavation

Anticipated weather conditions: clear

Past use of the site: general construction supplies and equipment

Current use of the site: general construction supplies and equipment

Known on-site hazardous materials and wastes and their locations: soil and water beneath asphalt patch over previous UST excavation; waste oil containment area is immediately south of maintenance building

Physical and chemical state of known hazardous materials and wastes: soil and groundwater contaminated with diesel, gasoline and possibly BTXE

Range of known hazardous materials and wastes concentrations to date: TPHd 100 ppm on August 20, 1990; toluene 6.2 ppm same date for soil within previous UST excavation; TPHd of 8.1 ppm for water in excavation, same date; TPHd composite 230, 190 and 110 ppm near surface in soil southern part of property, August 20, 1990

4. NAMES OF KEY HEALTH AND SAFETY PERSONNEL

PROJECT ASSIGNMENT	NAME/AGENCY	PHONE
Project Manager:	Richard C. Kent, R.G., Terrasearch	(415) 833-9297
Project Safety Manager:	Neddal Ali-Adeeb, Terrasearch	(408) 453-1108
Onsite Safety Coordinator:	Neddal Ali-Adeeb, Terrasearch	(408) 453-1108
Client Contact:	Mr. Leo Neu, Landowner Representative	(415) 782-3434
	Mr. Manuel Marques, Jr., landowner	(415) 782-3434
Subcontractor:	HEW Drilling Co., Palo Alto	(415) 322-2851

5. SITE HAZARD SUMMARY

The general hazard determination and recommendation for site health and safety is:

____Serious ____Moderate _X_ Low ____Unknown

The minimum acceptable level of personal protective equipment is:

____Level A ____Level B ____Level C _X_ Level D

Any changes in the scope of work or site conditions must be amended in writing on the Site Safety Plan Amendment Sheet and approved by the Project Safety Manager.

Onsite equipment recommendation:

Onsite air monitoring equipment, Tyvek coveralls, portable sprayer for decontamination, containment tub for cleaning equipment, safety glasses, earplugs when drilling, chemical resistant gloves.

Onsite emergency equipment recommendation:

Air purifying respirators, cartridge, goggles, fire extinguisher, first aid kit, eye wash kit.

6. CHEMICALS OF CONCERN

The following chemicals may be encountered at the site: diesel fuel, leaded gasoline fuel.

7. GENERAL PHYSICAL SAFETY RULES

Employees will be provided with appropriate personal protective equipment as required by their respective employers. Only NIOSH/MSHS certified respiratory protective equipment may be used.

Individuals who do not have or who do not properly wear the required personal protective equipment shall either not be allowed on the site or shall be asked to leave the site or work site as appropriate until they can procure and properly wear the required protective equipment.

7.1. Physical Hazards

The following potential physical hazards shall be addressed at all times:

- Slip, trip and fall hazards shall be minimized.
- Protection of onsite personnel from being struck by, against, or caught in, on or between materials, structures or machinery.
- Moving equipment or machinery shall have all necessary safety devices required by OSHA.
- The ambient temperature shall be monitored and the necessary controls implemented to reduce heat stress.
- An area of 25-foot radius surrounding all drilling equipment and supplies shall be clearly marked with high intensity colored traffic cones, flagging tape, barricades, or similar traffic and personnel warning safety devices.
- Access within 25-feet radius of any onsite operation is prohibited to all but employee personnel and subcontractors. Space and facilities for decontamination of personnel and equipment shall be clearly marked and delineated.
- Spoil shall be kept at least two (2)-feet from the edge of any excavation. Excavations greater than five (5)-feet deep (or shallower if unstable soil) must be properly shored before entry.
- Heavy equipment shall be properly supported per manufacture guidelines.
- The site shall be secured with fences or by posting signs to warn and prevent the entry of unauthorized persons into the site.
- All electrical equipment and power cables must be equipped with a 3-wire ground wire and properly grounded.

7.2. Body Protection

All onsite personnel are required to wear Tyvek coveralls or cloth coveralls which must be removed at the end of the workday and retained safely on the site.

All onsite personnel are required to wear inner vinyl or latex surgical gloves with outer neoprene, cotton or canvas gloves taped to coverall sleeves, as required.

All onsite personnel are required to wear half face air purifying respirator equipped with cartridges approved for protection against organic vapors, as required.

7.3. Head Protection

All onsite personnel are required to wear a hard hat during drilling supervision, sampling investigations, and remediation activities while on the site. The hat must be worn properly and not altered in any way that would lessen head protection. All hats must meet ANSI Standard Z89.1.

7.4. Foot Protection

Steel tip safety boots are required for all onsite personnel during drilling supervision, sampling investigations, and remediation activities while on the site. All boots must meet ANSI Standard Z41.1/75.

7.5. Eye Protection

Eye protection is required to prevent eye injuries from contact with chemical and physical hazards. Safety glasses with eye shields are the minimum required eye protection for all onsite personnel. All safety eyewear must meet ANSI Standard Z87.1.

7.6. Ear Protection

Onsite personnel exposure to unnecessary noise shall be avoided at all times. The control of occupational noise exposures will comply with Title 8, CCR, 5095. Onsite personnel who operate, or are within ten (10)-feet of, gasoline or diesel powered equipment must wear hearing protection to limit the unnecessary exposure to noise.

8. EMERGENCIES

In the event of an accident or emergency situation, immediate action must be taken by the first person to recognize the event. First aid equipment is located onsite in the TERRASEARCH truck. Notify the Project Safety Manager and Onsite Safety Coordinator about the situation immediately after emergency procedures are implemented.

8.1. Emergency Telephone Numbers:

Immediate Emergencies:

Local Police:	Hayward, 911
State Police:	Hayward, 911
Fire:	Hayward, 911
Ambulance:	Oakland, 911

Medical:

Nearest Hospital: St. Rose Hospital

Telephone: 415-782-6200

Directions: turn right on Depot Road from site; when reach Hesparian Blvd. turn right; when reach W. Tennyson Road, turn left; when reach Calaroga Ave., turn left and the hospital is on the right side at 27200 Calaroga Street.

Poison Control Center: 1-800-535-0525
415-476-2845

Environmental Emergency:

National Response Center, EPA 24-hour Hotline: 1-800-424-8802

Regional EPA Office - Spills:	415-974-8131
TERRASEARCH, San Jose:	408-453-1180
TERRASEARCH, Dublin:	415-833-9297
TERRASEARCH, Fairfield:	707-422-3292

8.2. Emergency Situation

Personnel encountering a hazardous situation shall instruct others onsite to evacuate the vicinity immediately and call the Project Manager, Project Safety Manager, or, in their absence, the Principal Engineer for instructions.

The site must not be re-entered until the situation has been corrected.

8.3. Procedures For Injury

1. Call for ambulance or medical assistance if necessary. Notify the receiving hospital of the nature of physical injury or chemical overexposure.

2. Notify the Project Manager and Onsite Safety Coordinator. If the injury is minor, proceed to administer first aid and notify the Onsite Safety Coordinator.

8.3.1. First Aid

At least one person qualified to perform first aid will be present onsite at all times during work activity. This person will have earned a certificate in first-aid training from the American Red Cross or will have received equivalent training.

8.4. Emergency Treatment

In all cases of chemical overexposure, follow standard procedures for poison management, first aid, and if possible, cardiopulminary resuscitation.

8.4.1. Transportation To Emergency Treatment

A vehicle will be available at all times for use in transporting personnel to the hospital. Hospital routes shall be discussed prior to onsite activity. If it becomes necessary to transport an injured person to a hospital, bring this Plan to assist medical personnel with diagnosis and treatment.

8.4.2. Ingestion

Call the Poison Control Center: 415-476-2845 or 800-535-0525 or 911 for instructions.

If Vomiting IS NOT recommended by written instructions on the container with the poison, dilute the poison by making the person drink one or two glasses of water or milk. Do not use carbonated beverages.

If Vomiting IS recommended by written instructions on the container with the poison (never if person is unconscious or having convulsions), give two tablespoons (one ounce) of syrup of ipecac, followed by at least one cup of water. After ipecac has been swallowed, promptly get the person to the hospital. If vomiting does not occur within 20 minutes, repeat this procedure once.

8.4.3. Inhalation

Move the person from the contaminated area. Initiate CPR if necessary. Call or have someone call for emergency medical assistance. Refer to MSDS information. If necessary, transport the person to the nearest available hospital.

8.4.4. Skin Contact

Immediately wash off skin with a large amount of water. Remove any contaminated clothing and rewash skin using soap. If necessary, transport the person to the nearest available hospital.

8.4.5. Eyes

Hold eyelids open and rinse the eyes immediately with water for 15 minutes. If necessary, have the person remove contact lenses. Do not permit the eyes to be rubbed. If necessary, transport the person to the nearest available hospital.

9. CERTIFICATION AND ACKNOWLEDGEMENT STATEMENT

TERRASEARCH, Inc. - ENVIRONMENTAL

All TERRASEARCH, Inc. project personnel and subcontractor personnel are required to make the following certification prior to conducting work at the site.

I, _____ employed by _____
Name Employer

certify that I have read and fully understand the Site Safety Plan and my individual responsibilities and I agree to abide by the provisions of the Site Safety Plan.

_____
Signature

_____
Date

10. SITE SAFETY PLAN AMENDMENT SHEET

Terrasearch, Inc. - Environmental

Project Name: _____

Project No.: _____

Location: _____

_____

Changes in field activities or hazards: _____

_____

_____

Proposed Amendment: _____

_____

_____

Proposed by: _____

Approved by: _____

Amendment Number: _____

Effective Date: _____