JOHN BEERY ORGANIZATION
BUSINESS AND REAL ESTATE INVESTMENTS

August 30, 1989

Mr. Ariu Levi
Hazardous Materials Specialist
Alameda County Health Care Services Agency
80 Swan Way, Suite 200
Oakland CA 94612

Subject: Work Plan for Site Remediation
Mariner Warehouse
2410, 2420 Mariner Square Loop
Alameda CA 94501

Dear Mr. Levi:

Transmitted herewith is the Work Plan as required by the Alameda County Health Care Services Agency to complete the cleanup of the referenced property. The plan was prepared by Subsurface Consultants, Inc., who are acting in our behalf to assure proper compliance with all guidelines. The major points of the plan are summarized as follows:

1. Soils at the site contain elevated concentrations of light and heavy hydrocarbons.

2. Remediation work will be contracted by the current owner, Mariner Warehouse, a California Limited Partnership.

3. Subsurface Consultants, Inc. will provide environmental supervision and consultation services to Mariner Warehouse throughout the remediation process.

4. Remediation will involve excavation of contaminated material and bioremediation of contaminated soils.

5. Remediated soils will be used a backfill at the site.

6. Groundwater monitoring wells will be installed following planned development. A monitoring and analytical schedule will be negotiated with regulatory agencies. Extensive groundwater remediation is not anticipated to be required at the site.

SMK/O:48

2236 Mariner Square Drive
Alameda, California 94501
415/521-2726

The success of the proposed soil remediation technologies depends greatly on favorable weather conditions. The winter season is rapidly approaching; therefore, it is essential that the remediation begin as soon as possible. Accordingly, we request a prompt partial approval of the plan which would allow biotreatment to begin immediately.

Subsurface Consultants will be assisting us in the selection of any additional contractors necessary to complete the Work Plan. They will also provide you with additional details as required.

We would be pleased to discuss any questions you may have regarding this plan at your earliest convenience.

Thank you for your cooperation.

Sincerely,

John C. Beery, Jr.
General Partner,
Mariner Warehouse

Stanley M. Kintz
Project Manager

JCB:SMK:aa
enclosure: Work Plan

2236 Mariner Square Drive
Alameda, California 94501
415/521-2726

WORK PLAN
SITE REMEDIATION
MARINER WAREHOUSE
2410 and 2420 MARINER SQUARE LOOP
ALAMEDA, CALIFORNIA

Prepared for:

Mariner Warehouse, a California
Limited Partnership
2236 Mariner Square Drive
Alameda, California 94501

By:

Jeriann N. Alexander
Civil Engineer 40469 (expires 3/31/91)

R. William Rudolph
Geotechnical Engineer 741 (expires 12/31/92)

Subsurface Consultants, Inc.
171 12th Street, Suite 201
Oakland, California 94607
(415) 268-0461

August 31, 1989

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I INTRODUCTION

This work plan has been developed by Subsurface Consultants, Inc. (SCI) to establish procedures which will be implemented to cleanup contaminated soil and groundwater at 2410 and 2420 Mariner Square Loop in Alameda, California. The plan includes information regarding (1) general site history, as it relates to environmental concerns, (2) the hydrogeologic setting, (3) the extent of soil contamination, (4) proposed remedial activities, and (5) proposed groundwater monitoring/assessment.

A. Background

The Mariner Warehouse property encompasses an 8-acre parcel which is bounded by the Webster Street Tube exit ramp to the west, the Webster Street Tube entrance ramp to the east and Mariner Square Loop to the north, as shown on the Site Plan, Plate 1. SCI recently completed a preliminary environmental assessment of the property. The assessment consisted of researching the history of the site and analytically testing soil and groundwater samples to check for indications of contaminants.

In brief, our research indicated that the site was reclaimed from marshlands between the late 1800's and the mid-1900's. It has been owned by both private, state and other governmental entities since then. Numerous underground utilities cross, or have crossed, the site. Prior to the early 1970's, the site was

serviced by railroad spurs and was primarily used for miscellaneous storage.

From 1974 until the mid-1980's the site was leased to Import Service Corporation (ISC), a firm which prepared new automobiles for distribution. At the time of our investigation, the site was occupied by a warehouse which was used for servicing vehicles, and a car wash facility. The location of these facilities is shown on Plate 1. The warehouse service area was equipped with 10 hydraulic hoists. A hydraulic cylinder and an oil storage tank were situated beneath the concrete floor slab at each hoist location. Each hydraulic cylinder and oil storage tank combination held up to 60 to 80 gallons of hydraulic oil.

The car wash facility was operated to remove cosmolene, a wax based grease coating used to protect new vehicles during overseas transportation. A mixture of kerosine and/or diesel was added to the washwater to "cut" the cosmolene. The wastewater from the car wash was recycled on-site. The recycling process consisted of collecting the wastewater in a sump. The mixture was then pumped into an above ground holding tank. The wastewater was subsequently pumped into a cyclone separator, where grit and chemicals were allowed to settle out. The recycled water was then stored in another above ground holding tank, for later reuse in the car wash facility. The kerosine and diesel were stored in underground tanks situated just west of the car wash facility. In addition, an underground gasoline storage tank and dispenser were located just south of the car wash.

An undercoating booth was situated near the car wash facility. The booth was equipped with a car hoist and spraying equipment. The hoist contains a hydraulic cylinder and an oil storage tank, similar to those in the warehouse service area.

In November 1988, the three 10,000-gallon underground storage tanks were removed from the site. Hageman-Schank, Inc. (HSI) obtained and analyzed soil and water samples from the resulting excavations. Their test results indicated no detectable concentrations of total petroleum hydrocarbons (TPH) or benzene, toluene, xylene or ethylbenzene (BTXE) in the soils. However, water from the excavations contained detectable concentrations of TPH and BTXE. No additional soil excavation was undertaken and the tank excavations were backfilled. HSI installed one well in each excavation after backfilling. The results of HSI services are presented in the Appendix.

Testing performed during SCI's assessment indicated that soil contamination was present in four areas at the site. These areas and the types of contamination present are summarized below and shown on the Site Plan, Plate 1.

1. Car wash area - kerosine/diesel
2. Warehouse service area - hydraulic oil
3. Undercoating shed - hydraulic oil
4. Test Boring 18 - polynuclear aromatic hydrocarbons

HSI was subsequently retained by Mariner Warehouse, a California Limited Partnership, to investigate the extent of contamination identified by SCI. Minter & Fahy, a local contractor, was retained to assist HSI by removing the car hoist systems and excavating small trenches at the direction of HSI. Eight of the 10 hoists removed from within the warehouse service area were deteriorated and had leaked. The hoist in the undercoating booth had also leaked. Subsequent excavation and analytical testing in the hoist areas indicated that significant soil contamination had occurred. In addition, soils near the previous diesel/kerosine tank excavation appeared to contain elevated concentrations of TPH. It was mutually decided by HSI and Mariner Warehouse representatives, that further investigation would be hindered by the existing structures. Therefore, all site structures were demolished and removed from the site.

During demolition of the car wash area, a layer of waste sludge was removed from the bottom of one of the above ground holding tanks. Sludge was also removed from the car wash conveyor trench and undercoating pit. The sludge is believed to be composed of cosmolene, grit and diesel/kerosine. The sludge material is currently in a stockpile on-site. In addition, several drums of oil/waste oil and undercoating waste exist on-site.

Zaccor, a general contractor, and Uriah, Inc., an environmental services provider, were retained to excavate

contaminated soils and screen the soils in an attempt to determine the extent of contamination in the warehouse service area and the car wash area. Uriah screened the soils utilizing the Hanby Method, a colorimetric indication system used to identify petroleum hydrocarbon contaminated soils.

B. **Hydrogeologic Setting**

The site is situated on the north side of Alameda, about 1200 feet from the Oakland Inner Harbor channel shoreline. Prior to site filling, historical maps indicate that the site was marshland which was traversed by meandering tidal channels. SCI's investigation indicates that the site is underlain by 3 to 7 feet of medium dense clayey gravel fill. The fill is underlain by native marsh and bay deposits which consist primarily of soft, clayey silts and silty clays, locally referred to as Bay Mud. These soils are highly organic, compressible and possess a very low permeability. The Bay Mud contains layers of loose clayey to silty sand which likely were deposited along ancient tidal stream channels. The Bay Mud extends to depths of 85 to 95 feet and is underlain by dense, clayey and silty sands.

Groundwater exists about 3 to 7 feet below the groundsurface at the site. Groundwater likely represents water perched within the fill over the relatively low permeability Bay Mud deposits. The shallow water is brackish and does not have a current or potential beneficial use.

A summary of groundwater elevations measured during SCI's assessment are presented on Plate 5. These elevations are

referenced to an assumed datum, (100 feet at the top of the diesel well casing). The levels were measured in test borings and temporary monitoring wells which were left open for a period of a few weeks.

Based on the limited groundwater elevation data available to date, there does not appear to be a well-defined groundwater gradient at the site. Observations of test pits and trench excavations at the site indicate elevated groundwater levels adjacent to old storm drain pipes and in areas where the elevation of the Bay Mud appears higher due to displacement of the mud during filling. Based on the extent of soil contamination just above groundwater, we suspect that the groundwater migrates slowly toward the north northeast. Given the fact that the area is relatively level, and is essentially blanketed by asphalt concrete, little groundwater recharge occurs at the site. Hence, the rate at which groundwater flows within the shallow fill aquifer is very slow.

II EXTENT OF SOIL CONTAMINATION

A. Horizontal Extent

Soil contamination identified to date appears to be limited to a thin layer of fill situated above the fill/Bay Mud interface. This zone of contaminated material is primarily above the current groundwater level, which exists at an average depth of about 6 feet in the contaminated areas. The thickness of the contaminated zone is about 2 to 3 feet.

B. Lateral Extent

The lateral extent of contamination in each area appears to be somewhat dependent on several factors, such as the type of contaminant, quantity of product discharged and the direction of groundwater flow. The lateral extent of contamination in each area is discussed in the following sections.

1. Car Wash Area

Total petroleum hydrocarbon concentrations of about 1200 parts per million were detected in soil near the north end of the previous kerosine/diesel tank excavation during SCI's investigation. HSI conducted further investigations in this area by excavating numerous trenches and test pits. Several soil samples have been obtained from the fill situated just above the water level utilizing hand sampling equipment. HSI's data, as well as a description of sampling and analytical testing procedures, is presented in the Appendix. The results of

analytical tests and sample locations are summarized on Plate 2.

Based on our review of the data, it appears that the contamination in the car wash area, has been the result of releases from several sources. These sources likely include the above ground wastewater holding tanks, the below ground sump, surface spillage and tank overfilling. The lateral extent of contamination, as indicated on Plate 2, involves approximately 1700 square feet. The soil contamination generally appears to be situated at depths of 3 to 6 feet. Accordingly, up to 3800 cubic yards of soil may need to be excavated. Of this, up to 1900 cubic yards may be contaminated and require remediation.

To date, only limited excavation has been performed within the car wash area. Soils which have been excavated should be considered contaminated and will require treatment. Soil has been stockpiled away from hydraulic oil contaminated soils as shown on Plate 6.

2. **Warehouse Service Area**

During SCI's preliminary environmental assessment investigation, subsurface conditions adjacent to each hoist in the warehouse service area were checked for indications of soil contamination. SCI test results indicated the presence of oil and grease in concentrations ranging from 70 to 1200 ppm. SCI recommended that the hoists be removed. Upon removal, it was observed that 8 of the 10 hoists were severely corroded and had leaked substantial quantities of oil.

Further investigation in the area has been performed by enlarging the trenches created during hoist removal. Excavated soil has been stockpiled on-site at the location shown on Plate 6. The extent of excavation to date was determined by screening soils exposed in the side walls utilizing the Hanby method by Uriah, Inc. HSI collected confirmation samples which have been analyzed by a certified analytical laboratory. These test results are presented in the Appendix. Test results and sampling locations are summarized on Plate 3.

The lateral extent of contamination has generally been confirmed in the warehouse area. Only minor additional soil removal will likely be required. We estimate that approximately 1800 cubic yards of soil have been removed, in the area to date, and that up to an additional 500 cubic yards may ultimately need to be removed. Limited segregation of contaminated soil from "clean soil" has been undertaken in this area. In this regard, the soil directly below the previous concrete floor slab and above an old asphalt layer, is considered "clean' and is stockpiled separately from contaminated soils. Soil below the asphalt layer, which has been removed, should be considered contaminated and will require treatment.

3. **Undercoating Booth**

Oil contamination was not observed in the soil near the undercoating booth during SCI's assessment. However, surface spillage was observed and releases from similar hydraulic hoist systems were confirmed. As a result, SCI recommended that the

hydraulic hoist system be removed and that the area be checked for contamination. When the hoist system was removed, it was found to be badly deteriorated, and had leaked hydraulic oil. Soils in the booth area, below depths of 3 or 4 feet, appeared to be saturated with hydraulic oil. A film of hydraulic oil was observed floating on the groundwater surface in the booth excavation. HSI has collected and analyzed four soil samples from the walls of the booth excavation. These analyses are also presented in the Appendix. The extent of excavation, location of samples and test results are summarized on Plate 4.

The lateral extent of contamination in the undercoating booth area appears to be very limited. We anticipate that the contaminated soils exist within an area of approximately 3000 square feet. Approxiamtely 450 cubic yards of soil have been excavated to date. The excavated material has been stockpiled adjacent to the excavation. Additional excavation of up to about 300 cubic yards is anticipated in the area. Segregation of contaminated soil from "clean soil" has not been undertaken in this area. Therefore, the stockpiles should be considered contaminated and will require treatment.

4. **Polynuclear Aromatic Hydrocarbons**

Polynuclear aromatic hydrocarbons (PNA's) were detected in a soil sample from Test Boring 18. PNA's were not detected in any other samples. The PNA's detected on the property are coal tar derivatives that are regulated by the US EPA as priority pollutants. The PNA's detected are summarized below.

PNA Compound	Concentration (in ppb)
Fluoranthene	Trace
Pyrene	520
Chrysene	Trace
Benzo(b)flouranthene	Trace
Benzo(k)fluoranthene	Trace
Benzo(a)pyrene	340
Indeno(1,2,3-cd)perylene	1800
Benzo(ghi)perylene	570
Other EPA Method 8100 Chemicals	ND

Investigation to date has only identified PNA's in one sample. The lateral and vertical extent of contamination will be determined by excavating transecting trenches across the location of Test Boring 18 and visually inspecting the fill materials exposed. Soil samples will be obtained and analyzed at various locations to determine the extent of contamination.

III EXTENT OF GROUNDWATER CONTAMINATION

Several temporary groundwater monitoring wells have been installed at the site. Groundwater samples have been tested for a variety of priority pollutant organic chemicals, as well as TPH and TVH, none of which have been detected at concentrations above detection limits. To date, investigations have not revealed indications of significant groundwater contamination on-site.

Isolated small patches of a thin film of free floating petroleum product have been noted on the groundwater surface in the petroleum contaminated soil areas. The thin film of floating product will likely be removed by soil excavation near the

groundwater level. Free floating product will be removed by pumping, as subsequently discussed.

In order to assess the impact on groundwater, we propose that 8 groundwater monitoring wells be installed and monitored. One well will be situated near Test Boring 18 and one will be situated in the previous undercoating booth area. Three wells will be located in the previous car wash area and three in the previous warehouse service area. Proposed well locations are shown on Plate 5. Actual locations will be determined based on confirmation test results and the location of planned improvements.

Since the site is to be developed in the near future, we recommend that monitoring wells be installed following site grading and paving. In general, the wells will consist of 2-inch-diameter PVC well casings installed in 8-inch-diameter boreholes. The well casings will have flush, threaded joints. The lower 10 feet of the wells will consist of slotted well screen (0.02-inch slot size) and will be provided with a threaded bottom cap. The top of the slotted well section will be positioned about 2 feet above the existing groundwater level. The well screen will be encased in a sand filter consisting of No. 3 washed sand. The remaining well casing will be solid casing. A one-foot-thick bentonite seal will be placed on top of the sand filter. The annulus above the fill, will be backfilled with a cement grout. The wells will be completed below grade and protected by steel locking well covers.

We propose that groundwater be sampled and analyzed in accordance with the schedule presented below.

GROUNDWATER SAMPLING SCHEDULE

Year	Sampling Interval
1 and 2	Quarterly sampling
3 thru 5	Semi-annually
Beyond Year 5	Annually

Water samples from the wells will be analyzed for (1) oil and grease, (2) total volatile hydrocarbons, (3) total extractable hydrocarbons, and (4) purgeable aromatics. Detection limits for the analysis will be as specified in the current Regional Water Quality Control Board guidelines. The well near the previous Boring 18 will be analyzed for PNA's. Analytical results will be recorded in letter reports following each sampling event.

If the test results indicate no detectable hydrocarbons for at least 4 consecutive sampling events, a request to cease monitoring will be filed with the Alameda County Health Care Services Agency (ACHCSA).

IV PROPOSED REMEDIAL ACTIVITIES

A. Remediation of Petroleum Hydrocarbon Soil Contamination

The 8-acre site is vacant and completely fenced. It is not readily accessible to the public. Based on these reasons and the presence of favorable soil conditions, it is desired to treat the contaminated soils on-site utilizing bio-remediation techniques. Uriah, Inc. has been retained to provide environmental services during remediation. To date contractors have not been retained to complete the additional required excavation.

1. Soil Sampling and Analytical Testing

Soil samples will be obtained at about 25 foot intervals along the sidewalls and bottom of the excavations to confirm that adequate cleanup has been attained. Soil samples will be retained in clean 2-inch-diameter brass liners utilizing hand sampling equipment. The ends of the liners will be sealed with the Teflon sheeting, plastic caps and duct tape. The samples will be refrigerated on-site until delivery to the analytical laboratory. ok

Soil samples will be transmitted to a Department of Health Services certified analytical laboratory along with appropriate chain-of-custody documents. The analytical testing program will include the following analysis. etc

1. Total volatile hydrocarbons (TVH), sample preparation using EPA Method 5030 (purge and trap); analyses using EPA Method 8015 (gas chromatograph coupled to a flame ionization detector),

2. Total extractable hydrocarbons (TEH), sample preparation using EPA Method 3550 (sonication); analyses using EPA Method 8015 (modified),

3. Total oil and grease (TOG), sample preparation using EPA Method 3550 (Freon extraction) and analyses using Standard Method 503E (gravimetric determination), and

4. Purgeable Aromatic Compounds (BTXE), sample preparation using EPA Method 5030, analyses using EPA Method 8020 (gas chromatograph and mass spectrometer).

2. Clean Soil Excavation

Contaminated soil in the car wash area, the undercoating booth area and in the warehouse service area are overlain by "clean soil". In general, the clean soil will be removed to expose contaminated materials within the approximate remediation areas shown on Plates 2, 3 and 4. The excavated "clean soil" will be stockpiled separately on-site, away from contaminated soil stockpiles.

Analytical testing will be performed to confirm that the "clean soil" does not contain petroleum hydrocarbons. In this regard, four soil samples will be obtained for every 50 cubic yards of clean soil. These four samples will be composited into one sample for analytical testing. The samples will be analyzed for TEH, TVH and TOG, depending on the area of contamination.

3. Contaminated Soil Excavation

Contaminated soils will be removed from within the proposed remediation areas. Excavation and subsequent analytical testing will be performed until the level of contamination exposed in the sidewalls and bottom of the excavations is below 100 ppm, as TEH or TVH in the kerosine/diesel contaminated area and 100 ppm as TOG or TEH in the hydraulic oil contaminated areas. Contaminated soil will be stockpiled and covered until remediation begins.

4. Bioremediation

Petroleum hydrocarbon contaminated soils will be spread onto hydrocarbon resistance liners in windrows measuring approximately 100 by 10 feet in plan. The biotreatment area will be bermed to reduce the risk of runoff. Hydrocarbon-utilizing bacteria and nutrients will then be introduced into each biotreatment area. The treatment areas will be periodically tilled until TOG and TEH concentrations are below 10 ppm, as determined by appropriate testing by a certified analytical laboratory. Once this level is attained, the biotreated soils will be removed from the treatment area. Uriah indicates that it may take 8 to 10 weeks per treatment area, depending on bacteria growth and weather conditions. A copy of Uriah's technical proposal is presented in the Appendix.

5. **Contaminated Groundwater Removal**

If a sheen or free product exists on the groundwater exposed in the excavations, the groundwater will be removed from the excavation by a vacuum truck. The water will be transported under a manifest to an appropriate treatment facility.

B. **Waste Disposal**

During site demolition, drums containing oil were removed from the structures and stored in an area situated south of the previous undercoating booth. An oil recycling company will be retained to remove and recycle the oil.

Sludge materials were also removed during site demolition and have been stockpiled or stored in drums in the oil drum area. The sludge material will be transported under appropriate manifest and disposed of at a Class 1 disposal facility. This material will be handled and transported in accordance with California State Department of Health Services, Federal Department of Transportation and other applicable codes and regulations. The removal contractor will be required to identify the licensed transporter and the disposal facility and indicate their EPA identification numbers prior to disposal.

C. **Hydraulic Oil Tank Cleaning and Disposal**

Once a removal contractor has been selected, an underground tank closure/modification plan will be submitted to the ACHCSA. If necessary, a removal permit will be obtained from the Alameda Fire Department. The tanks will be cleaned on-site in a bermed

area. The washwater will be removed by a vacuum truck and transported under manifest to an appropriate treatment facility. The cleaned tanks will be taken to a local recycling facility.

D. **Remediation of PNA Contamination**

The extent of PNA contamination will be determined by excavating trenches about 5 feet deep near the location of Test Boring 18 as shown on Plate 4. The fill materials exposed will be visually inspected, sampled and analytically tested for the presence of PNA's.

Based on the results of analytical testing, the area requiring remediation will be delineated. Remediation, if required, will likely involve excavation of the contaminated soil and disposal at a Class 1 landfill.

V EXCAVATION BACKFILLING

The site is to be developed as an office park. Excavations created during remediation must be properly backfilled to reduce the risk of differential settlement of proposed improvements.

Based on the proposed remediation plan, up to 7000 cubic yards of soil will be required to backfill the excavations created by remediation. Clean and contaminated materials previously excavated from the site represent ideal backfill material from a geotechnical standpoint. Therefore, we propose that once cleanup levels have been attained, the clean and remediated soils be used as site fill. Given the hydrogeologic

setting of the site, we judge that the small amount of petroleum hydrocarbons, if any, which remain in the remediated soil will pose, little, if any, significant threat to groundwater quality.

Prior to backfill placement, the subgrade should be firm and non-yielding. If unstable and/or saturated soils are exposed, a bridging layer should be constructed. The layer should consist of a geotextile reinforcing fabric (Mirafi 500X or an approved alternative) overlain by at least 12 inches of 3 inch maximum size crushed rock.

Backfill should be placed and compacted in 8-inch-thick horizontal layers. Fill should be compacted to at least 90 percent relative compaction, as determined by ASTM D1557 test procedures. Compaction will be confirmed by field density testing by nuclear methods.

VI REPORTING

Remediation will be documented in a written report submitted with a cover letter from Mariner Warehouse. The report will summarize field activities and present the results of confirmation testing. The report will be signed by R. William, Rudolph, who is a registered Civil and Geotechnical Engineer in the State of California. Mr. Rudolph's and SCI's qualifications are presented in the Appendix.

VII HEALTH AND SAFETY PLAN

A copy of Uriah, Inc.'s Health and Safety Plan for the bio-remediation portion of the project is inserted in the Appendix. Since a contractor has not been selected to conduct the additional excavation, SCI has provided a guideline Health and Safety Plan for that portion of the work. SCI's employees and future contractors' activities will conform to the requirements of the guideline health and safety plan.

List of Attached Plates:

Plate 1	Site Plan
Plate 2	Kerosine Contamination Area
Plate 3	Warehouse Contamination Area
Plate 4	Undercoating Shed Contamination Area
Plate 5	Groundwater Data
Plate 6	Stockpile Location
Plate 7	Well Construction Details

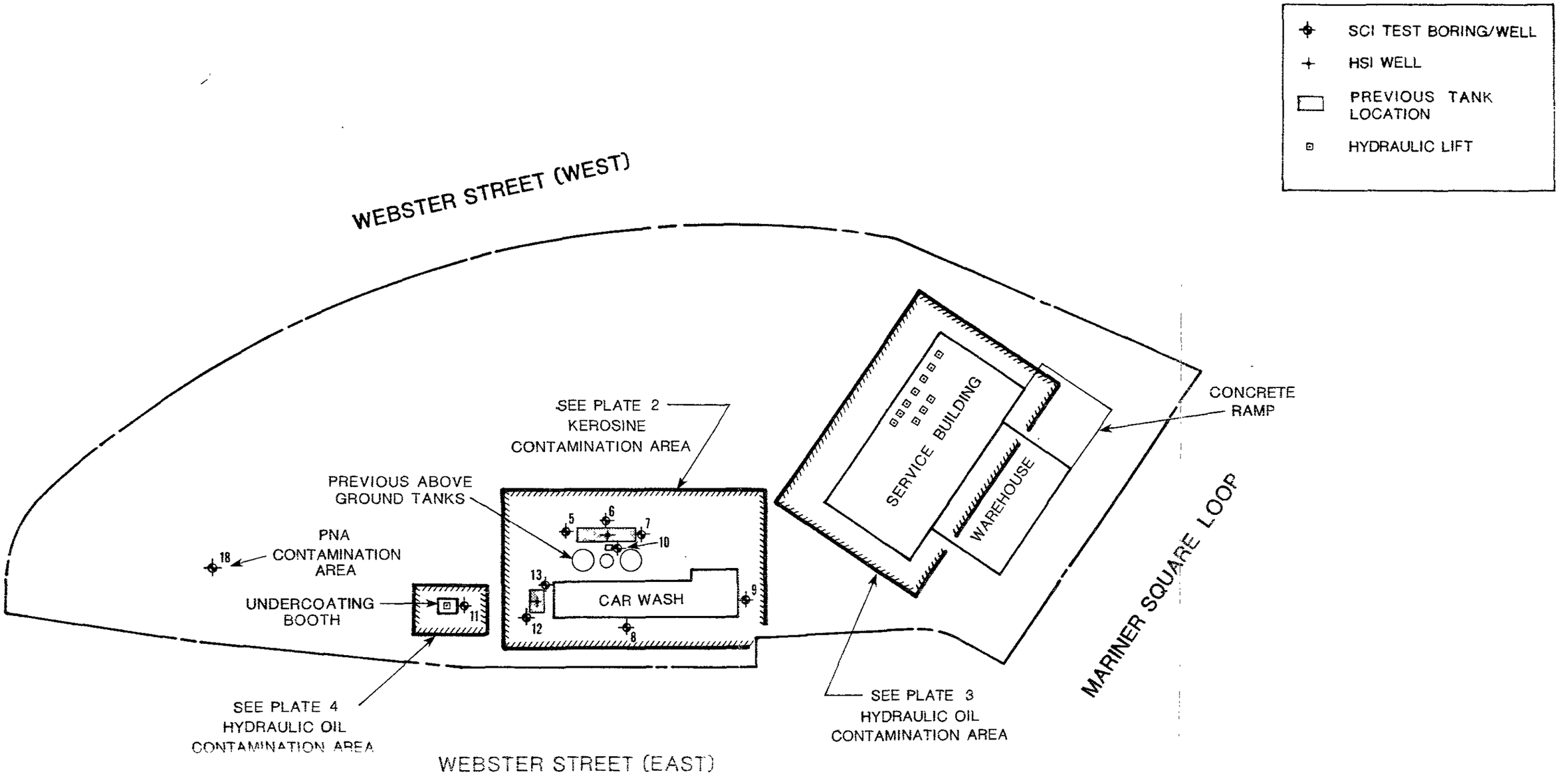
Appendix:

A. HSI's Previous Report and Analytical Test Results

B. Uriah Proposal and Health & Safety Plan

C. SCI Health & Safety Plan and Qualifications

JNA:RWR:clh



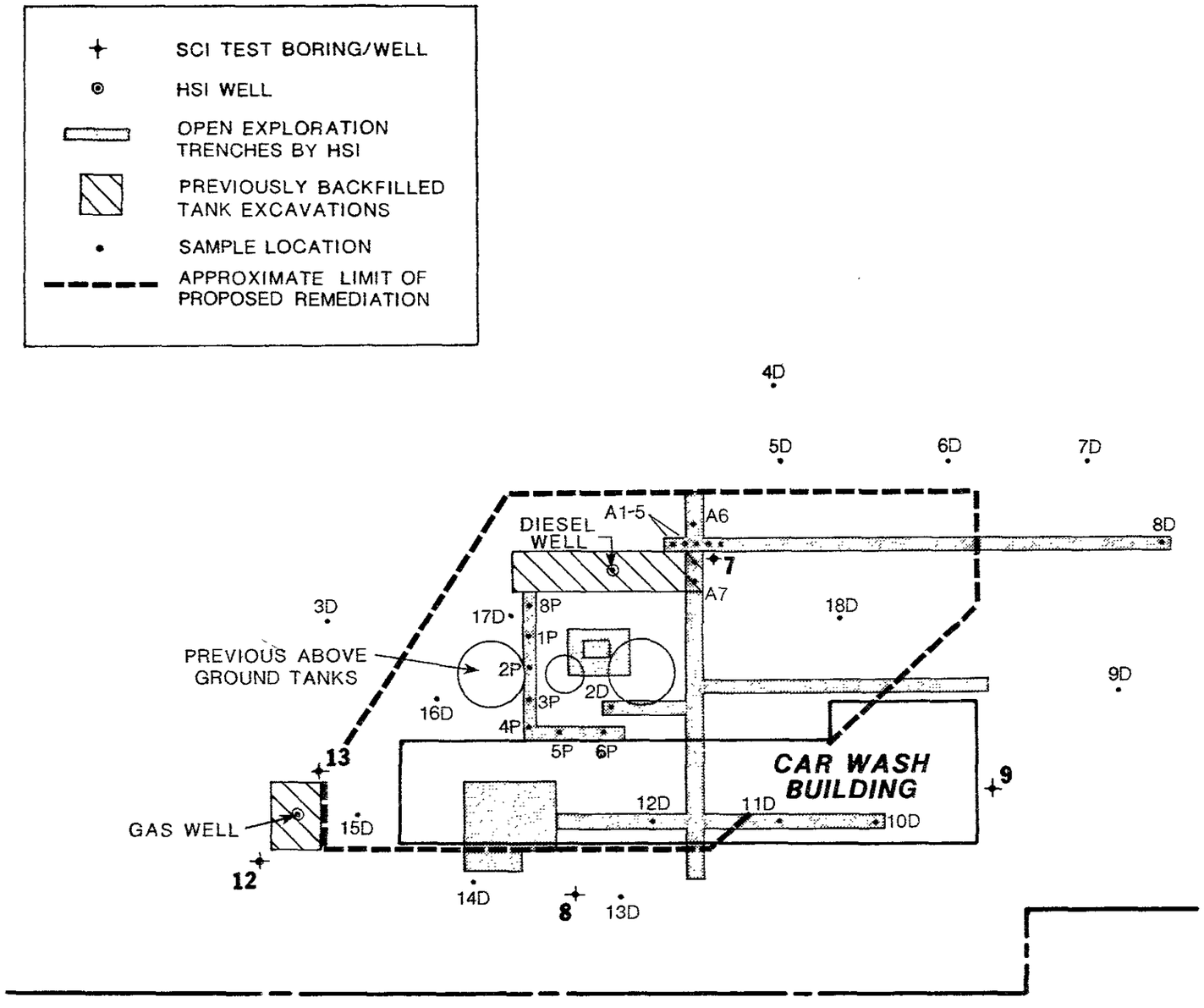
SITE PLAN

Subsurface Consultants

MARINER WAREHOUSE ALAMEDA, CA

JOB NUMBER 864.01 DATE 8/31/89 APPROVED

PLATE 1



Investigator	Date	Sample Location	Sample Depth (feet)	TPH Concentration (ppm)
SCI	2/23/89	7	4.0	1200
SCI	2/23/89	12	3.5	ND
SCI	2/23/89	13	3.5	ND
HSI	4/06/89	A1	4.0	2000
HSI	4/06/89	A2	4.0	460
HSI	4/06/89	A3	4.0	34000
HSI	4/06/89	A4	4.0	200
HSI	4/06/89	A5	4.0	ND
HSI	4/07/89	A6	4.0	60
HSI	4/07/89	A7	4.0	ND
HSI	7/14/89	1D	4.5	ND
HSI	7/14/89	2D	4.5	5800
HSI	7/14/89	3D	4.5	ND
HSI	7/14/89	4D	4.5	ND
HSI	7/14/89	5D	4.5	ND
HSI	7/14/89	6D	4.5	ND
HSI	7/14/89	7D	4.5	ND
HSI	7/14/89	8D	4.5	ND
HSI	7/14/89	9D	4.5	ND
HSI	7/14/89	10D	4.5	ND
HSI	7/14/89	11D	4.5	ND
HSI	7/14/89	12D	4.5	700
HSI	7/14/89	13D	4.5	ND
HSI	7/14/89	14D	4.5	ND
HSI	7/14/89	15D	4.5	2200
HSI	7/14/89	16D	4.5	13
HSI	7/14/89	17D	4.5	ND
HSI	7/14/89	18D	4.5	1800
HSI	7/14/89	1P	1.5	ND
HSI	7/14/89	2P	1.5	ND
HSI	7/14/89	3P	1.5	ND
HSI	7/14/89	4P	1.5	ND
HSI	7/14/89	5P	1.5	ND
HSI	7/14/89	6P	1.5	ND
HSI	7/14/89	8P	1.5	ND

SCI = Subsurface Consultants, Inc.
HSI = Hageman-Sohns A, Inc
TPH = Total Petroleum Hydrocarbons
ppm = parts per million

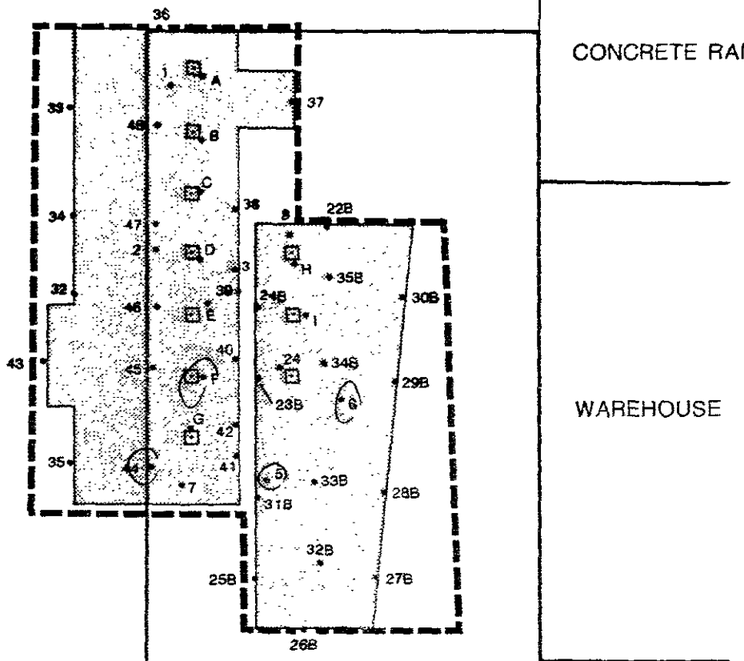
KEROSINE CONTAMINATION AREA

Subsurface Consultants

MARINER WAREHOUSE - ALAMEDA, CA

JOB NUMBER 554.002 | DATE 8/24/89 | APPROVED

PLATE 2



Investigator	Date	Sample Location	Sample Depth Feet	Concentrations in ppm O/G
SCI	2/27/89	A	3.0	340
SCI	2/27/89	B	5.0	470
SCI	2/27/89	C	4.0	ND
SCI	2/27/89	D	4.0	ND
SCI	2/27/89	E	3.5	ND
SCI	2/27/89	F	4.0	1200
SCI	2/27/89	G	4.0	70
SCI	2/27/89	H	4.0	72
SCI	2/27/89	I	4.0	78
SCI	2/27/89	24	4.0	210

Investigator	Date	Sample Location	Sample Depth Feet	Concentrations in ppm TPH
HSI	4/14/89	1	4.0	580
HSI	4/14/89	2	4.0	2600
HSI	4/14/89	3	4.0	680
HSI	4/14/89	4	4.0	4800
HSI	4/14/89	5	4.0	41000
HSI	4/14/89	6	4.0	9600
HSI	4/14/89	7	4.0	ND
HSI	4/14/89	8	4.0	ND
HSI	4/14/89	22B	4.0	ND
HSI	4/14/89	23B	4.0	ND
HSI	4/14/89	24B	4.0	ND
HSI	4/14/89	25B	4.0	ND
HSI	4/14/89	26B	4.0	ND
HSI	4/14/89	27B	4.0	ND
HSI	4/14/89	28B	4.0	360
HSI	4/14/89	29B	4.0	ND
HSI	4/14/89	30B	4.0	80
HSI	4/14/89	31B	4.0	ND
HSI	4/14/89	32B	7.0	94
HSI	4/14/89	33B	7.0	62
HSI	4/14/89	34B	7.0	37
HSI	4/14/89	35B	7.0	83
HSI	7/25/89	32	4.0	ND
HSI	7/25/89	33	4.0	ND
HSI	7/25/89	34	4.0	ND
HSI	7/25/89	35	4.0	ND
HSI	7/25/89	36	4.0	ND
HSI	7/25/89	37	4.0	ND
HSI	7/25/89	38	4.0	ND
HSI	7/25/89	39	4.0	ND
HSI	7/25/89	40	4.0	ND
HSI	7/25/89	41	4.0	ND
HSI	7/25/89	42	4.0	ND
HSI	7/25/89	43	4.0	ND
HSI	7/25/89	44	7.0	1900
HSI	7/25/89	45	7.0	550
HSI	7/25/89	47	7.0	58
HSI	7/25/89	48	7.0	98
HSI	7/25/89	49	7.0	150

APPROXIMATE LIMIT OF PROPOSED REMEDIATION

• SAMPLE LOCATION

HYDRAULIC LIFT

OPEN EXPLORATION TRENCHES BY HSI AND URS

APPROXIMATE SCALE (feet)

0 40 80

SCI = Surface Consultants, Inc.

HSI = Hagener-Schenk, Inc.

ppm = parts per million

T&G = Total Oil and Grease

TPH = Total Petroleum Hydrocarbons

SERVICE BUILDING
HYDRAULIC OIL CONTAMINATION AREA

Subsurface Consultants

MARINER WAREHOUSE - ALAMEDA, CA

JOB NUMBER 884.03

DATE 8/27/89

APPROVED

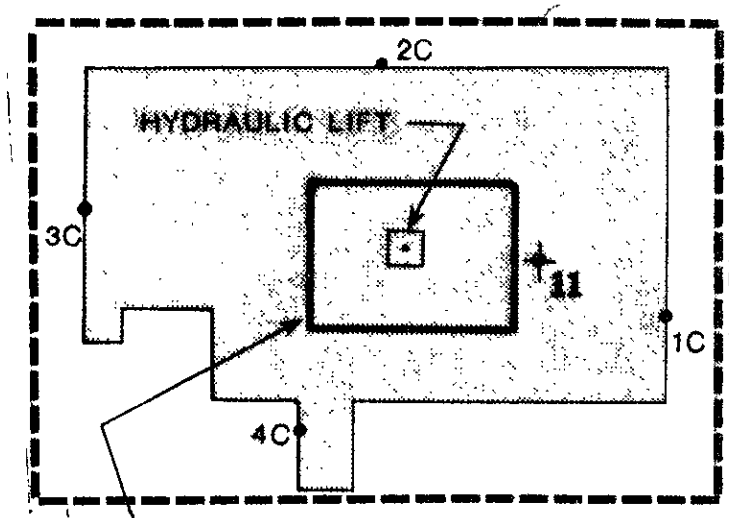
SHEET 3

SCI TEST BORING/WELL

SAMPLE LOCATION

OPEN EXPLORATION TRENCH BY HSI

APPROXIMATE LIMIT OF PROPOSED REMEDIATION



UNDERCOATING BOOTH

N

WEBSTER STREET (EAST)

Investigator	Date	Sample Location	Sample Depth (feet)	TPH Concentration (ppm)
HSI	7/25/89	1C	5.5	130
HSI	7/25/89	2C	5.5	97
HSI	7/25/89	3C	5.5	50
HSI	7/25/89	4C	5.5	51

APPROXIMATE SCALE (feet)

0 20 40

UNDERCOATING BOOTH HYDRAULIC OIL CONTAMINATION AREA

Subsurface Consultants

MARINER WAREHOUSE - ALAMEDA, CA

JOB NUMBER	DATE	APPROVED
554.001	8/24/89	

PLATE 4

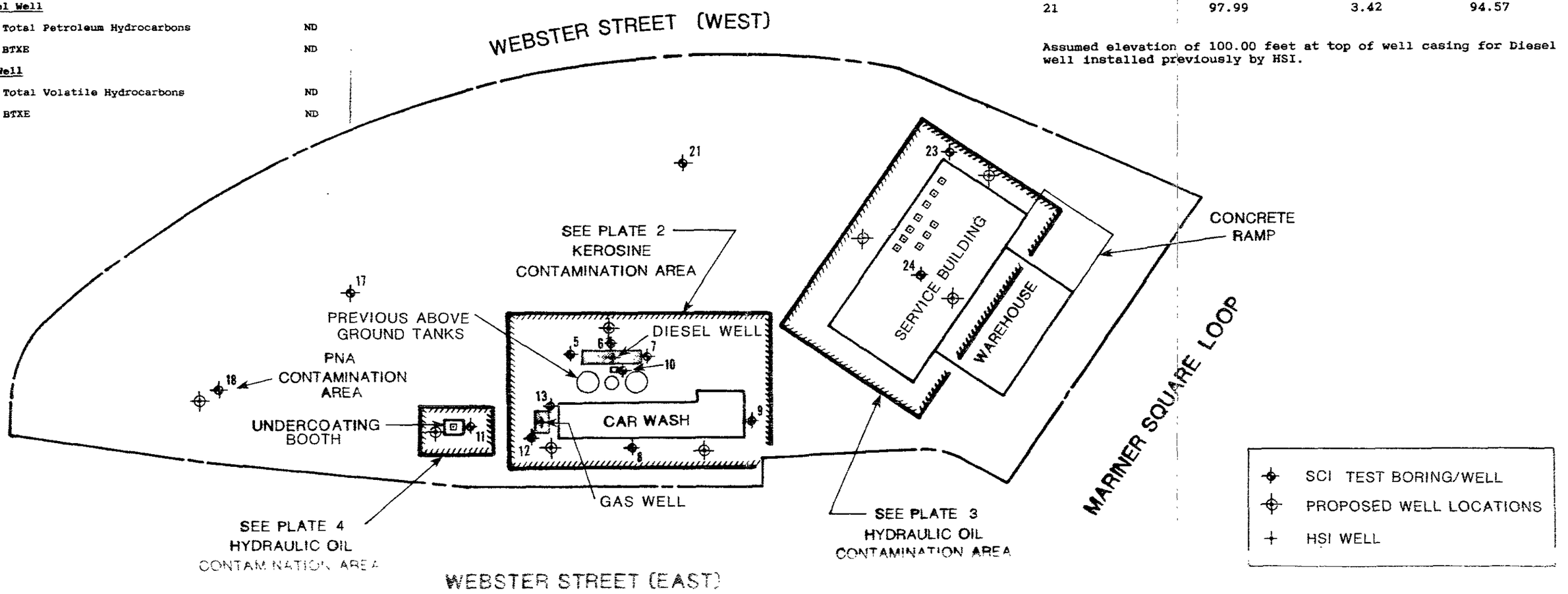
GROUNDWATER ANALYSIS

Composite Water (Test Borings 17, 21, 23 and 24)	Concentrations
EPA Method 624 Chemicals	ND
EPA Method 625 Chemicals	ND
Well 7	
Total Petroleum Hydrocarbons	Trace
BTXE	ND
Composite of Wells 8, 9 and 11	
EPA 624	ND
EPA 625	ND
Diesel Well	
Total Petroleum Hydrocarbons	ND
BTXE	ND
Gas Well	
Total Volatile Hydrocarbons	ND
BTXE	ND

GROUNDWATER LEVELS - MEASURED MARCH 8, 1989

Well/Boring	Elevation Top of Casing	Depth to Groundwater	Water Elevation
Diesel	100.00	4.66	95.34
Gas	98.89	4.58	94.31
8W	99.37	7.17	92.20
11W	98.95	3.43	95.52
7W	100.08	3.67	96.41
15	98.79	4.00	94.79
21	97.99	3.42	94.57

Assumed elevation of 100.00 feet at top of well casing for Diesel well installed previously by HSI.



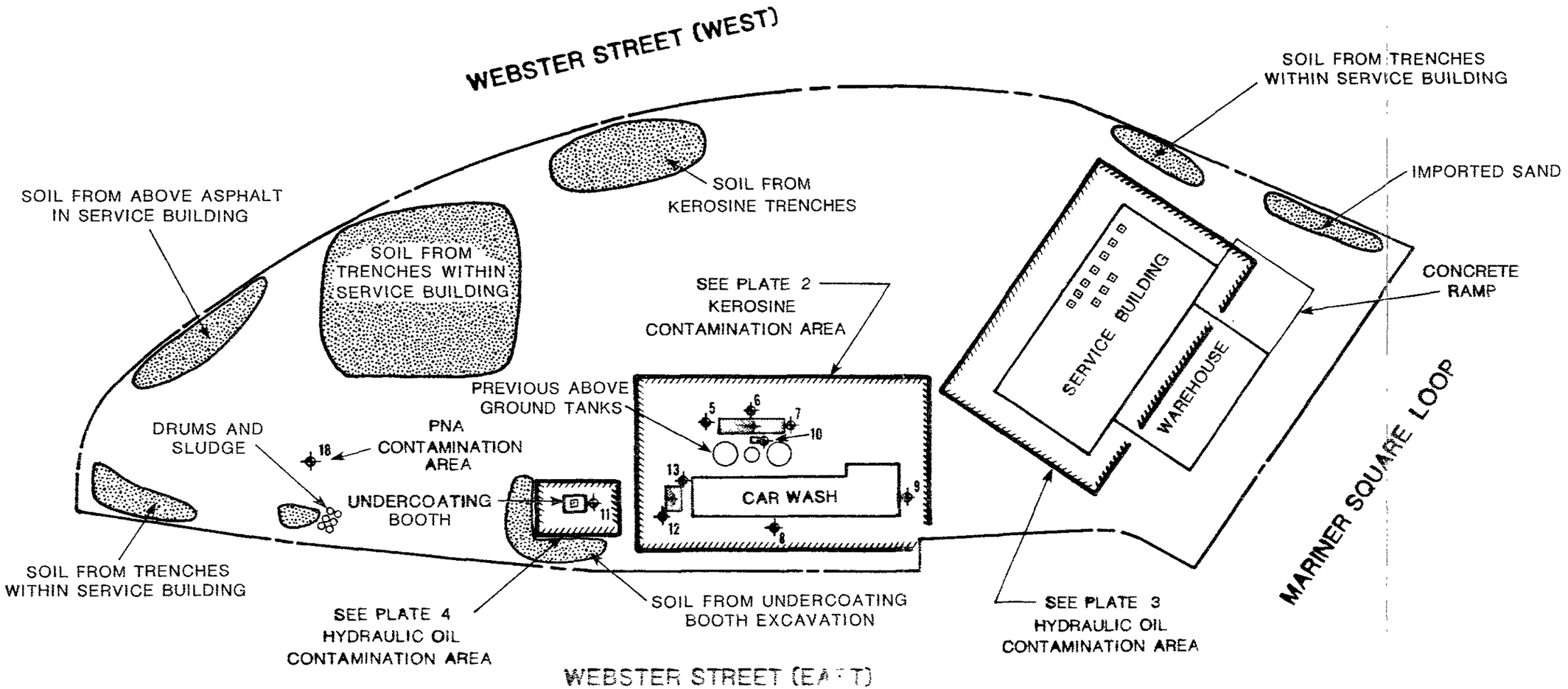
GROUNDWATER DATA

Subsurface Consultants

MARINER WAREHOUSE - ALAMEDA, CA

JOB NUMBER	DATE	APPROVED
554-001	8/25/89	

PLATE 5

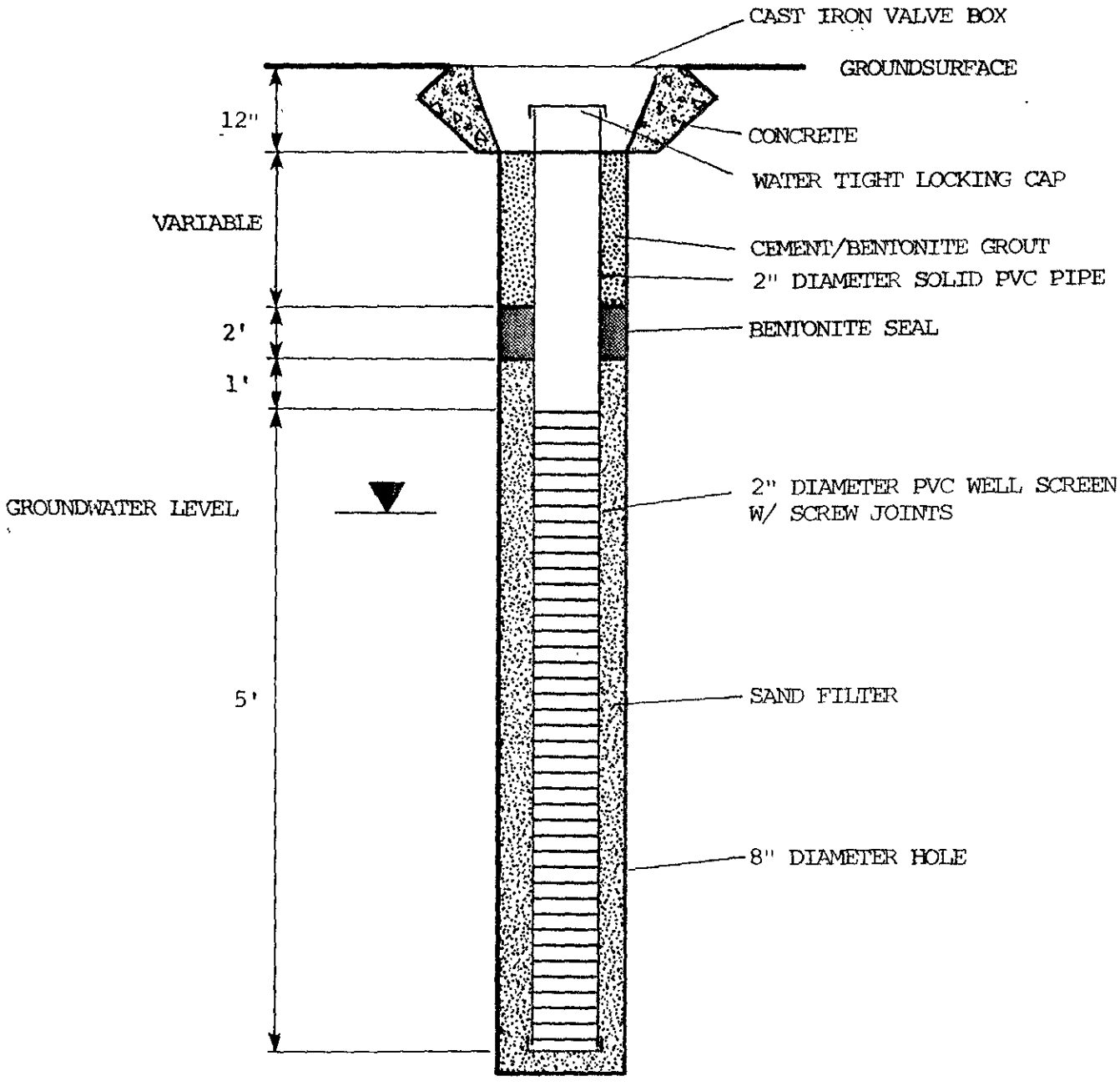


STOCKPILE LOCATIONS

Subsurface Consultants

MARINER WAREHOUSE - ALAMEDA, CA

JOB NUMBER	DATE	APPROVED	PLATE
554.0	8/25/88		6



GROUNDWATER MONITORING WELL DESIGN

Subsurface Consultants

MARINER WAREHOUSE - ALAMEDA, CA

JOB NUMBER	DATE	APPROVED
554.001	8/25/89	

PLATE 7

HAGEMAN-SCHANK, INC.

2723 Crow Canyon Rd., Suite 210
San Ramon, CA 94583
(415) 837-2926

December 5, 1988
REF: J2045

Alameda County Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, CA 94621

Attention: Mr. Ariu Levi

Subject: UNDERGROUND STORAGE TANK REMOVAL
MARINER WAREHOUSE
2204 MARINER SQUARE LOOP
ALAMEDA, CALIFORNIA 94501

Dear Mr. Levi,

The tank removal at the subject site is complete. The project involved the removal of Three 10,000 gallon fuel tanks, one gasoline tank and two (2) diesel tanks. A fourth tank used for kerosene was searched for, but it appears to have been removed some time in the past, or never existed. This was verified by tenant who did the improvments.

All the tanks appeared to be in good condition when they came out of the ground, no deterioration of the steel was apparent. Water was encounted beneath each tank at a depth of ten feet. Five soil samples were taken from the excavations, two from the gasoline tank excavation and three from the excavation of the two (2) diesel tanks. Groundwater intruded into the both excavations and three water samples were taken, WS-1 from the gasoline tank excavtion and WS-3,WS-4 from the diesel tank excavation.

The next day, the groundwater in the excavtions was pumped out and hauled off under manifest. The groundwater was then allowed to recharge. Three additional water samples were obtained. This was done to insure more representative water analysis.

Two observation wells were installed in each of the two tank pits. These wells will allow future access to ground water. The wells are constructed with a 6" slotted outer casing and a 2" slotted inner casing, the 2" inner casing is sand packed, sealed with bentonite and cemented to grade. A well construction diagram and site plan showing well locations is enclosed.

SAMPLE COLLECTION

GASOLINE TANK
-Removed one (1) 10,000 gallon tank
-All soil and water samples were analyzed for TPH as gasoline, BTX&E, and Organic lead
-Two soil samples taken from 10 feet labled as SS-1(fill end) and SS-2 (opposite end) See Site Plan.
-One soil sample (SS-6) taken from beneath dispenser. (See Site Plan).

SAMPLE RESULTS (SOIL & WATER)

	SS-1	SS-2	SS-6	WS-1
TPH	<1	<1	2	1200
Benzene	<0.5	<0.5	ND	26
Toluene	<0.5	<0.5	ND	190
Xylene	<0.5	<0.5	ND	180
Ethylbenzene	<0.5	<0.5	ND	240
Lead	4.4	13	7.3	<10

All soil sample results expressed in parts per million (ppm)
Water sample results are expressed in parts per million(ppm) and parts per billion (ppb).

DIESEL TANKS

Removed two (2) 10,000 gallon underground diesel storage tanks. The two tanks were placed end to end in the same excavtion (see site plan for location).
Three soil samples were taken and are identified as follows:
Soil Sample SS-3, (fill end). Sample was analyzed for Total Petroleum Hydrocarbons, Benzene, Toluene, Xylenes and Ethylbenzene as diesel fuel.
Soil sample SS-4, (taken from soil between the two tanks, see site plan for location). Sample was analyzed for TPH,BTXE as diesel and Oil and Grease.
Soil Sample SS-5, (taken from the fill end of the second tank). Soil sample was analyzed for TPH, BTXE, as diesel and Oil and Grease.
Water Sample WS-2, was analyzed for TPH, BTXE, as diesel and Water Sample WS-3,, also analyzed for TPH, BTXE as diesel, Oil and Grease.

SAMPLE RESULTS - DIESEL TANKS (SOIL & WATER)

	SS-3	SS-4	SS-5	WS-2	WS-3
TPH	<10	<10	<10	<1	<1
BENZENE	<0.5	<0.5	<0.5	<0.5	<0.5
TOLUENE	<0.5	<0.5	<0.5	2	<1
XYLENE	<0.5	<0.5	<0.5	15	<1
ETHYLBENZENE	<0.5	<0.5	<0.5	3	<1
OIL -GREASE	35	<0.5	8		

All soil sample results are expressed in parts per million
All water sample results are expressed in parts per billion

ADDITIONAL SAMPLING
After the original round of water sampling the excavations were pumped of the existing water and the excavation were allowed to recharge. At that time a second round of water samples were taken from the excavations. The samples are identified as follows:
WS-1-2, taken from gasoline tank excavation and analyzed for TPH, Benzene, Toluene, Xylene, Ethylbenzene, and Organic Lead as gasoline.
WS-2-2, taken from diesel tank excavation and analyzed for TPH as diesel
WS-3-2, taken from diesel tank excavation and analyzed for TPH as diesel and Oil & Grease.
SAMPLE RESULTS - WATER

	WS-1-2	WS-2-2	WS-3-3
TPH, as Gasoline	440		
TPH, as Diesel		2000	1400
Benzene	9		
Toluene	83		
Xylene	120		
Ethylbenzene	9		
Oil& Grease			27

All water samples results are expressed in parts per billion
Method: Gasoline Modified EPA method 5030/8020/8015
Diesel Modified EPA method 3510/8015
Oil & Grease EPA mothed 413.2
It should be noted that during all the tank removals and soil sampling Mr Ariu Levi, Alameda County Environmental Health Department and Lt. Steven McKinley, Alameda Fire Department were present.

HISTORICAL SITE DATA

In reviewing the Sanborne Insurance Maps we developed the following past historical data regarding property uses in the area of Mariner Warehouse property.

1897 - Map shows the land from Atlantic Street North as unimproved marsh land.

1955 - In December of 1955, The Sanborn was updated to include the following development of the area. In 1955, Only the Posey Tube allowed automotive traffic to Alameda, the Webster Tube had not yet been constructed. East of Webster street the Bethlehem Shipbuilding Corp., Ltd., occupied a large parcel of land and operated a facility very close to the Mariner Warehouse. The United States Goverment occupied warehouse and storage buildings. On the water directly east and adjacent to Webster Street, Tidewater Oil Corp.,Ltd.operated a deep water terminal. The facility had large above ground storage tanks, one (1) 37,000 BBl and one (1) 30,000 BBL. crude oil tanks along with a 3,000 BBL. refined oil tank. There were also a series of refined petroleum storage tanks, but no sizes were given. No update of historical land uses were listed since the 1955 enteries of the subject site. Approximately 10 years ago Volkswagon of America stored, washed and shipped autos and warehoused parts.

CONCLUSIONS

The following is a recap of the tank removal project at the Mariner Warehouse site, with suggestions for the continued monitoring of groundwater on site.

Gasoline Tank Excavation:
The soil analysis from samples SS-1 and SS-2, were non-deteced for total petroleum hydrocarbons and Benzene, Toluene,Xylenes and Ethylbenzene. Soil sample SS-2 Total Lead at 13 ppm(parts per million). Soil sample SS-1 indicated Total Lead at 4.4 ppm The State of California's Threshold level for lead is 13 ppm.

Water Samples - Gasoline Tank Excavation

The original Water sample from the excavation, WS-1 indicated the following constituents from the laboratory analysis:

	Threshold limits
Total Petroleum Hydrocarbons 1200 ppb (parts per billion)	2,000 ppb
Benzene 26 ppb	.7 ppb
Toluene 190 ppb	100 ppb
Xlyene 180 ppb	620 ppb
Lead Non detected	0.010 Detection Limit

Water Sample WS-1-2, This sample was taken after water in the excavtion had been pumped out and the excavation water was allowed to recharge. The laboratory analysis for WS-1-2 is as follows:

	Threshold limits
Total Petroleum Hydrocarbons 440 ppb	2,000 ppb
Benzene 9 ppb	.7 ppb
Toluene 83 ppb	100 ppb
Xylene 180 ppb	620 ppb

Lead was not included in the analysis,as is was non-detected in the first sample.

The only compound that appears to have a slightly elevated level above threshold limits, is benzene.

I would suggest the gasoline tank excavation should not require any remedial consideration, but continued groundwater monitoring on a quarterly basis for a period of time.

Diesel Tanks Excavation - Soil Samples

The soil samples taken from the diesel excavation and identified as SS-3, SS-4, and SS-5. All three soil samples were analyzed by the laboratory as non-detected for Total Petroleum hydrocarbons as Diesel. Benzene, Toluene, Xylenes and Ethylbenzene. Soil samples SS-4 and SS-5 for total oil and Grease. The laboratroy analysis of soil sample SS-4 indicates levels of Oil and Grease were non detected, Soil sample SS-5 had concentrations of Oil and Grease at 8 ppm (parts per million).

Water Samples - Diesel Tanks Excavation

The first water sample were taken from water in the excavation at the time the tanks were being removed.
The water samples are identified as WS-2 and WS-3, the samples were analyzed for TPH as Diesel, Benzene, Toluene, Xylene and Ethylbenzene. Due to Diliution of samples only BTXE was analyzed and the detection limits were 1 PPB. The results were as follows:

	WS-2	WS-3
Benzene	ND at 1 ppb	ND at 1 ppb
Toluene	2 ppb	ND at 1 ppb
Xylene	15 ppb	ND at 1 ppb
Ethylbenzene	3 ppb	ND at 1 ppb

Second Water Samples - Diesel Tanks

The existing water in the diesel excavation was pumped and the excavation was allowed to recharge and a second set of samples were taken.
Samples were identified as WS-2-2 and WS-3-2. The two water samples were analyzed for Total Petroleum Hydrocarbons as Diesel. WS-3-3 was also analyzed for Oil and Grease. The laboratory results are as follows:

	WS-2-2	WS-3-2	WS-3-3
Total Petroleum Hydrocarbons	2000 ppb	1400 (ppb)	
Oil and Grease			27 (ppm)

The conclusions arrived at after reviewing the sample data, and viewing the tanks as they were removed from the excavations are as follows:

1. The tanks were steel tanks that were double wrapped and with no visable deterioration of the steel.
2. The Sample analysis of the chemical consitituents were either non-detected or below/ at the State of California Threshold limits set by the Regional Water Quality Contro Board.
3. I would suspect the low levels of contamination in water or in soil came as result of surface infiltration and NOT from tanks that leaked.
4. The levels of contamination do not indicate remedial action be required, but water sampling be continued on quarterly basis for a period of one year.

The remaining piping from the underground tanks to the car wash system will be removed at the time the large above ground tanks are removed, and sampling in the pipe trenches will be taken.

This concludes the report on the tank removal project. Should you have any questions regarding the report or the attached tank data, please give me a call and I will be happy to discuss it with you.

Sincerely,
HAGEMAN-SCHANK, INC.

Bruce Hageman
encl:
cc: Mr. Howard Harlan
Mr. Stanley Kintz
Lt. Steven McKinley - Alameda Fire Department

HAGEMAN-SCHANK, INC.

2723 Crow Canyon Rd., Suite 210
San Ramon, CA 94583
(415) 837-2926

October 31, 1988
REF: J2045

Alameda County Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, Ca 94621

SUBJECT: SITE SAFETY PLAN-TANK REMOVAL PERMIT
Mariner Warehouse
2204 Mariner Square Loop
Alameda, California 94501

Dear Sir;

Hageman-Schank / Minter & Fahey have been contracted to remove three 10,000 gallon underground fuel tanks at the subject site. This letter is the Site Safety Plan outlining responsible personal, equipment and procedures.

Project Manager
Robert Weber: Geologist Hageman-Schank, Inc.
Bruce Hageman: President Hageman-Schank, Inc.

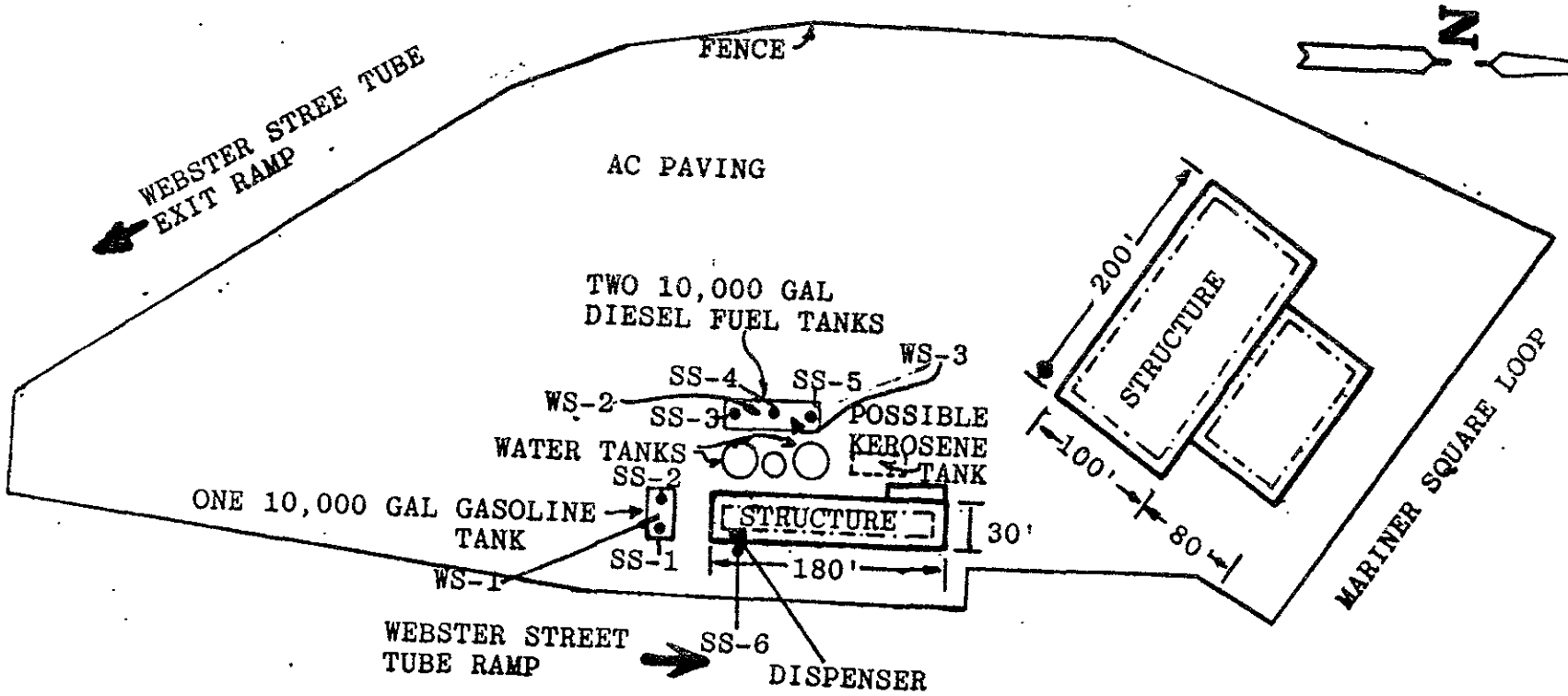
Equipment:
-Respirators with approved cartridges for air born gasoline contaminants for all on site personal
-Two approved fire extinguishers ABC type
-LEL or LFL explosion meter

Procedures:
-All product is removed from the tanks prior to removal.
-Fuel tanks are inerted with 1.5 pounds of solid dry ice per 100 gallons of tank volume. The tanks are uncovered and piping is removed.
-Dry ice is used 1.5 hours prior to removal to insure adequate purging.
-Contaminated soil if present is removed from hole, placed on site and covered with visquine until permission to air strip is granted.
-Soil is removed until
-Water Table is encountered
-All contaminated soil is removed
-Limit of feasible excavation is reached
-At no time are any personal allowed in the excavation.
-The site shall be secure during and after all work.

If there are any questions or problems, feel free to contact us at 415 837 2926.

Sincerely,

Robert M. Weber
HAGEMAN-SCHANK, Inc.



SAMPLE DEPTH	
SS-1	10 ft
SS-2	10 ft
SS-3	10 ft
SS-4	10 ft
SS-5	10 ft
SS-6	18 inches

LEGEND	
•	SOIL SAMPLE
SS-#	SOIL SAMPLE
WS-#	WATER SAMPLE

MARINER WAREHOUSE
2204 MARINER SQUARE LOOP
ALAMEDA, CALIFORNIA 94501

SCALE:
APPROVED BY:
DATE 10-31-88
DRAWN BY RMW

PLAN VIEW

HAGEMAN-SCHANK, INC

DRAWING NUMBER J2045

GTEL ENVIRONMENTAL LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

WORK ORD# 8811166
CLIENT: Robert Weber
HAGEMAN-SCHANK, INCORPORATED
2723 Crow Canyon Raod, Suite 210
San Ramon, CA 94583
PROJECT #: SFB-0147-40
SAMPLED: 11/14/88 BY: R. Weber
RECEIVED: 11/15/88 BY: K. Biava
ANALYZED: 11/15/88 BY: R. Condit
MATRIX: Soil
UNITS: mg/kg (ppm)

TEST RESULTS

COMPOUNDS	MDL	LAB # I.D.#	03A SS-1	04A SS-2
Benzene	0.5		<0.5	<0.5
Toluene	0.5		<0.5	<0.5
Ethylbenzene	0.5		<0.5	<0.5
Xylenes	0.5		<0.5	<0.5
Total BTEX	0.5		<0.5	<0.5
Misc. Hydrocarbons (C4-C12)	1		<1	<1
Total Petroleum Hydrocarbons as Gasoline	1		<1	<1

MDL = Method Detection Limit; compound below this level would not be detected.
Results rounded to two significant figures.

METHOD:
Modified EPA Method 5030/8020/8015

Emma P Popek

EMMA P. POPEK, Director

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

WORK ORD#:8811167
CLIENT: Robert Weber
HAGEMAN-SCHANK, INCORPORATED
2723 Crow Canyon Road, Suite 210
San Ramon, CA 94583
PROJECT #:SFB-0147-42
SAMPLED: 11/14/88 BY: R. Weber
RECEIVED: 11/15/88 BY: K. Biava
ANALYZED: 11/16/88 BY: A. Mamangun
MATRIX: Soil C. Miller
UNITS: mg/kg(ppm)

TEST RESULTS

PARAMETER	MDL	LAB # I.D.#	01A SS-1	02A SS-2			
Total Lead	0.5		4.4	13			

MDL = Method Detection Limit.

METHOD:
EPA Method 3050/7420

Emma P. Popek
EMMA P. POPEK, Director

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

CLIENT: Robert Weber
HAGEMAN-SCHANK, INCORPORATED
2723 Crow Canyon Road, Suite 210
San Ramon, CA 94583

PROJECT #: SFB-0147-47
SAMPLED: 11/14/88 BY: R. Weber
RECEIVED: 11/15/88 BY: K. Biava
ANALYZED: 11/15/88 BY: K. Patton
MATRIX: Water
UNITS: ug/L (ppb)

TEST RESULTS

COMPOUNDS	MDL	LAB # I.D.#	03A WS-1
Benzene	0.5		26
Toluene	0.5		190
Ethylbenzene	0.5		240
Xylenes	0.5		180
Total BTEX	0.5		420
Misc. Hydrocarbons (C4-C12)	1		800
Total Petroleum Hydrocarbons as Gasoline	1		1200

MDL = Method Detection Limit; compound below this level would not be detected.
Results rounded to two significant figures.

METHOD:
Modified EPA Method 5030/8020/8015

Emma P. Popek

EMMA P. POPEK, Director

GTEL ENVIRONMENTAL LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

WORK ORD#:8811170
CLIENT: Robert Weber
HAGEMAN-SCHANK, INCORPORATED
2723 Crow Canyon Road, Suite 210
San Ramon, CA 94583
PROJECT #:SFB-0147-46
SAMPLED: 11/14/88 BY: R. Weber
RECEIVED: 11/15/88 BY: K. Biava
ANALYZED: 11/16/88 BY: C. Miller
MATRIX: Water
UNITS: mg/L (ppm)

TEST RESULTS

PARAMETER	MDL	LAB # I.D.#	01A WS-1
Total Lead	0.010		<0.010

MDL = Method Detection Limit; compound below this level would not be detected.

METHOD:
EPA Method 3020/7421

Emma P. Popek

EMMA P. POPEK, Director

GTEL ENVIRONMENTAL LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

11/18/88mt

WORK ORD#: 8811213
CLIENT: Robert Weber
HAGEMAN-SCHANK, INCORPORATED
2723 Crow Canyon Road, Suite 210
San Ramon, CA 94583
PROJECT#: SFB-0147-48

SAMPLED: 11/17/88 BY: R. Weber
RECEIVED: 11/17/88 BY: M. Huth
ANALYZED: 11/17/88 BY: R. Condit
MATRIX: Water
UNITS: ug/L (ppb)

TEST RESULTS

COMPOUNDS	MDL	LAB # I.D.#	01A WS-1-2				
Benzene	0.5		9				
Toluene	0.5		.083				
Ethylbenzene	0.5		.009				
Xylenes	0.5		.120				
Total BTEX	0.5		.220				
Misc. Hydrocarbons (C4-C12)	1		220				
Total Petroleum Hydrocarbons as Gasoline	1		.440				

MDL = Method Detection Limit; compound below this level would not be detected.
Results rounded to two significant figures.

METHOD:
Modified EPA Method 5030/8020/8015

Emma P. Popek

EMMA P. POPEK, Director

HAGEMAN-SCHANK, INCORPORATED
2723 CROW CANYON ROAD, SUITE 210
SAN RAMON, CALIFORNIA 94583
415/837-2926

ANALYZE FOR TPH AS GASOLINE + BTXE + LEAD

PROJECT NO. J2045

24 HOUR TA
CHAIN OF CUSTODY RECORD

Field Record
Sample Type Soil + WATER
Container Type BRASS LINER 5' VOA

Laboratory Record
Lab No. _____

Contract Laboratory Record
Laboratory Name GT

Sample ID	Sampled By	Date	Received By	Date	Condition	Received By	Date	Condition
SS-1	RMW	11-14-88				~~SOIL~~ SAMPLES		
SS-2	RMW	11-14-88						
WS-1	RMW	11-14-88				WATER SAMPLE		

Released to Courier By Field Personnel
Robert M Weber 11-14-88

Received by Courier RMW

Released to Lab by Courier
Robert M Weber 11-14-88

Received by Lab _____

Released to Lab by Courier
_____

Received by Lab Kathy Brace
11/15/88 9:10

HAGEMAN-SCHANK, INCORPORATED
2723 CROW CANYON ROAD, SUITE 210
SAN RAMON, CALIFORNIA 94583
415/837-2926

ANALYZE FOR TPH AS GASOLINE + BTXE + LEAD

PROJECT NO. J2045

24 HOUR TA
CHAIN OF CUSTODY RECORD

Field Record
Sample Type SOIL + WATER
Container Type BRASS LINER 5' VOA

Laboratory Record
Lab No.

Contract Laboratory Record
Laboratory Name GT

Sample ID	Sampled By	Date	Received By	Date	Condition	Received By	Date	Condition
SS-1	RMW	11-14-88				SOIL SAMPLES		
SS-2	RMW	11-14-88						
WS-1	RMW	11-14-88				WATER SAMPLE		

Released to Courier By Field Personnel
Robert M Weber 11-14-88

Received by Courier RMW

Released To Lab by Courier
Robert M Weber 11-14-88

Received by Lab

Released to Lab by Courier

Received by Lab Kathy Brace
11/15/88 9:10

HAGEMAN-SCHANK, INCORPORATED
2723 CROW CANYON ROAD, SUITE 210
SAN RAMON, CALIFORNIA 94583
415/837-2926

ANALYSIS TPH $ BTXE AS GASOLINE

PROJECT NO. J2045

TURN AROUND 24 HR

CHAIN OF CUSTODY RECORD

Field Record
Sample Type water
Container Type VOA

Laboratory Record
Lab No.

Contract Laboratory Record
Laboratory Name CL

Sample ID	Sampled By	Date	Received By	Date	Condition	Received By	Date	Condition
WS-1-2	RMW	11/17/88						

Released to Courier By Field Personnel
Robert M Weber 11-17-88

Received by Courier RMW

Released To Lab by Courier
Robert M Weber 11-17-88

Received by Lab Michelle Hunt 11/17/88 1255

Released to Lab by Courier

Received by Lab

ANALYZE FOR TPH AS DIESEL + BTXE

HAGEMAN-SCHANK, INCORPORATED
2723 CROW CANYON ROAD, SUITE 210
SAN RAMON, CALIFORNIA 94583
415/837-2926

PROJECT NO. J 2045

24 HOUR TAT

CHAIN OF CUSTODY RECORD

Field Record
Sample Type SOIL + WATER
Container Type BRASS LINER + VOA & LITER BOTTLE

Laboratory Record
Lab No. _____

Contract Laboratory Record
Laboratory Name GT

Sample ID	Sampled By	Date	Received By	Date	Condition	Received By	Date	Condition
SS-3	CMW	11-14-88			SOIL	Sampl		
"	"	"	"	"	"	"		
WS-2	CMW	11-14-88			WATER	SAMPLE		

Released to Courier By Field Personnel
11-14-88

Received by Courier CMW

Released to Lab by Courier
11-14-88

Received by Lab _____

Released to Lab by Courier

Received by Lab Kathy Baia
11/15/88 9:10

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

WORK ORD#:8811165
CLIENT: Robert Weber
Hageman-Schank, Inc.
2723 Crow Canyon Road, Suite 210
San Ramon, CA 94583
PROJECT#: SFB-0147-39

SAMPLED: 11/14/88 BY: R. Weber
RECEIVED: 11/15/88 BY: K. Biava
ANALYZED: 11/15/88 BY: R. Condit
MATRIX: Soil
UNITS: mg/kg (ppm)

TEST RESULTS

PARAMETER	MDL	LAB # I.D.#	01A SS-4	02A SS-5	03A SS-3		
Benzene	0.5		<0.5	<0.5	<0.5		
Toluene	0.5		<0.5	<0.5	<0.5		
Ethylbenzene	0.5		<0.5	<0.5	<0.5		
Xylenes	0.5		<0.5	<0.5	<0.5		
Total BTEX	0.5		<0.5	<0.5	<0.5		
Total Petroleum Hydrocarbons as Diesel	10		<10	<10	<10		

MDL = Method Detection Limit.

METHOD:
Modified EPA Method 8015

Emma P. Popek

EMMA P. POPEK, Director

GTEL ENVIRONMENTAL LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

11/22/88 JP Page 1 of 1

CLIENT: Robert Weber
HAGEMAN-SCHANK, INCORPORATED
2723 Crow Canyon Rd., Suite 210
San Ramon, CA 94583
PROJECT#: SFB-0147-41

SAMPLED: 11/14/88 BY: R. Weber
RECEIVED: 11/15/88 BY: K. Bieva
ANALYZED: 11/16/88 BY: T. Alumi
MATRIX: Soil

TEST RESULTS

PARAMETER	UNITS	LAB # I.D.#	MDL	34949 SS-4	34950 SS-5		
Total Oil and Grease	mg/kg		5	<5	8		

MDL = Method Detection Limit; compound below this level would not be detected.
Results rounded to two significant figures.

METHOD:
TOG by SM503B

Emma P. Popek

EMMA P. POPEK, Director

GTEL ENVIRONMENTAL LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

WORK ORD#:8811169
CLIENT: Robert Weber
HAGEMAN-SCHANK, INCORPORATED
2723 Crow Canyon Road, Suite 210
San Ramon, CA 94583
PROJECT #: SFB-0147-44
SAMPLED: 11/14/88 BY: R. Weber
RECEIVED: 11/15/88 BY: K. Biava
ANALYZED: 11/16/88 BY: K. Patton
MATRIX: Water
UNITS: ug/L (ppb)

TEST RESULTS

COMPOUNDS	MDL	LAB # I.D.#	01A WS-3	02A WS-2		
Benzene	1*		<1	<1*		
Toluene	1*		<1	2		
Ethylbenzene	1*		<1	3		
Xylenes	1*		<1	15		
Total BTEX	1*		<1	20		

MDL = Method Detection Limit; compound below this level would not be detected.
Results rounded to two significant figures.

METHOD: Modified EPA Method 5030/8020
*Detection limit raised due to dilution.

Emma P. Popek

EMMA P. POPEK, Director

GTEL
ENVIRONMENTAL LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

11/17/88jp

CLIENT: Robert Weber
HAGEMAN-SCHANK, INCORPORATED
2723 Crow Canyon Rd., Suite 210
San Ramon, CA 94583
PROJECT#: SFB-0147-45

SAMPLED: 11/14/88 BY: R. Weber
RECEIVED: 11/15/88 BY: K. Biava
ANALYZED: 11/16/88 BY: T. Alusi
MATRIX: [redacted] WATER

TEST RESULTS

PARAMETER	UNITS	LAB # I.D.#	MDL	34951 WS-3			
Total Oil and Grease	mg/kg		1	35			

MDL = Method Detection Limit; compound below this level would not be detected.
Results rounded to two significant figures.

METHOD:
TOG by SM503B

Emma P. Popek

EMMA P. POPEK, Director

GTEL
ENVIRONMENTAL LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

11/21/88mt
WORK ORD#:8811217
CLIENT: Robert Weber
HAGEMAN-SCHANK, INCORPORATED
2723 Crow Canyon Road, Suite 210
San Ramon, CA 94583
PROJECT#: SFB-0147-49

SAMPLED: 11/17/88 BY: R. Weber
RECEIVED: 11/17/88 BY: M. Huth
ANALYZED: 11/17/88 BY: R. Condit
MATRIX: Water
UNITS: ug/L (ppb)

TEST RESULTS

PARAMETER	MDL	LAB # I.D.#	01A WS-2-2	02A WS-3-2			
Total Petroleum Hydrocarbons as Diesel	10		.2000	1.400			

MDL = Method Detection Limit.

METHOD:
Modified EPA Method 3510/8015

Emma P. Popek

EMMA P. POPEK, Director

ANALYZE FOR TPH AS DIESEL + BTXE

HAGEMAN-SCHANK, INCORPORATED
2723 CROW CANYON ROAD, SUITE 210
SAN RAMON, CALIFORNIA 94583
415/837-2926

PROJECT NO. J 2045

24 HOUR TAT

CHAIN OF CUSTODY RECORD

Field Record
Sample Type SOIL + WATER
Container Type BRASS LINER + VOA & Liter bottle

Laboratory Record
Lab No. _____

Contract Laboratory Record
Laboratory Name GT

Sample ID	Sampled By	Date	Received By	Date	Condition	Received By	Date	Condition
SS-3	CMW	11-14-88			SOIL	Sampl		
"	"	"	"	"	"	"		
WS-2	CMW	11-14-88			WATER	SAMPLE		

Released to Courier By Field Personnel Robert M. Nelson 11-14-88

Received by Courier CMW

Released To Lab by Courier Robert M. Nelson 11-14-88

Received by Lab _____

Released to Lab by Courier _____

Received by Lab Kathy Braia
11/15/88 9:10

HAGEMAN-SCHANK, INCORPORATED
2723 CROW CANYON ROAD, SUITE 210
SAN RAMON, CALIFORNIA 94583
415/837-2926

ANALYZE FOR TPH as DIESEL + BTXE + OIL & GREASE

PROJECT NO. J2045

24 HOUR TA

CHAIN OF CUSTODY RECORD

Field Record
Sample Type SOIL
Container Type BRASS SLEEVE

Laboratory Record
Lab No.

Contract Laboratory Record
Laboratory Name CT

Sample ID	Sampled By	Date	Received By	Date	Condition	Received By	Date	Condition
SS-B4	RMW	11-14-88						

Released to Courier By Field Personnel: Robert M Weber 11-14-88

Released To Lab by Courier: Robert M Weber 11-14-88

Released to Lab by Courier:

Received by Courier: RMW

Received by Lab:

Received by Lab: Kathy Bikis 11/15/88 09:10

HAGEMAN-SCHANK, INCORPORATED
2723 CROW CANYON ROAD, SUITE 210
SAN RAMON, CALIFORNIA 94583
415/837-2926

ANALYZE FOR TPH AS DIESEL + BTXE + OIL & GREASE

PROJECT NO. J2015

24 Hour TA.

CHAIN OF CUSTODY RECORD

Field Record
Sample Type SOIL + WATER
Container Type BRASS LINER + VOA + LITER

Laboratory Record
Lab No. _____

Contract Laboratory Record
Laboratory Name CT

Sample ID	Sampled By	Date	Received By	Date	Condition	Received By	Date	Condition
SS-5	RMW	11-14-88			SOIL SAMPLE			
WS-3	RMW	11-14-88			WATER SAMPLE			

Released to Courier By Field Personnel: Robert M Weber 11-14-88

Released To Lab by Courier: Robert M Weber 11-14-88

Released to Lab by Courier

Received by Courier: RMW

Received by Lab: _____

Received by Lab: Kathy Biaia 11/15/88 9:10

HAGEMAN-SCHANK, INCORPORATED
2723 CROW CANYON ROAD, SUITE 210
SAN RAMON, CALIFORNIA 94583
415/837-2926

SFB-0147-49

ANALYSIS TPH AS DIESEL

8811217

PROJECT NO. V2045

TURN AROUND 24 HOUR

CHAIN OF CUSTODY RECORD

E

Field Record
Sample Type WATER
Container Type LITER

Laboratory Record
Lab No.

Contract Laboratory Record
Laboratory Name GT

Sample ID	Sampled By	Date	Received By	Date	Condition	Received By	Date	Condition
WS-2-2	RMW	11.17.88	01A					
WS-3-2	RMW	11.17.88	02A					

Released to Courier By Field Personnel
Robert M Weber 11.17.88

Received by Courier RMW

Released To Lab by Courier
Robert M Weber 11.17.88

Received by Lab Michelle Hutch 11/17/88 1233

Released to Lab by Courier

Received by Lab

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Weber
Phone #: 415 837-2926
Address: HAGEMAN - SCHANK
FAX #:
Project Number: J 2045
Project Name: SFB-0147-50
Project Location:
Sampler Signature:

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO3	ICE	NONE	OTHER	Sampling: DATE	TIME
WS-3-3		1	1 liter	X							X			11/17	4:40 PM

ANALYSIS REQUEST

BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD	OTHER	SPECIAL HANDLING
					X														X PRIORITY ONE SERVICE (24 hr) → SAME DAY
																			EXPEDITED SERVICE (2-4 days)
																			VERBALS/FAX
																			SPECIAL DETECTION LIMITS (SPECIFY)
																			SPECIAL REPORTING REQUIREMENTS

Relinquished by: [signature] — Date Time: 11-18-88 8:00 AM — Received by:

Relinquished by — Date Time: — Received by:

Relinquished by — Date Time: 11/18/88 8:00 — Received by Laboratory: [signature]

Remarks: RUSH
11/18/88

Waste Oil Recovery Systems, Inc.

INVOICE

6401 LEONA STREET
OAKLAND, CA 94605

(415) 533-0750
533-0751

4568

SOLD TO
HAUGMAN / SHANK
2722 OLD CROW CANYON RD
SAN RAMON

SHIPPED TO

CUSTOMER'S ORDER	SALESMAN	TERMS	SHIPPED VIA	E.P.A.–CADOOO626515 / D.O.H.S.–843	DATE
		N30	TOM		11-17-88

DESTINATION	PETRO RECYCLING 213 595-7431	REFINERIES SERVICE 800 874-4444	DEMENNO-KERDOON 213 537-7100
	☐	☐	☐

	REMOVAL OF WASTE OILS / OILY WATER FROM PROMISES AS PER ORDER		
	DCHS 87600438 — 1575 GALLONS		
	CHARGES DUE THIS SOURCE CALL AS FOLLOWS		
1	VEHICLE SURCHARGE →	190	00
2	1575 GALLONS @ 65¢/GALLON HANDLING FEE →	1023	75
	TOTAL DUE	1213	75

HAUGMAN / SHANK 4/88
1575 GALLONS

State of California—Health and Welfare Agency
Form Approved OMB No. 2050—0039 (Expires 9-30-88)
Please print or type (Form designed for use on elite (12-pitch typewriter).

Department of Health Services
Toxic Substances Control Division
Sacramento, California

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

4. Generator's Phone ( )

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name | 6. US EPA ID Number

C. State Transporter's ID

D. Transporter's Phone

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 | 10. US EPA ID Number

G. State Facility's ID

H. Facility's Phone

GENERATOR

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.					State / EPA/Other
b.					State / EPA/Other
c.					State / EPA/Other
d.					State / EPA/Other

J. Additional Descriptions for Materials Listed Above

K. Handling Codes for Wastes Listed Above

a. | 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 | Signature | Month Day Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19

Printed/Typed Name | Signature | Month Day Year

DHS 8022 A (1/87)
[illegible] 8700—22
[illegible] 9 86) Previous editions are obsolete

YELLOW GENERATOR RETAINS

INSTRUCTIONS ON THE BACK

State of California—Health and Welfare Agency
Form Approved OMB No. 2050—0039 (Expires 9-30-88)
Please print or type. (Form designed for use on elite (12-pitch typewriter).

Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

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

3. Generator's Name and Mailing Address
Marina Warehouse
2236 [illegible] Spit [illegible]

4. Generator's Phone (415) 5[illegible]-2227

5. Transporter 1 Company Name — 6. US EPA ID Number
[illegible]

7. Transporter 2 Company Name — 8. US EPA ID Number

9. Designated Facility Name and Site Address — 10. US EPA ID Number
H&H Ship Service
220 China Basin St.
San Francisco, CA 94[illegible]

A. State Manifest Document Number: 87831879
B. State Generator's ID:
C. State Transporter's ID: 902466
D. Transporter's Phone: 415-543-4825
E. State Transporter's ID:
F. Transporter's Phone:
G. State Facility's ID: 138-100[illegible]-178
H. Facility's Phone: 415-543-0906

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. Empty Diesel Tank, Waste Combustible Liquid NOS NA 1993	001	TP	1	G	State N/A EPA/Other
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above
Empty Diesel Storage tank (underground) with Less than 1 gallon residual in tank Emptied Dry Ice

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

15. Special Handling Instructions and Additional Information
Gloves

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.

GENERATOR

Printed/Typed Name	Signature	Month	Day	Year
Robert Mylecki for Shipper	[signature]	11	1	1[illegible]

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Edward [illegible]	[signature]	11	1	1[illegible]

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19

Printed/Typed Name	Signature	Month	Day	Year

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

DHS 8022 A (1/87)
EPA 8700—22
(Rev 9-86) Previous editions are obsolete

YELLOW: GENERATOR RETAINS

INSTRUCTIONS ON THE BACK

State of California—Health and Welfare Agency
Form Approved OMB No. 2050—0039 (Expires 9-30-88)
Please print or type. (Form designed for use on eli[te] pitch typewriter)

Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: CHACDDD1164405 — Manifest Document No.: 41161D

2. Page 1 of

Information in the shaded areas is not required by Federal law

3. Generator's Name and Mailing Address: [illegible]

4. Generator's Phone ( ): [illegible]

A. State Manifest Document Number: 87831600

B. State Generator's ID:

5. Transporter 1 Company Name: H+H Ship Service

6. US EPA ID Number: KAD004771166

C. State Transporter's ID: 902441

D. Transporter's Phone: 4155434635

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: HH Ship Service, 220 China Basin, San Francisco CA 94107

10. US EPA ID Number: KAD004771166

G. State Facility's ID: 3879917B

H. Facility's Phone: 415 5930906

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 Empty Gasoline tank Flammable UN 1203	001	TP	01000	Gal	State 512; EPA/Other N/A
b.					State; EPA/Other
c.					State; EPA/Other
d.					State; EPA/Other

J. Additional Descriptions for Materials Listed Above: Empty underground gasoline storage tank with less than 1 gallon Residual in tank

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

15. Special Handling Instructions and Additional Information: WQWC

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: [illegible] — Signature: [signature] — Month Day Year: 4 11 4

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Martin Costello — Signature: [signature] — Month Day Year: 4 11 0 4 13

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: — Signature: — Month Day Year:

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19

Printed/Typed Name: — Signature: — Month Day Year:

GENERATOR / TRANSPORTER / FACILITY

IN CASE OF AN EMERGENCY OR [redacted] CAL[redacted] NAT[redacted] RES[redacted]ONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550

DHS [redacted]022 A (1/87)
EPA [redacted]00—22
Rev. [redacted]-88) Previous editions are obsolete

YELLOW: GENERATOR RETAINS

INSTRUCTIONS ON THE BACK

State of California—Health and Welfare Agency
Form Approved OMB No. 2050—0039 (Expires 9-30-88)
Please print or type. (Form designed for use on elite (12-pitch) typewriter).

Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAC000126405 | Manifest Document No. 9110[illegible]
2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: MARINER WATCH [illegible] 2236 MARINER SQUARE [illegible] / HALLMAN [illegible] [illegible], INC. 2723 CROW CANYON RD. SUITE 210, SAN RAMON CA 94583 [illegible]

4. Generator's Phone (41[illegible]) [illegible]-2727

A. State Manifest Document Number: 87891900

B. State Generator's ID:

5. Transporter 1 Company Name: H & H SHIP S[illegible]
6. US EPA ID Number: CAD004771168

C. State Transporter's ID: 902438
D. Transporter's Phone: 415 [illegible]

7. Transporter 2 Company Name:
8. US EPA ID Number:

E. State Transporter's ID:
F. Transporter's Phone: 415

9. Designated Facility Name and Site Address: [illegible] 22[illegible]
10. US EPA ID Number: CAD[illegible]

G. State Facility's ID: 781-1001-1721
H. Facility's Phone: 415 543-9235

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. EMPTY GASOLINE TANKS WITH RESIDUE [illegible] UN 1203	001	TT	00001	10 TANKS GAL	State 512 / EPA/Other [illegible]
b.					State / EPA/Other
c.					State / EPA/Other
d.					State / EPA/Other

J. Additional Descriptions for Materials Listed Above: EMPTY UNDERGROUND GASOLINE TANKS WITH LESS THAN 1 GALLON RESIDUAL LIQUID IN TANK

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

15. Special Handling Instructions and Additional Information: N/A

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: [illegible] | Signature: [illegible] | Month Day Year: 1/1/[illegible]8[illegible]

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: JOSE M[illegible] | Signature: [illegible] | Month Day Year: 1/1/ 1 4 8 7

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: | Signature: | Month Day Year:

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19

Printed/Typed Name: | Signature: | Month Day Year:

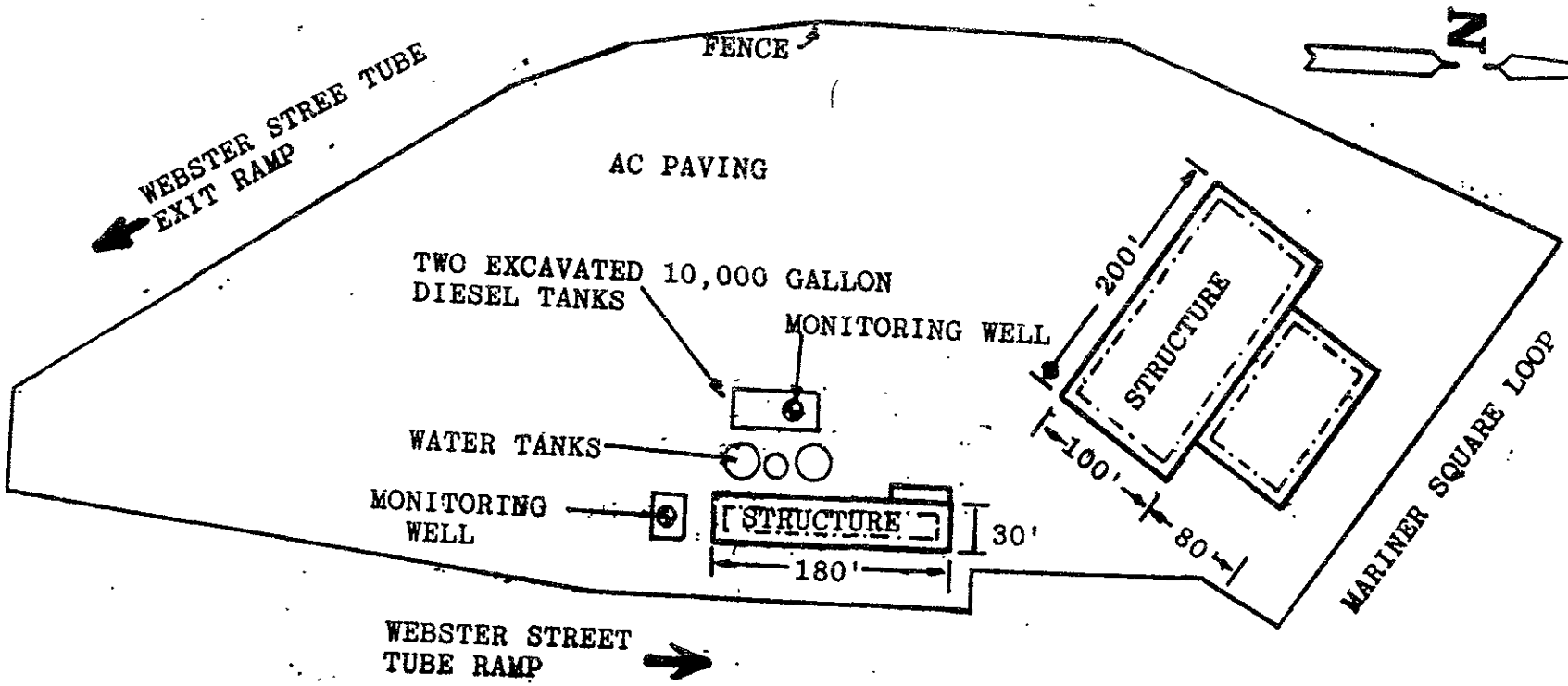
GENERATOR / TRANSPORTER / FACILITY

IN CASE OF [redacted] EMER[redacted]Y O[redacted]L, C[redacted]HE N[redacted]AL R[redacted]NSE CENTER [redacted]-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550

DHS 8022 A (1/87)
EPA 8700—22
(F[redacted] 9 86) Previous editions are obsolete

YELLOW GENERATOR RETAINS

INSTRUCTIONS ON THE BACK



SAMPLE DEPTH	
SS-1	10 ft
SS-2	10 ft
SS-3	10 ft
SS-4	10 ft
SS-5	10 ft
SS-6	18 inches

LEGEND

● MONITORING WELL

MARINER WAREHOUSE
2204 MARINER SQUARE LOOP
ALAMEDA, CALIFORNIA 94501

SCALE:

APPROVED BY:

DATE 10-31-88

DRAWN BY RMW

PLAN VIEW

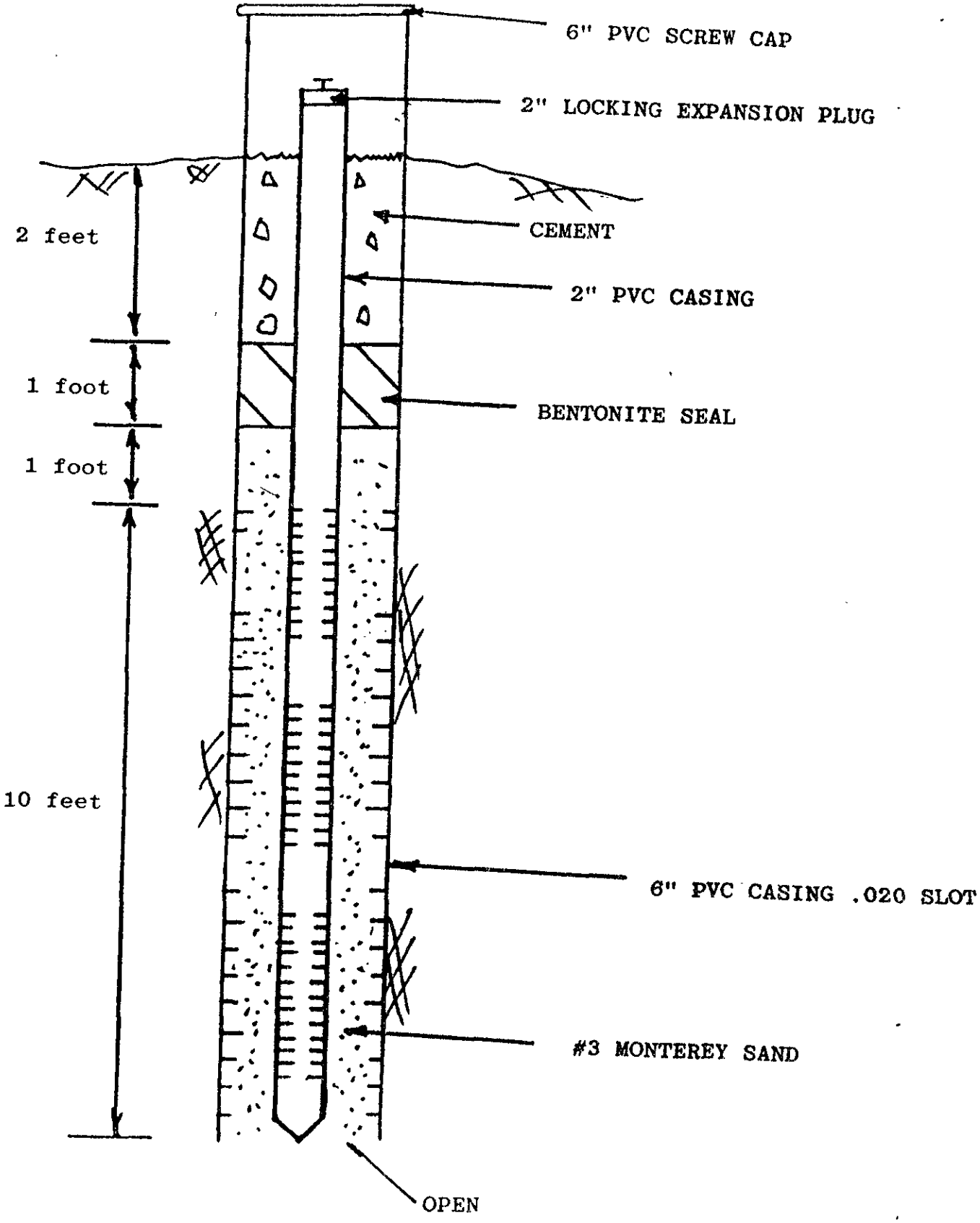
HAGEMAN-SCHANK, INC

DRAWING NUMBER J2045

OBSERVATION WELL INSTALLED IN REMOVED TANK PIT AREA

SITE: MARINER WAREHOUSE
2204 MARINER SQUARE LOOP
ALAMEDA, CALIFORNIA

GASOLINE TANK OBSERVATION WELL



UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK) / CONTAMINATION SITE REPORT

EMERGENCY ☐ YES ☒ NO

HAS STATE OFFICE OF EMERGENCY SERVICES REPORT BEEN FILED ? ☐ YES ☐ NO

FOR LOCAL AGENCY USE ONLY. I HEREBY CERTIFY THAT I AM A DESIGNATED GOVERNMENT EMPLOYEE AND THAT I HAVE REPORTED THIS INFORMATION TO LOCAL OFFICIALS PURSUANT TO SECTION 25180.7 OF THE HEALTH AND SAFTY CODE.

SIGNED _____ DATE _____

REPORT DATE 08/18/89 CASE # _____

REPORTED BY

NAME OF INDIVIDUAL FILING REPORT: BRUCE HAGEMAN
PHONE: (415) 837-2926
SIGNATURE:
REPRESENTING ☒ OWNER/OPERATOR ☐ REGIONAL BOARD ☐ LOCAL AGENCY ☐ OTHER _____
COMPANY OR AGENCY NAME: HAGEMAN-SCHANK, INC.
ADDRESS: 2723 CROW CANYON ROAD (STREET) CITY SAN RAMON STATE CA ZIP 94583

RESPONSIBLE PARTY

NAME: JOHN BERRY ORGANIZATION ☐ UNKNOWN
CONTACT PERSON: STANLEY KINTZ
PHONE: (415) 521-2727
ADDRESS: 2236 MARINER SQUARE DRIVE (STREET) CITY ALAMEDA STATE CA ZIP 94501

SITE LOCATION

FACILITY NAME (IF APPLICABLE): MARINER WAREHOUSE
OPERATOR: FACILITY CLOSED
PHONE: ( )
ADDRESS: 2204 MARINER SQUARE LOOP (STREET) CITY ALAMEDA COUNTY CA 94501 ZIP
CROSS STREET
TYPE OF AREA ☒ COMMERCIAL ☐ INDUSTRIAL ☐ RURAL ☐ RESIDENTIAL ☐ OTHER _____
TYPE OF BUSINESS ☐ RETAIL FUEL STATION ☐ FARM ☒ OTHER auto storage

IMPLEMENTING AGENCIES

LOCAL AGENCY / AGENCY NAME: ALAMEDA ENVIRONMENTAL
CONTACT PERSON: ARIU LEVI
PHONE: (415) 271-4320
REGIONAL BOARD: SAN FRANCISCO BAY REGION
PHONE: ( )

SUBSTANCE(S) INVOLVED

(1) NAME: KEROSENE, DIESEL AND HYDRAULIC OIL
QUANTITY LOST (GALLONS): _____ ☒ UNKNOWN

(2) _____ ☐ UNKNOWN

DISCOVERY/ABATEMENT

DATE DISCOVERED: 12/05/88
HOW DISCOVERED ☐ INVENTORY CONTROL ☒ SUBSURFACE MONITORING ☐ NUISANCE CONDITIONS ☐ TANK TEST ☒ TANK REMOVAL ☐ OTHER _____
DATE DISCHARGE BEGAN: __/__/__ ☒ UNKNOWN
HAS DISCHARGE BEEN STOPPED ? ☒ YES ☐ NO IF YES, DATE 12/05/88
METHOD USED TO STOP DISCHARGE (CHECK ALL THAT APPLY)
☐ REMOVE CONTENTS ☐ REPLACE TANK ☒ CLOSE TANK ☐ REPAIR TANK ☐ REPAIR PIPING ☐ CHANGE PROCEDURE ☐ OTHER _____

SOURCE/CAUSE

SOURCE OF DISCHARGE: ☐ TANK LEAK ☐ UNKNOWN ☒ PIPING LEAK ☐ OTHER
TANKS ONLY/CAPACITY: 10,000 GAL. AGE _____ YRS ☒ UNKNOWN
MATERIAL: ☐ FIBERGLASS ☒ STEEL ☐ OTHER _____
CAUSE(S): ☒ OVERFILL ☐ RUPTURE/FAILURE ☐ CORROSION ☐ UNKNOWN ☐ SPILL ☐ OTHER _____

CASE TYPE

CHECK ONE ONLY
☐ UNDETERMINED ☐ SOIL ONLY ☒ GROUNDWATER ☐ DRINKING WATER - (CHECK ONLY IF WATER WELLS HAVE ACTUALLY BEEN AFFECTED)

CURRENT STATUS

CHECK ONE ONLY
☒ SITE INVESTIGATION IN PROGRESS (DEFINING EXTENT OF PROBLEM) ☐ CLEANUP IN PROGRESS ☐ SIGNED OFF (CLEANUP COMPLETED OR UNNECESSARY) ☐ NO ACTION TAKEN ☐ POST CLEANUP MONITORING IN PROGRESS ☐ NO FUNDS AVAILABLE TO PROCEED ☐ EVALUATING CLEANUP ALTERNATIVES

REMEDIAL ACTION

CHECK APPROPRIATE ACTION(S) (SEE BACK FOR DETAILS)
☐ CAP SITE (CD) ☐ EXCAVATE & DISPOSE (ED) ☐ REMOVE FREE PRODUCT (FP) ☒ ENHANCED BIO DEGRADATION (IT)
☐ CONTAINMENT BARRIER (CB) ☒ EXCAVATE & TREAT (ET) ☐ PUMP & TREAT GROUNDWATER (GT) ☐ REPLACE SUPPLY (RS)
☐ TREATMENT AT HOOKUP (H-U) ☐ NO ACTION REQUIRED (NA) ☐ OTHER (OT) _____

COMMENTS

SEE ATTACHED REPORT

HSI obtained soil samples by driving individual 2-inch-diameter liners into the sidewalls of open trenches using hand sampling equipment. The ends of the liners were sealed with aluminum foil, plastic caps and black electricians tape. Sampling equipment was washed and rinsed prior to each use.

Soil samples were refrigerated until they were analyzed by an on-site mobile laboratory operated by NET Pacific. NET's mobile laboratory is a laboratory certified by the Department of Health Services to conduct hazardous wastes and water testing. Analysis performed by NET included TPH as motor oil and diesel using sample preparation by EPA Method 5030, and analysis by gas chromatograph/flame ionization detector.

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Formerly: ANATEC Labs, Inc.

Bruce Hageman
Hageman-Schank, Inc.
2723 Crow Canyon Rd., #210
San Ramon, CA 94583

07-25-89
NET Pacific Log No: 7085
Series No: 341
Client Ref: Proj #19589M1

Subject: Analytical Results for "John Berry Mariner Loop" Received 07-17-89.

Dear Mr. Hageman:

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Submitted by:

Susan Joy Griffith
Group Leader
Gas Chromatography

Approved by:

William G. Rotz
Group Leader
Mobile Laboratory

/sm
Enc: Sample Custody Document

KEY TO ABBREVIATIONS

mean	:	Average; the sum of the measurements divided by the total number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample, unless noted otherwise.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
ND	:	Not detected; the analyte concentration is less than the listed reporting limit.
NR	:	Not requested.
NTU	:	Nephelometric turbidity units.
RL	:	Reporting limit.
RPD	:	Relative percent difference, $[V^1-V^2/V \text{ mean}]x100$.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
ug/filter	:	Concentration in units of micrograms of analyte per filter.
umhos/cm	:	Micromhos per centimeter.
*	:	See cover letter for details.

THE COVER LETTER AND KEY TO ABBREVIATIONS ARE AN INTEGRAL PART OF THIS REPORT

ANALYTE: PETROLEUM HYDROCARBON Extractable, as Motor Oil

REPORTING LIMIT: 10 (mg/Kg)

Lab No.	Descriptor			Results	Units
-30955	1C	07-13-89	1516	130	mg/Kg
-30956	2C	07-13-89	1525	97	mg/Kg
-30957	3C	07-13-89	1535	50	mg/Kg
-30958	4C	07-13-89	1545	51	mg/Kg
-30959	32B	07-13-89	1650	94	mg/Kg
-30960	33B	07-13-89	1656	62	mg/Kg
-30961	34B	07-13-89	1659	37	mg/Kg
-30962	35B	07-13-89	1705	83	mg/Kg
-30963	#43	07-13-89	1411	ND	mg/Kg
-30964	#44	07-13-89	1647	1,900	mg/Kg
-30965	#45	07-13-89	1645	550	mg/Kg
-30966	#46	07-13-89	1640	58	mg/Kg
-30967	#47	07-13-89	1640	98	mg/Kg
-30968	#48	07-13-89	1637	190	mg/Kg
-30969	#22B	07-13-89		ND	mg/Kg
-30970	#32	07-13-89		ND	mg/Kg
-30971	#33	07-13-89	1005	ND	mg/Kg
-30972	#34	07-13-89	1102	ND	mg/Kg
-30973	#35	07-13-89	1105	ND	mg/Kg
-30974	#36	07-13-89	1215	ND	mg/Kg
-30975	#37	07-13-89	1243	ND	mg/Kg
-30976	#38	07-13-89	1305	ND	mg/Kg
-30977	#39	07-13-89	1312	ND	mg/Kg
-30978	#40	07-13-89	1321	ND	mg/Kg
-30979	#41	07-13-89	1340	ND	mg/Kg
-30980	#23B	07-13-89	1345	ND	mg/Kg
-30981	#24B	07-13-89	1352	ND	mg/Kg
-30982	#25B	07-13-89	1400	ND	mg/Kg
-30983	#42	07-13-89	1406	ND	mg/Kg
-30984	#26B	07-13-89	1415	ND	mg/Kg
-30985	#27B	07-13-89	1434	ND	mg/Kg
-30986	#28B	07-13-89	1436	360	mg/Kg
-30987	#29B	07-13-89	1439	ND	mg/Kg
-30988	#30B	07-13-89	1445	80	mg/Kg
-30989	#31B	07-13-89	1455	ND	mg/Kg

NET Pacific, Inc. - URIAH INC

435 TESCONI CIRCLE
SANTA ROSA, CA 95401

TEL: 707-526-7200
FAX: 707-526-9623

~~7107~~

CHAIN OF CUSTODY RECORD

7107

7085

PROJ NO	PROJECT NAME
19589M1	John Beery

SAMPLERS (Signature)

Helen Mawhinney - URIAH INC

STA NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	TPH (as motor oil)	REMARKS
1C	7-13-89	3:16		✓		1	✓	Soil
2C		3:25		✓		1	✓	
3C		3:35		✓		1	✓	
4C		3:45		✓		1	✓	
32B		4:50		✓	[illegible]'	1	✓	
33B		4:56		✓	[illegible]'	1	✓	
34B		4:59		✓	[illegible]'	1	✓	
35B		5:05		✓	[illegible]'	1	✓	
#43		2:11		✓	[illegible]'	1	✓	
#44		4:47		✓	[illegible]'	1	✓	
#45		4:45		✓	[illegible]'	1	✓	
#46		4:40		✓	[illegible]'	1	✓	
#47		4:40		✓	[illegible]'	1	✓	
#48	↓	4:37		✓	[illegible]'	1	✓	
TH								35 TOTAL

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Helen Mawhinney	7-13-89 5:26 PM	John C Pmod			
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) Julie Schwartz	Date / Time 7-17-89 0900	Remarks	

Job# 7085

URIAH ENVIRONMENTAL SERVICES, INC.
CHAIN OF CUSTODY

****For Office Use Only****

Project Name: John Beery/Mariner Loop Job# 19589M1

SAMPLING COMPLETED: ___:___ AM/PM, DATE: 7/13-89 BY: Helen Mawhinney
SITE NAME AND ADDRESS: 2942 Mariner Loop
REGULATORY AGENCY REPRESENTATIVE PRESENT: NONE
REGULATORY AGENCY REPRESENTATIVE TITLE: N/A
LAB USED: NET Pacific Inc LAB ON SITE? yes/no
SAMPLE TO LAB VIA? Lab Rep Urian Staff Courier

TIME	SAMPLE#	SOIL/WATER PRODUCT	ANALYZE FOR	# OF CONTAINERS	SINGLE/ COMPOSITE	DEPTH
	#22B	Soil	TPH (as Motor Oil)	1	S	4'
	#32	Soil	TPH (as Motor Oil)	1	S	4'
10:05 AM	#33	Soil	TPH "	1	S	4'
10:02 AM	34	Soil	TPH "	1	S	4'
11:05 AM	#35	Soil	TPH (as motor oil)	1	S	4'
12:15	36	Soil	TPH (as motor oil)	1	S	4'
12:43	#37	Soil	TPH (as motor oil)	1	S	4'
1:05	"38	Soil	TPH "	1	S	4'
1:12	"39	Soil	TPH	1	S	4'
1:21	"40	Soil	TPH	1	S	4'
1:40	"41	Soil	TPH "	1	S	4'
1:45	23B	Soil	TPH "	1	S	4'
	TB					

SAMPLE RELEASED BY:
Helen Mawhinney 18:00 AM/PM, 7/13/89
___:___ AM/PM, __/__/89
___:___ AM/PM, __/__/89

SAMPLE ACCEPTED BY:
[signature] 18:00 AM/PM, 7/13/89
___:___ AM/PM, __/__/89
___:___ AM/PM, __/__/89

TURN AROUND: Immediate RESULTS TO URIAH BY: _____

URIAH ENVIRONMENTAL SERVICES, INC.
CHAIN OF CUSTODY

****For Office Use Only****

Project Name: John Beery / Marina Circle Loop Job# 19589M1

SAMPLING COMPLETED: ___:___ AM/PM, DATE: 7-13-89 BY: Helen Mawhinney
SITE NAME AND ADDRESS: 2442 Marina Loop

REGULATORY AGENCY REPRESENTATIVE PRESENT: None
REGULATORY AGENCY REPRESENTATIVE TITLE: NA
LAB USED: NET Pacific Inc LAB ON SITE? yes/no
SAMPLE TO LAB VIA? Lab Rep Uriah Staff Courier

	SAMPLE#	SOIL/WATER PRODUCT	ANALYZE FOR	# OF CONTAINERS	SINGLE/ COMPOSITE	
1:52	# 24 B	Soil	TPH (as motor oil)	1	S	4'
2:00	# 25 B	soil	TPH "	1	S	4'
2:06	# 42	soil	TPH "	1	S	4'
2:15	# 26 B	soil	TPH "	1	S	4'
2:30	# 27 B	soil	TPH "	1	S	4'
2:36	# 28 B	Soil	TPH "	1	S	4'
2:39	# 29 B	soil	TPH "	1	S	4'
2:45	# 30 B	Soil	TPH "	1	S	4'
2:55	# 31 B	soil	TPH "	1	S	4'
	9					

SAMPLE RELEASED BY:
Helen Mawhinney 18:00 AM/PM, 7/13/89
___:___ AM/PM, __/__/89
___:___ AM/PM, __/__/89

SAMPLE ACCEPTED BY:
Joh C. Peard 18:00 AM/PM, 7/13/89
___:___ AM/PM, __/__/89
___:___ AM/PM, __/__/89

TURN AROUND: Immediate
RESULTS TO URIAH BY: _____

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Formerly: ANATEC Labs, Inc.

Bruce Hageman
Hageman-Schank, Inc.
2723 Crow Canyon Rd., #210
San Ramon, CA 94583

07-21-89
NET Pacific Log No: 7107
Series No: 341
Client Ref: Job #19689M1

Subject: Analytical Results for John Beery, Mariners Loop Received 07-17-89.

Dear Mr. Hageman:

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Submitted by:

Susan Joy Griffin
Group Leader
Organics

Approved by:

William G. Rotz
Group Leader
Mobile Laboratory

/sm

KEY TO ABBREVIATIONS

mean	:	Average; the sum of the measurements divided by the total number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample, unless noted otherwise.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
ND	:	Not detected; the analyte concentration is less than the listed reporting limit.
NR	:	Not requested.
NTU	:	Nephelometric turbidity units.
RL	:	Reporting limit.
RPD	:	Relative percent difference, $[V^1-V^2/V \text{ mean}]x100$.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
ug/filter	:	Concentration in units of micrograms of analyte per filter.
umhos/cm	:	Micromhos per centimeter.
*	:	See cover letter for details.

THE COVER LETTER AND KEY TO ABBREVIATIONS ARE AN INTEGRAL PART OF THIS REPORT

ANALYTE: PETROLEUM HYDROCARBONS
Extractable, as Kerosene
(mg/Kg)

REPORTING LIMIT: 10

Lab No.	Descriptor		Results	Units
-30935	#1D	07-14-89	ND	mg/Kg
-30936	#2D	07-14-89	5,800	mg/Kg
-30937	#3D	07-14-89	ND	mg/Kg
-30938	#4D	07-14-89	ND	mg/Kg
-30939	#5D	07-14-89	ND	mg/Kg
-30940	#6D	07-14-89	ND	mg/Kg
-30941	#7D	07-14-89	ND	mg/Kg
-30942	#8D	07-14-89	ND	mg/Kg
-30943	#9D	07-14-89	ND	mg/Kg
-30944	#10D	07-14-89	ND	mg/Kg
-30945	#11D	07-14-89	ND	mg/Kg
-30946	#12D	07-14-89	700	mg/Kg
-30947	#13D	07-14-89	ND	mg/Kg
-30948	#14D	07-14-89	ND	mg/Kg
-30949	#15D	07-14-89	2,200	mg/Kg
-30950	#16D	07-14-89	13	mg/Kg
-30951	#17D	07-14-89	ND	mg/Kg
-30952	#18D	07-14-89	1800	mg/Kg

URIAH ENVIRONMENTAL SERVICES, INC.
CHAIN OF CUSTODY

~~7188~~ #07

****For Office Use Only****

Project Name: John Beery / Mariners Loop Job# 19689M1

SAMPLING COMPLETED: 11 : 50 AM/PM, DATE: 7-14-89 BY: Kelly Hawkinson
SITE NAME AND ADDRESS: 2140 MARINERS LOOP, ALAMEDA ?
REGULATORY AGENCY REPRESENTATIVE PRESENT: NONE
REGULATORY AGENCY REPRESENTATIVE TITLE: N/A
LAB USED: NET PACIFIC LAB ON SITE? yes (no)
SAMPLE TO LAB VIA? Lab Rep Uriah Staff Courier

SAMPLE#	SOIL/WATER PRODUCT	ANALYZE FOR	# OF CONTAINERS	SINGLE/ COMPOSITE
#1D	Soil	TPH (as Kerosene)	1	S
#2D			1	S
#3D			1	S
#4D			1	S
#5D			1	S
#6D			1	S
#7D			1	S
#8D			1	S
#9D			1	S
#10D			1	S
#11D			1	S
#12D			1	S
#13D			1	S

SAMPLE RELEASED BY:

Kelly Hawkinson 12 : 03 AM/PM, 7/14/89
Jeff Winkler 18 : 45 AM/PM, 7/14/89
_____ : __ AM/PM, _/_/89

SAMPLE ACCEPTED BY:

[illegible] 12:03 AM/PM, 7/14/89
Jeff Winkler 15:15 AM/PM, 7/14/89
Fred Elrod 8:?? AM/PM, 7/14/89

TURN AROUND: Immediate

RESULTS TO URIAH BY: Julie Schwartz 0900 7-17-89

URIAH ENVIRONMENTAL SERVICES, INC.
CHAIN OF CUSTODY

Page 2 of 2

****For Office Use Only****

Project Name: John Keery / Mariners Loop Job# 19689M1

SAMPLING COMPLETED: 11 :50 (AM)/PM, DATE: 7-14-89 BY: Helen Mansisidor
SITE NAME AND ADDRESS: 2140 MARINERS LOOP, ALAMEDA
REGULATORY AGENCY REPRESENTATIVE PRESENT: NONE
REGULATORY AGENCY REPRESENTATIVE TITLE: N/A
LAB USED: NET PACIFIC LAB ON SITE? yes/(no)
SAMPLE TO LAB VIA? Lab Rep Uriah Staff Courier

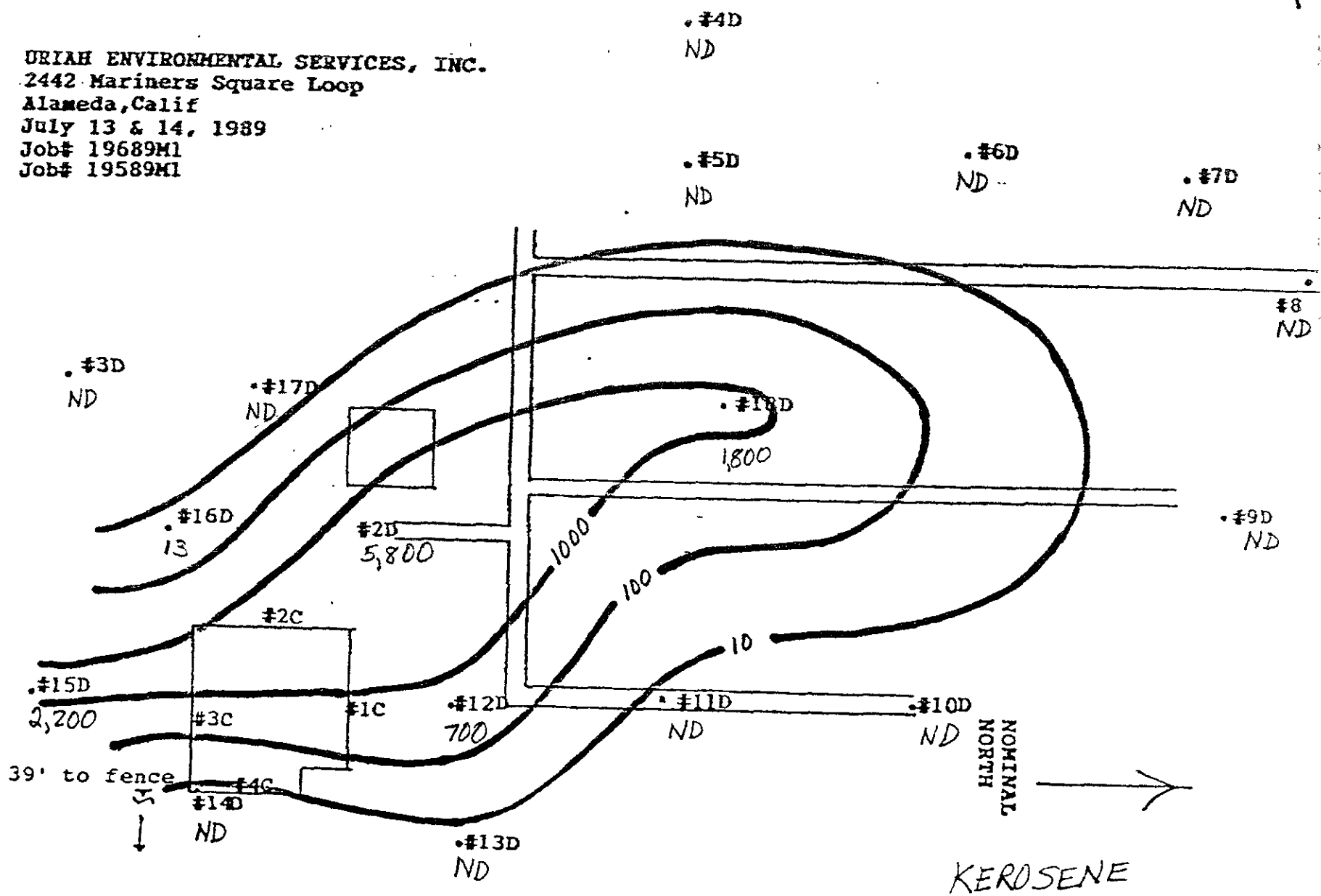
SAMPLE#	SOIL/WATER PRODUCT	ANALYZE FOR	# OF CONTAINERS	SINGLE/ COMPOSITE
#14D	Soil	TPH (as Kerosene)	1	S
#15D	Soil		1	S
#16D	Soil		1	S
#17D	Soil		1	S
#18D	Soil			

SAMPLE RELEASED BY:
Helen Mansisidor 12:03 AM/PM, 7/14/89
Jeff Smith 12:45 AM/PM 7/14/89
_____ :__ AM/PM, _/_/89

SAMPLE ACCEPTED BY:
[signature] 12:03 AM/PM, 7/14/89
Jeff Smith 15:15 AM/PM, 7/14/89
Fed Ex 1:00 AM/PM 7/14/89

TURN AROUND: IMMEDIATE RESULTS TO URIAH BY: _____

URIAH ENVIRONMENTAL SERVICES, INC.
2442 Mariners Square Loop
Alameda, Calif
July 13 & 14, 1989
Job# 19689M1
Job# 19589M1



KEROSENE (ppm)

LEGEND

1cm = 10'

DEPTHS

samples 1D-18D were taken at a depth of 4.5'

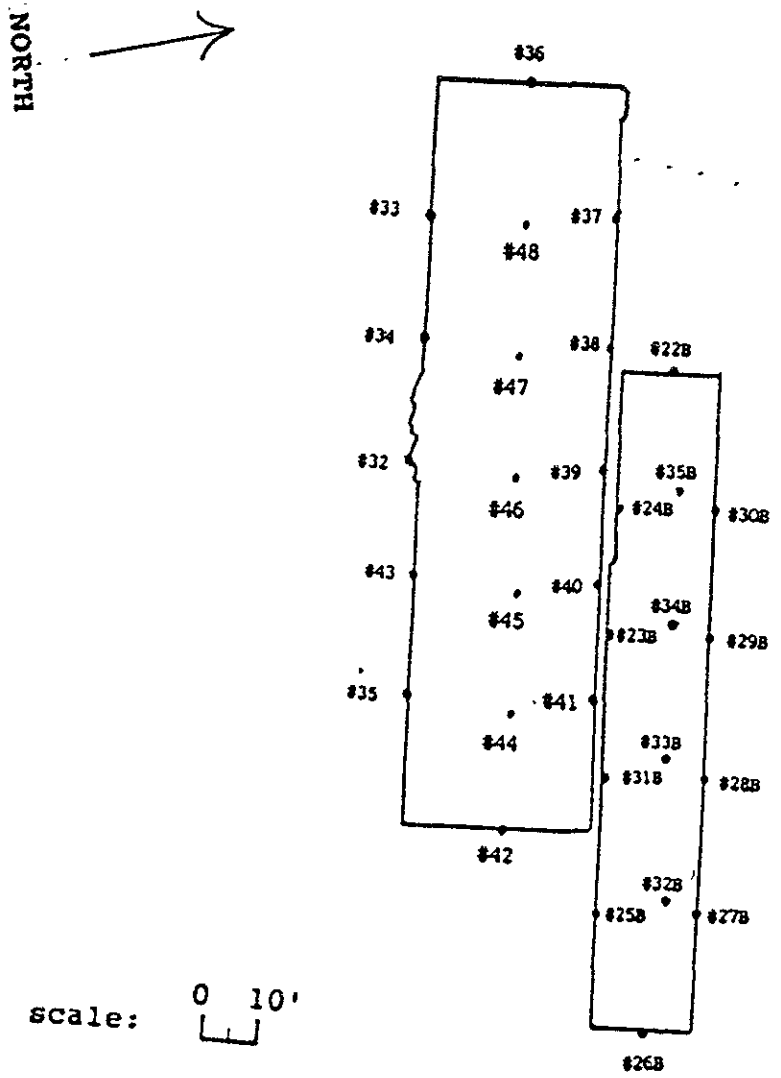
samples 1C-4C were taken at a depth of 5.5'

ANALYSIS

samples #1C, #2C, #3C, #4C were analyzed for TPH as Motor Oil

samples
TPH as Kerosene

URIAH ENVIRONMENTAL SERVICES, INC.
2442 Mariners Square Loop,
Alameda, Calif
July 13, 1989
Job# 19589M1



scale: 0 10'

DEPTHS TO SAMPLES

samples #32-#43 were taken at a depth of 4' into the capillary zone.

samples #44-#48 were taken at a depth of 7'.

samples #22B-#31B were taken at depth of 4' into the capillary zone.

samples #32B-#35B were taken at depth of 7'.

SAMPLE ANALYSIS

all samples were analyzed for TPH as Motor Oil at a Hazardous Materials Certified Laboratory.

Prepared for:
Mr. Stanley M. Kintz
John BEERY Organization
2236 Mariner Square Drive
Alameda CA. 94550

URIAH ENVIRONMENTAL SERVICES, INC.
2442 Mariners Square Loop
Alameda, California
July 13 & 14, 1989

JOB # 19689MI
JOB # 19589MI

N →

LEGEND:

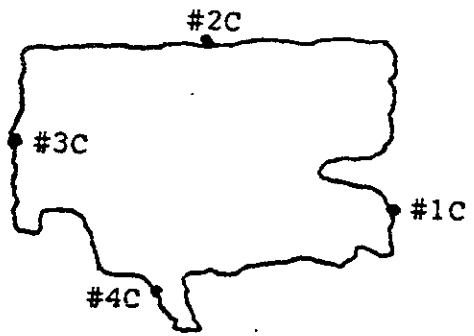
1cm = 10'

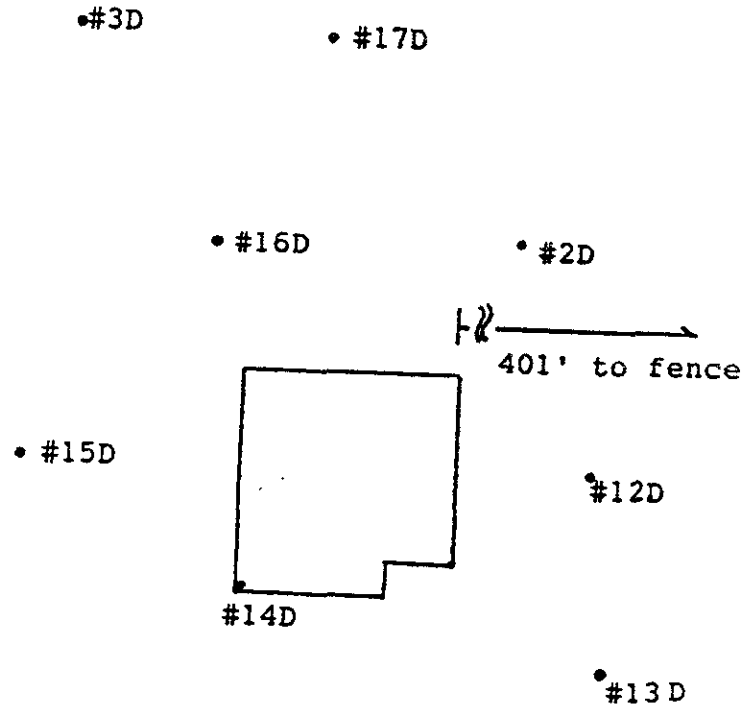
DEPTHS:

Samples 1C-4C were taken from the pit wall at a depth of 5.5'

ANALYSIS:

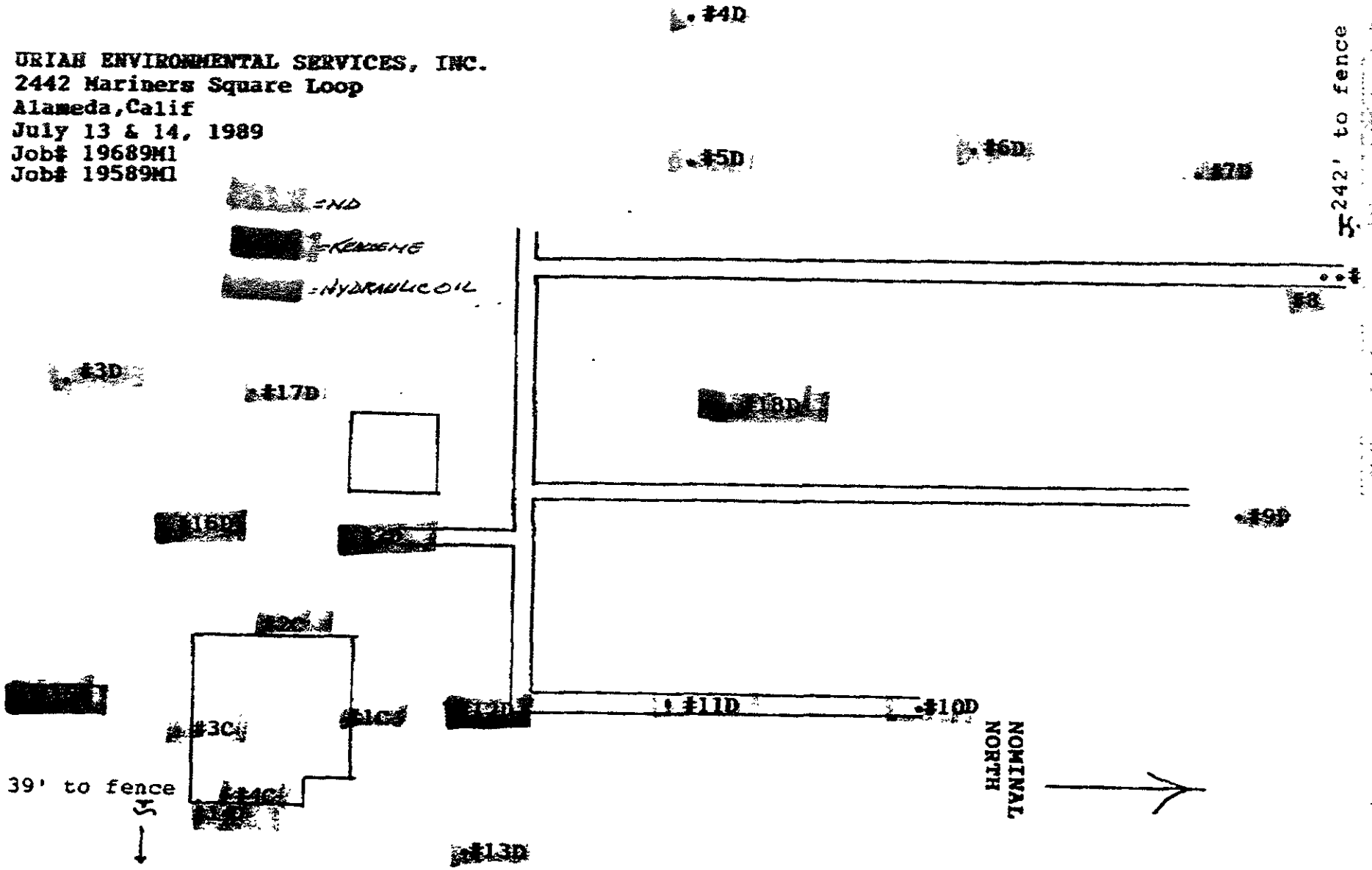
Samples #1C, #2C, #3C, #4C were analyzed for TPH AS Motor Oil





Fence At West Property Line

URIAH ENVIRONMENTAL SERVICES, INC.
2442 Mariners Square Loop
Alameda,Calif
July 13 & 14, 1989
Job# 19689M1
Job# 19589M1



LEGEND

1cm = 10'

DEPTHS

samples 1D-18D were taken at a depth of 4.5'

samples 1C-4C were taken at a depth of 5.5'

ANALYSIS

samples #1C, #2C, #3C, #4C were analyzed for TPH as Motor Oil

samples
TPH as Kerosene

Uriah Inc.

An Environmental Services Company

PROPOSAL FOR THE BIOREMEDIATION OF
HYDROCARBON CONTAMINATED SOILS LOCATED AT:

MARINER WAREHOUSE
2404 MARINER SQUARE LOOP, ALAMEDA, CA

JULY 13, 1989

464 Lindbergh Avenue • Livermore, California 94550 • (415) 455-4991

Uriah Inc.

An Environmental Services Company

July 13, 1989

Mr. Stanley M. Kintz
John Beery Organization
2236 Mariner Square Drive
Alameda, CA 94501

Re: Proposal For The bioremediation Of Approximately 1,500 Cubic Yards Of Hydrocarbon Contaminated Soils At The Mariner Warehouse Site, 2404 Mariner Square Loop, Alameda, CA

Dear Mr. Kintz:

Thank you for the opportunity to respond to your Request for Proposal regarding the biodetoxification of contaminated soils as referenced above. Based upon proprietary experience, information available from other commercial service providers, and considerable research data, we are confident that the contaminants present within the soils of concern are subject to aerobic degradation by a variety of soil bacteria and fungi. This aerobic process would mineralize the hydrocarbon contaminants, forming the non-toxic end products carbon dioxide, water, and minerals.

The biotreatment process Uriah wishes to implement is that of modified windrowing. The number and length of treatment beds (windrows) would be determined by space availability (typically beds are approximately 100' X 10'). The contaminated soils would be placed atop hydrocarbon resistant liners, bermed to prevent any possibility of runoff, and then inoculated with hydrocarbon utilizing bacteria and amended with nutrients as necessary to promote optimum biological activity. The soil will be windrowed periodically during the treatment process to provide adequate tilth necessary for optimum bed aeration. Additional materials may also be added to the treatment beds (both initially and periodically during the course of the project) in order to provide for adequate soil permeability, pH, moisture, and nutrients. The treatment beds would be placed for ease of access and management.

Periodically, (typically every other week, or as determined

464 Lindbergh Avenue • Livermore, California 94550 • (415) 455-4991

by site specific conditions), during the treatment period of 8-10 weeks, interim sampling would be performed to acquire data regarding hydrocarbon degradation, intermediate product formation, biological activity, and soil chemistry.

Determination of the completion of the bioremediation of the referenced soils will be based upon the results of confirming certified laboratory analysis. One (1) composite soil sample will be collected for every 50 cubic yards of material under treatment. Each composite sample will be obtained by driving a clean brass sample tube (1.92 inches in diameter and 6 inches in length) into the soil at four (4) randomly selected points per composite sample. The ends of each sample tube will be promptly wrapped with aluminum foil, fitted with plastic caps, sealed with black electrical tape, labeled, placed on dry ice, and then transported to a certified hazardous waste analytical laboratory under chain of custody for analysis for Total Petroleum Hydrocarbons as Hydraulic Oil using EPA Method 413.2 and Total Petroleum Hydrocarbons as Kerosene using EPA Methods 3550/8015.

ok for verification of aeration. not ok for replacing soils in ground.

At the end of the treatment period, on site utilization of the decontaminated soil for fill, landscaping, or other appropriate purposes is recommended.

Thank you for considering Uriah, Inc. as a service provider. For your convenience, this document is presented in a form which may be accepted as an agreement. If you find this proposal acceptable, please indicate your concurrence by returning a signed copy with you initial payment.

If you have any questions, or if we may otherwise be of assistance, please contact one of the undersigned at (415) 455-4991.

Sincerely,

Tarlochan Nijjar, MSc
Environmental Microbiologist

and

John E. Rapp
Senior Consultant, President- Uriah, Inc.

CO:JER:dr
enc. Fee Schedule
Terms and Conditions

Attachments- Statement of Qualifications
Professional References
Staff Vitae
Certificates of Insurance

ACCEPTED BY:

TITLE:

DATE:

TELEPHONE NUMBER:

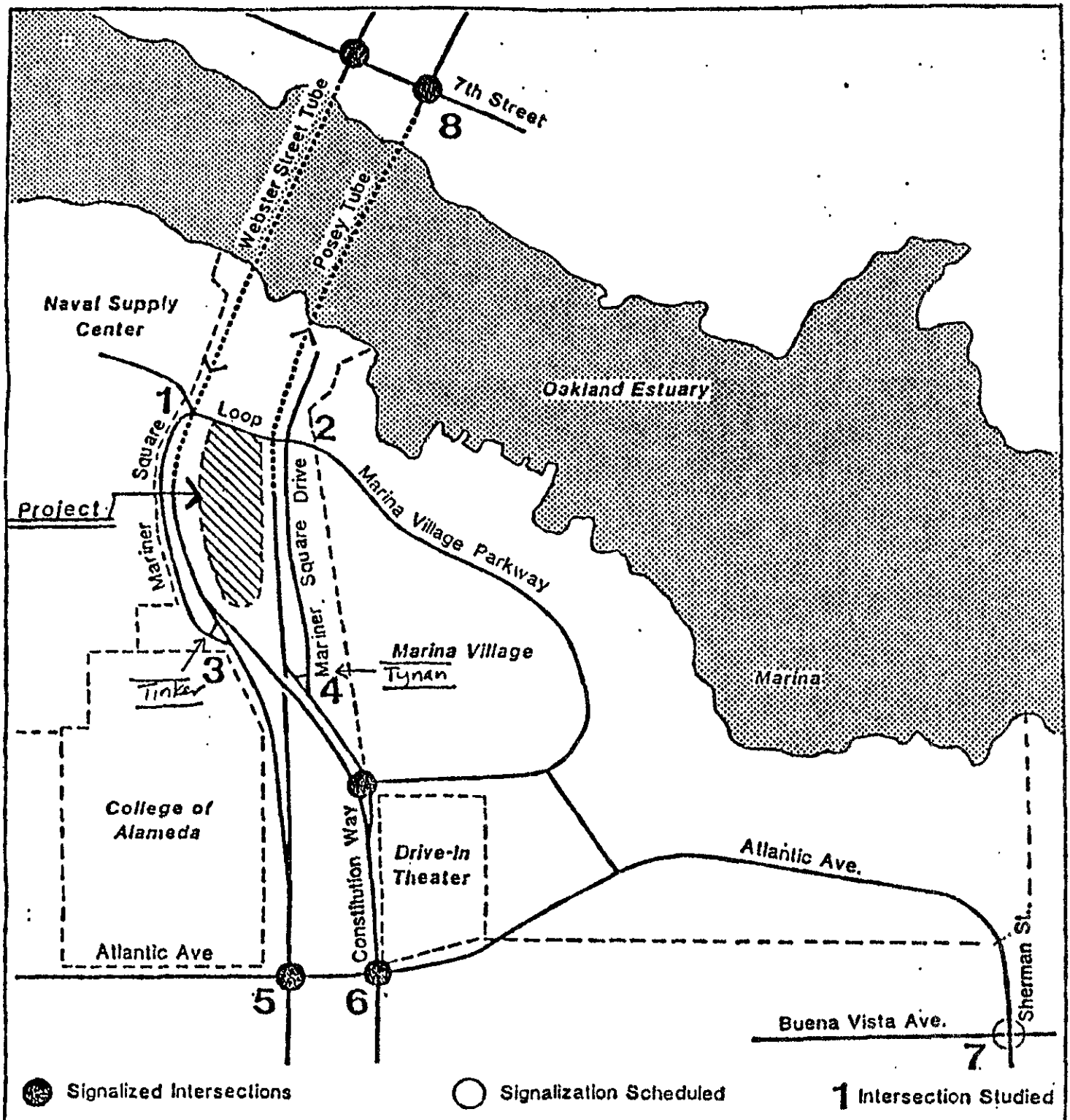


Figure 1
Study Area and Project Site
(Existing Conditions)

N N.T.S.

ATTACHMENTS

Statement of Qualifications

Staff Vitae

Professional References

Certificates of Insurance

STATEMENT OF QUALIFICATIONS

Uriah Environmental Services, a California Corporation has demonstrated significant expertise in providing cost effective and efficient assessment and remediation services for the past four years. By virtue of the frequency of petroleum hydrocarbon product losses to soil and groundwater, much of Uriah's experience has been in dealing with these constituents. Innovations in assessment and remediation protocols have marked Uriah's rapid growth in the environmental services field.

STAFF VITAE- Uriah staff who would bear primary responsibility for the 2404 Mariner Square Loop, Alameda, CA project:

1) Costas Orountiotis, MSc

MSc Environmental Engineering, University of Kansas, 1987
BSc Civil Engineering, University of Kansas, 1985

Research: CMAS computer-aided design
Previous Work: Pesticide impact on the Equus Beds aquifer from non-point sources. Vadose zone pesticide migration.
Management of biodetoxification of soils projects using thin-spread, forced aeration static pile aeration, and windrowing technologies.
Design, construction, and operation of injection-extraction systems

2) Tarlochan S. Nijjar, MSc

MSc Biological Sciences, G.N.D. University, Amristar, India, 1986
BSc Biology and Chemistry, G.N.D. University, 1986

Research: Toxic and cytogenetic effects of common environmental pollutants
Previous Work: Mutagenic and clastogenic effects of selected pesticides. Anti-mutagenic and anti-clastogenic effects of selected oxidants.
Microbiological supervision of soils and groundwater remediation projects involving fluidized bed aerobic bioreactor systems

3) Walter Floyd, BSc

BSc Earth Science, University of California, Santa Cruz, 1984
Previous Work: Two years experience as a supervising analytical chemist
Site assessment, monitoring well installation, sampling project supervision

4) Eddy Tabet, P.E.

See resume attached

5) Bogdan Georgescu, MSc

MSc Petroleum Engineering, University of Ploiesti, Romania, 1983
BSc Petroleum Engineering, University of Ploiesti, Romania, 1985
Previous Work: Design of Oil Exploitation and field work using in-situ combustion, steam and water injection for increasing the final recovery factor.
Site assessments, monitoring well installations, project supervision involving geotechnical analysis of soil and/or groundwater contamination.

PARTIAL CLIENT LIST

Zaccor Corporation
791 Hamilton Avenue
Menlo Park, CA 94025
Telephone: (415) 363-2181
Contact: Mr. Gary Zaccor

Karim's Alliance
7428 Mission Blvd.
Colma, CA 94014
Telephone: (415) 992-0429
Contact: Mr. Karim Zarrinnan

Shen Lincoln Mercury
2 California Drive
Burlingame, CA 94010
Telephone: (415) 342-8600
Contact: Mr. Michael Shen

Lee and Associates
1800 Mulberry Drive
San Mateo, CA
Telephone: (415) 595-6965
Contact: Lester Lee

The Tasha Corporation
4074 Eggers, Suite G
Fremont, CA 94563
Telephone: (415) 791-0890
Contact: Mr. Gene Frank

Cypress Lawn Cemetery
P.O. Box 397
Colma, CA 94014
Telephone: (415) 755-0580
Contact: Mr. Serafin Mora

Stanislaus Implement & Hardware
P.O. Box 1039
Modesto, CA 95353
Telephone: (209) 523-0781
Contact: Mr. Jim Betz

City of Sunnyvale
Dept. of Public Safety
700 All American Way
Sunnyvale, CA 94086
Tel: (408) 791-0890
Contact: Ron Staricha

Rossini Farming Company
P.O. Box 488
Ceres, CA 95307
Tel: (209) 538-1794
Contact: Kevin

Encinal Marina, Inc
2051 Grand Street
Alameda, CA 94501
Tel: (415) 865-1200
Contact: Curt Bolton

Louis Martini Winery
254 So. St. Helena
St. Helena, CA
Tel: (707) 963-2736
Contact: Art Johnston

Cutter Laboratories
4th and Parker Sts
Berkeley, CA
Tel: (415) 420-5322
Contact: Jim Murray

Safety Specialists
3060 Raymond Street
Santa Clara, CA
Tel: (408) 988-1111
Cont: Y. El-Shoubary

Accutite Corp.
35 So. Linden Ave.
So. San Francisco
Tel: (415) 952-5551
Cont: Eddy Tabet

ACORD. CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY) 12/14/88

PRODUCER

Altree Insurance Agency, Inc.
P.O. Box 222860
Carmel, Ca. 93922
408-624-3336

CODE SUB-CODE

INSURED

Uriah, Inc.
DBA: URIAH ENVIRONMENTAL
SERVICE, P.O. Box 3833
Modesto, Ca. 95353

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW

COMPANIES AFFORDING COVERAGE

COMPANY LETTER A	Illinois Insurance Exchange
COMPANY LETTER B	
COMPANY LETTER C	
COMPANY LETTER D	
COMPANY LETTER E	

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	ALL LIMITS IN THOUSANDS	
A	GENERAL LIABILITY [X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS MADE [X] OCCUR [ ] OWNER'S & CONTRACTOR'S PROT [ ] _____	DOL 122019	10/12/88	10/12/89	GENERAL AGGREGATE	$1,000
					PRODUCTS-COMP/OPS AGGREGATE	$1,000
					PERSONAL & ADVERTISING INJURY	$1,000
					EACH OCCURRENCE	$1,000
					FIRE DAMAGE (Any one fire)	$
					MEDICAL EXPENSE (Any one person)	$
	AUTOMOBILE LIABILITY [ ] ANY AUTO [ ] ALL OWNED AUTOS [ ] SCHEDULED AUTOS [ ] HIRED AUTOS [ ] NON-OWNED AUTOS [ ] GARAGE LIABILITY [ ]				COMBINED SINGLE LIMIT	$
					BODILY INJURY (Per person)	$
					BODILY INJURY (Per accident)	$
					PROPERTY DAMAGE	$
	EXCESS LIABILITY [ ] OTHER THAN UMBRELLA FORM				EACH OCCURRENCE $	AGGREGATE $
	WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY				STATUTORY	
					$	(EACH ACCIDENT)
					$	(DISEASE—POLICY LIMIT)
					$	(DISEASE—EACH EMPLOYE
	OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/RESTRICTIONS/SPECIAL ITEMS

CERTIFICATE HOLDER

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL _____ DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE Allan U. Altree

STATE COMPENSATION INSURANCE FUND

P.O. BOX 807, SAN FRANCISCO, CA 94101-0807

CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

MAY 15, 1989

POLICY NUMBER: 1036321 - 88
CERTIFICATE EXPIRES: 10-21-89

CITY OF PALO ALTO DEPT OF PUBLIC WORKS
ATTN: MARK MCGILVRAY
P O BOX 10250
PALO ALTO
CA 94303-0862

This is to certify that we have issued a valid Workers' Compensation insurance policy in a form approved by the California Insurance Commissioner to the employer named below for the policy period indicated.

This policy is not subject to cancellation by the Fund except upon ten days' advance written notice to the employer.

We will also give you TEN days' advance notice should this policy be cancelled prior to its normal expiration.

This certificate of insurance is not an insurance policy and does not amend, extend or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term, or condition of any contract or other document with respect to which this certificate of insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

John A. Wolff

PRESIDENT

EMPLOYER

URIAH ENVIRONMENTAL SERV. INC.
P O BOX 3833
MODESTO
CA 95352

SCIF 10262 (REV. 10-86) COPY FOR INSURED'S FILE OLD 262A

Uriah Inc.

An Environmental Services Company

HEALTH AND SAFETY PROCEDURES FOR THE BIOREMEDIATION OF PREVIOUSLY EXCAVATED SOILS AT 2404 MARINER SQUARE LOOP, ALAMEDA, CA

The following protocol for personnel involved in the above referenced project is considered generally appropriate; however, modifications may be imposed by their consultants, and/or the County of Alameda in response to site specific conditions.

HEALTH AND SAFETY STAFF

Mr. Walter Floyd, Uriah Staff Geologist
Mr. John Rapp, Registered Environmental Health Specialist

PUBLIC HEALTH/ENVIRONMENTAL HAZARD ASSESSMENT

Hazards associated with the bioremediation of hydrocarbon contaminated soils are those related to: 1). Exposure to the hydrocarbon contaminated soils being treated, 2). The potential for ignition of flammable/explosive vapors, and 3). The physical hazards associated with working with/near heavy equipment.

HAZARDS OF CHEMICAL EXPOSURE

All soils to be handled are contaminated with hydraulic and/or kerosene. The most toxic constituents present are believed to be those petroleum hydrocarbons, chiefly of the methane series having from 10-16 carbon atoms per molecule, which comprise kerosene. The most significant route of exposure would appear to be via inhalation. Inhalation of high concentrations of vapor can cause headache and stupor. A secondary source of exposure would be through incidental ingestion of kerosene contaminated dust. Kerosene is known to be slightly toxic by ingestion causing irritation of the gastrointestinal tract. The measures prescribed for the minimization of risks associated with the aforementioned routes of exposure are described below.

HAZARDS ASSOCIATED WITH FLAMMABLE VAPORS

Although by and large the levels of kerosene/hydraulic oil within soil are not extremely high, it is recognized that there is a potential for vapors to collect within the flammable range. The measures for early detection of these vapors is described below.

PHYSICAL HAZARDS

The physical hazards attendant to the performance of bioremediation are those associated with working on/near mechanized equipment. Appropriate procedures attendant to the operation of equipment to be utilized on this project are already in force and are well known to our staff. Further, work-rest cycles will be established and adhered to so as to provide adequate rest periods; liquids will also be available to preclude problems associated with heat stress.

RISK FACTORS AND ASSOCIATED MITIGATION PROCEDURES

Type of Risk	Route of Exposure	Mitigating Factor(s)
Chemical	Inhalation	-Air purifying respirators with organic vapor and dust filters. -A hydrocarbon vapor survey meter will be used to determine exposure.
Chemical	Ingestion	-Optimum use of equipment to minimize direct exposure to the soil. -Use of protective clothing. -The nature of the project does not involve the uncontrolled release of toxic materials.
Flammable Vapors		-A hydrocarbon vapor meter will be used to determine the percent of the lower explosive limit (LEL) present at the excavation.

Physical	-Physical hazards attendant to this project are no different from those associated with drilling projects involving non-regulated materials. -The use of trained and experienced staff; properly attired and using appropriate and well-maintained equipment.

WORK AREA

Only authorized personnel will be permitted within the work area. This area will be clearly marked and monitored.

DECONTAMINATION PROCEDURES

General procedures for handwashing and disposal of soiled clothing will be adhered to.

Uriah Inc.

An Environmental Services Company

July 19, 1989

Mr. Stanley M. Kintz
John Beery Organization
2442 Mariners Loop
Alameda, California

Hanby Analysis using Liquid to Liquid Extraction

Analytical results;

July 11, 1989 ppm		July 12, 1989 ppm		July 13, 1989 ppm	
Sample #	Result	Sample #	Result	Sample #	Result
1	1,500	Blank	ND	Blank	ND
2	1,650	16	ND	36	ND
3	75	17	ND	37	ND
4	50	19	ND	38	20
5	<2,000	20	ND	39	ND
6	20	21	ND	40	ND
7	200	22	ND	41	20
8	ND	26	ND	20B	ND
9	ND	27	1,000	21B	ND
10	ND	28	2,000	22B	ND
11	20	29	500	23B	ND
12	ND	30	150	24B	ND
13	ND	31	50		
14	200	5B	150		
15	2,000	6B	2,000		

July 11, 1989		July 12, 1989	
	ppm		ppm
1B	2,000	7B	2,000
2B	ND	8B	100
3B	ND	9B	ND
4B	ND	10B	ND
		11B	1,500
		12B	1,500
		13B	2,000
		14B	100
		15B	100
		19B	100
		1C	250
		2C	20

URIAH INC.

Costas Orountiotis
Environmental Engineer

and

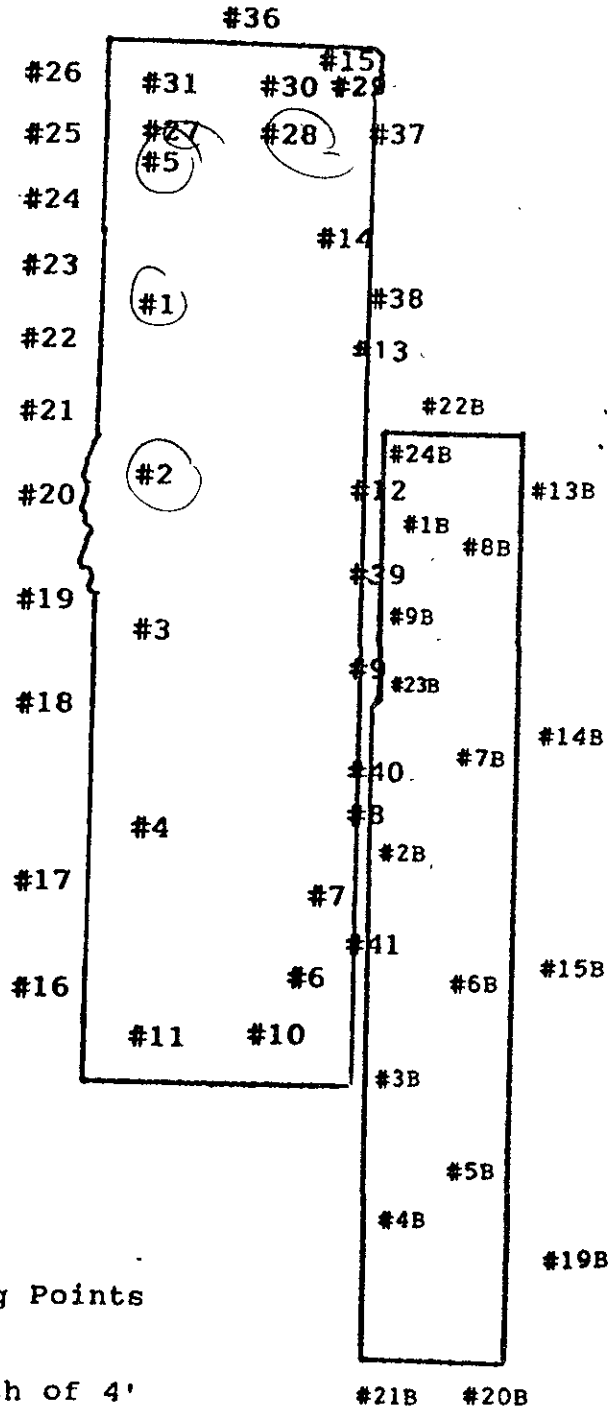
Helen Mawhinney
Environmental Specialist

and

John E. Rapp

Senior Consultant
President, Uriah Inc.

URIAH ENVIRONMENTAL SERVICES, INC.
2442 Mariners Sqaure Loop,
Alameda, Calif.
July 11-13, 1989



Hanby Analysis Sampling Points
Diagram not to scale

Samples taken at a depth of 4' into the capillary zone.

GUIDELINE HEALTH AND SAFETY PLAN
MARINER WAREHOUSE
2410 & 2420 MARINER SQUARE LOOP
ALAMEDA, CALIFORNIA
SCI 554.001

Prepared for:

Mr. Stan Kintz
John Beery Organization
2236 Mariner Square Drive
Alameda, California 94501

By:

Jeriann N. Alexander
Civil Engineer 40469 (expires 3/31/91)

R. William Rudolph
Geotechnical Engineer 741 (expires 12/31/92)

Subsurface Consultants, Inc.
171 12th Street, Suite 201
Oakland, California 94607
(415) 268-0461

August 31, 1989

I INTRODUCTION

This Guideline Health and Safety Plan has been prepared to outline minimum health and safety standards which should be implemented during site remediation activities. This plan outlines a personnel and work site safety program to minimize the risks of endangering personnel and/or property. This plan should be followed by the contractor and other on-site personnel during the project.

Site remediation activities will involve (1) excavating soil containing elevated levels of heavy and light petroleum hydrocarbons and PNAs, (2) on-site bioremediation of the contaminated soils, and (3) proper backfilling of the open excavations.

II HEALTH AND SAFETY CONSIDERATIONS

A. Health and Safety Officer

SCI will designate a Health and Safety Officer who will be responsible for planning, implementing and auditing the health and safety program for the project.

B. Hazardous Substance Description

Heavy petroleum hydrocarbons (hydraulic oil), light petroleum hydrocarbons (kerosine-diesel range) and polynuclear aromatic hydrocarbons (PNAs) have been detected in the soil at the site. The range of concentrations that have been measured at the site is presented in the following table.

Material	Concentration
TPH (as kerosine-diesel)	up to 34,000 ppm
TPH (as motor oil)	up to 41,000 ppm
Total Oil and Grease	up to 1,200 ppm
Total PNAs	3230 ppb

C. Chemical Distribution

Soil contamination appears to be limited to a 2 to 3 foot thick layer above the groundwater level.

D. Chemical Hazards - Petroleum Hydrocarbons

Potential chemical hazards include skin and eye contact and inhalation or exposure to potentially toxic concentrations of chemical vapors. The identified toxic compounds that exist at

the site are listed below with descriptions of specific effects of each. The list includes the main toxic constituents of light petroleum hydrocarbons (benzene, toluene, xylene and ethylbenzene).

1. **Benzene**

   a. **Characteristics:**
   Clear, colorless, highly flammable liquid with characteristic odor

   b. **High exposure levels may cause:**

   Acute restlessness, convulsions, depression, respiratory failure, suspected carcinogen

   c. **Permissible exposure level in air (PEL) for a time weighted average (TWA) over an eight hour period:**

   10 ppm

2. **Toluene**

   a. **Characteristics:**

   Refractive, flammable liquid with benzene-like odor

   b. **High exposure levels may cause:**

   Headache, nausea, eye irritation, mild macrocytic anemia, but not leukopenia (less toxic than benzene)

   c. **PEL for an 8-hour TWA:**

   200 ppm

3. **Xylene**

a. **Characteristics:**

Clear, mobile, flammable liquid

b. **High exposure levels may cause:**

Severe eye irritation, skin irritation, narcosis

c. **PEL for an 8-hour TWA:**

100 ppm

4. **Ethylbenzene**

a. **Characteristics:**

Colorless liquid, aromatic odor, highly flammable

b. **High exposure levels may cause:**

Skin, nose and eye irritation, dizziness, ataxia, loss of consciousness and respiratory failure

c. **PEL for an 8-hour TWA:**

100 ppm

E. Chemical Hazards - Polynuclear Aromatic Hydrocarbons

The polynuclear aromatic hydrocarbons (PNAs) detected on the site are listed by the United States Environmental Protection Agency as priority pollutants. The PNAs found to date are (1) coal tar derivatives, (2) known or suspected carcinogens, and (3) listed has hazardous under all appropriate state and federal regulations.

The current OSHA PEL for coal tar pitch volatiles (anthracene, phenanthrene, acridine, chrysene and pyrene) is 0.2 mg/m3 benzene-soluble fraction (8-hour Time Weighted Average-(TWA)).

NIOSH considers coal tar products to be carcinogenic. The NIOSH-recommended 10-hour TWA exposure limit for coal tar products is 0.1 mg/m3 (cyclohexane-extractible fraction).

ACGIH designates coat tar pitch volatiles as a human carcinogen with an 8-hour TWA of 0.2 mg/m3 (benzene-soluble fraction).

F. Physical Hazards

Other on-site hazards may include physical injuries due to the proximity of workers to engine-driven heavy equipment and tools. Heavy equipment used during excavation will likely include a backhoe and/or excavator. Only trained personnel will operate machines, tools, and equipment; all of which will be kept clean and in good repair. Safety apparel required around heavy equipment will include a hard hat.

The perimeter of all excavations will be sloped to create

acceptably stable temporary cut slopes. All work will be performed in accordance with OSHA guidelines.

III WORK PLAN INSTRUCTIONS

A. Level of Protection

Regular surveys of the site and knowledge of the anticipated hazards will determine the level of protection and the safety procedures to be employed. The workers coming into contact with the excavated materials will wear rubber boots, disposable latex gloves and a hard hat.

The level of protection for personnel working in the area will be upgraded if organic vapor levels exceed 0.5 ppm above background levels continuously for more than 5 minutes. In this event, personnel protective equipment will include double cartridge respirators for organic vapors, Tyvek coveralls, gloves, and hard hat with safety shield or safety glasses.

B. Combustible Gas and Organic Vapor Monitoring

SCI will monitor ambient levels of combustible gas vapors using a Gastech Hydrocarbon Supersurveyor, and a portable Photo-Ionization Detector (PID). The Health and Safety Officer will be notified if combustible gas vapor levels exceed ambient concentrations in the samples. Excavation will cease, equipment will be shut down, and personnel will be withdrawn from the area if either (1) the organic vapor concentration in the operators' breathing zone exceeds 200 ppm or (2) the combustible gas vapor

concentration two feet above the excavation exceeds 2000 ppm or 25 percent of the lower explosive limit. The Health and Safety Officer will determine when personnel may return to the work area.

In the event low levels of organic vapors are detected, personnel will wear appropriate respirators (using NIOSH approved combination cartridges for organic vapors and dusts).

C. Site Entry Procedures

The site and remediation areas are shown on the Site Plan. The site is fenced and will be locked at the end of each work day. All personnel entering the work zone will be qualified field personnel wearing the proper level of protection. Eating, drinking, smoking and any other practices which increase the probability of combustion or hand-to-mouth transfer will be prohibited in the work zone. A first aid kit and a 20-pound ABC fire extinguisher and potable water will be available at the site.

D. Decontamination Procedures and Disposal

All disposable protective clothing will be put into plastic bags and disposed of in a garbage receptacle. In the event of a medical emergency, the injured party will be taken through decontamination procedures, if possible. However, the procedures will be omitted when it may aggravate or cause more harm to the injured party. A member of the work team will accompany the injured party to the medical facility to advise on matters concerning chemical exposures.

IV EMERGENCY MEDICAL CARE

In the event of an injury or suspected chemical exposure, the first responsibility of the Health and Safety Officer will be to prevent further injury. This objective will normally require an immediate end to work until the situation is rectified. The Health and Safety Officer may order an evacuation of the work party.

The Health and Safety Officer's primary responsibility in the event of an accident will be evacuation, first aid, and decontamination of injured team members. The Health and Safety Officer will determine safe evacuation areas and begin first aid.

V EMERGENCY PROCEDURES

A. Response to Emergency

In case of an injury, the Health and Safety Officer will use the appropriate first aid and contact off-site medical help, if appropriate. The Health and Safety Officer/Project Manager will be notified. The telephone number for the Health and Safety Officer is (415) 268-0461. If medical evacuation to a hospital is required, the route shown on Plate 2 will be followed.

B. Emergency Contacts

Ambulance, Fire, Police: **911**

Hospital - Alameda Hospital
2070 Clinton Avenue
Alameda, California
(415) 523-4357

Chemical Spills: National Response Center (24 hours)
(800) 424-9300

Chemtrec: Chemical Releases (24 hours)
(800) 424-9300

Environmental Protection Agency
Emergency Response Section:
(415) 974-7511

Poison Control Center (24 hours)
(415) 428-3248

Cal-OSHA District Office:
Occupational Injuries
(415) 557-1677

Regional Water Quality Control Board:
(415) 464-1255

C. Acute Exposure Symptoms and First Aid

Exposure Route	Symptoms	First Aid
Skin	Dermatitis	Wash immediately with soap and water, contact ambulance if evacuation is necessary
Eye	Irritated Eyes	Flush eyes with water, contact ambulance
Inhalation	Vertigo, tremor	Move person to fresh air, cover source of chemicals
Ingestion	Nausea, vomiting	Call Poison Control Center

D. Contingency Plan

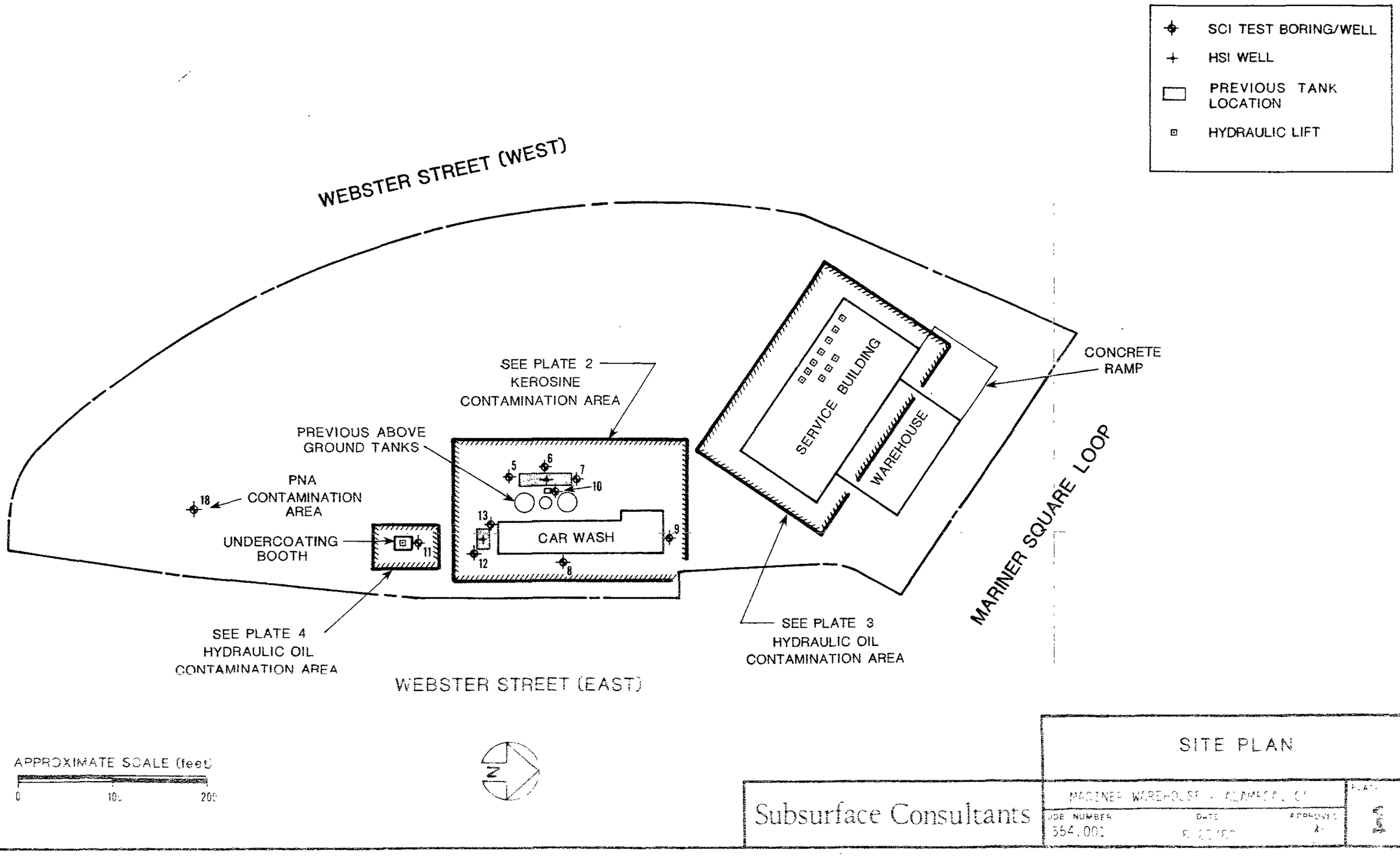
The following procedures will be used in case of an unpredictable event:

Fire:	Use fire extinguisher if localized and call the fire department if uncontrolled
Chemical Exposure:	Follow first aid treatment specified previously
Physical Injury:	Provide first aid treatment and contact ambulance for evacuation, if appropriate

List of Attachment:

Plate 1	Site Plan
Plate 2	Hospital/Emergency Room Route Plan

JNA:RWR:clh

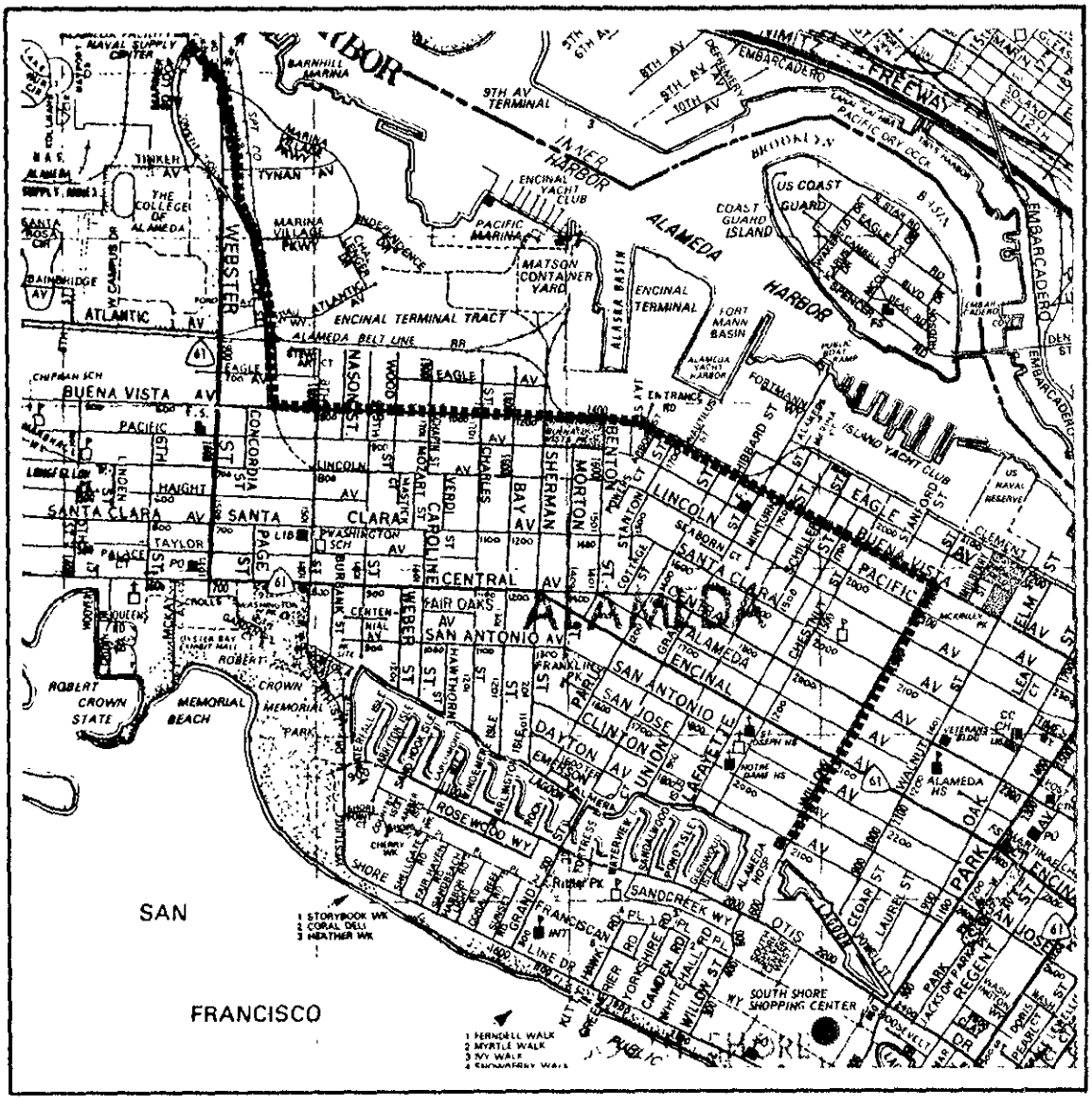


SITE PLAN

Subsurface Consultants

MARINER WAREHOUSE - ALAMEDA, CA

JOB NUMBER 364.002 | DATE 8/25/89 | APPROVED | PLATE 1



SCALE 1:2200

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HOSPITAL ROUTE

REFERENCE:

THOMAS BROS., ALAMEDA, CA
1988

HOSPITAL/EMERGENCY ROOM ROUTE PLAN

Subsurface Consultants

MARINER WAREHOUSE - ALAMEDA, CA.

JOB NUMBER	DATE	APPROVED
554.001	8/28/89	

PLATE 2

SUBSURFACE CONSULTANTS, INC.
CAPABILITIES

Subsurface Consultants, Inc. (SCI) is a full-service geo-environmental and geotechnical engineering firm providing services in contaminated soil and groundwater studies, site assessments, underground tank closure/monitoring, soil and foundation engineering, geology, geophysics, geohydrology, construction monitoring and quality control testing.

SCI was initially formed in July 1983 and has grown steadily in size and technical capability since its conception. The principals and senior staff of SCI have substantial experience with a wide variety of commercial, industrial, residential, marine, environmental and groundwater projects. SCI is currently providing services to many San Francisco Bay Area clients on projects throughout California.

SCI has a well-qualified staff of geotechnical engineers and geologists. Our office and laboratory are located in downtown Oakland near Lake Merritt. SCI maintains well-equipped field vehicles and can rapidly respond to field investigation and construction control projects.

Being a relatively small firm, SCI is able to assure their clients of the personal attention of one of the principals of the firm. The principals and staff are committed to providing prompt, high quality, professional services.

Environmental Assessments

SCI has conducted numerous environmental assessments of property, checking for indications of on-site sources of pollutants and evaluating risks associated with off-site environmental concerns. Past projects have involved properties where gasoline stations, machine shops, foundries, printing facilities, automotive repair, plating facilities, and many other industrial facilities were operated. Assessments have been conducted for private and public organizations, as well as attorneys representing clients in real estate transactions. SCI has successfully completed large and complex assessments under very tight time constraints.

Underground Storage Tank Services

SCI is well-versed in Federal and State legislation regarding underground storage tank monitoring/closure compliance. We are also familiar with the various agencies which have local jurisdiction, including city and county fire prevention departments and air and water quality districts. We have conducted numerous environmental site assessments, where unauthorized releases have been present. SCI has evaluated subsurface contamination by drilling test borings, collecting soil and groundwater samples and installing groundwater monitoring wells. In addition soil/gas and groundwater probe

methods, combined with a mobile analytical laboratory can be used to quickly and economically assess contaminated soil/groundwater boundaries. Where fuel storage tanks are involved, field soil samples are analyzed on-site using portable hydrocarbon detection equipment. We have also prepared underground tank closure plans and have supervised the closure of many tanks. SCI has designed and supervised the installation of groundwater and vadose monitoring well systems which comply with Sher Bill requirements.

Contaminated Soil/Groundwater Studies

SCI has conducted numerous investigations of soil and groundwater contamination, as well as geohydrologic studies for hazardous waste/material storage facilities to assist their clients in complying with State and Federal regulations. Services have included environmental sampling of soil and groundwater, the installation and development of groundwater monitoring wells, recommendations regarding remedial actions, evaluating methods of groundwater containment, and providing construction services during implementation of remedial actions. Previous projects have involved numerous organic chemicals, heavy metals, acids and gasoline contamination. Field personnel have been trained with regard to health and safety procedures while working around contaminated and hazardous materials.

Construction and Laboratory Testing Services

SCI provides a variety of construction services, including grading and foundation observation, soil compaction testing, pile monitoring, and construction vibration monitoring. SCI's field vehicles are equipped as mobile laboratories so that field personnel can promptly provide compaction test results in the field. SCI's laboratory is equipped to conduct a full array of conventional soil engineering laboratory tests.

Geotechnial Investigations

SCI has provided geotechnical consultation on a variety of projects. Typical past projects have included soil investigations for structures ranging in height from 1 to 30 stories, foundation design for driven and cast-in-place piles, spread and mat foundations, port and marine facilities, ocean outfalls, foundation studies for remodeling and seismic upgrade projects, feasibility and planning studies, landslide evaluation and repair, dredging studies, earth dam design, subsurface instrumentation, pavement design and evaluation, petroleum facilities, and sanitary landfill design/evaluation. A partial list of representative projects is attached.

JAMES P. BOWERS
Principal Geotechnical Engineer
President

Mr. Bowers has consulted on a variety of projects dealing with the investigation and clean up of soil and groundwater contamination, as well as projects involving conventional geotechnical engineering. Mr. Bowers has a strong background in project management, having supervised numerous projects involving soil sampling and classification, geologic and hydrologic site characterization, groundwater monitoring well installation and development, and groundwater sampling. Mr. Bowers possesses diverse analytical experience relating to groundwater hydrology and soil mechanics, as well as foundation engineering. He has directed numerous projects involving multi-disciplinary consultants, and successfully negotiated with regulatory agencies. He has provided consulting and design services for numerous landfills, and projects constructed over landfills. These services have included landfill design and closure, surface liners design, methane gas mitigation system design, and leachate control.

EXPERIENCE

1983 - Present	Subsurface Consultants, Inc., President	
1976 - 1983	Harding Lawson Associates	
	1981 - 1983	Associate-in-charge, San Francisco branch office
	1980 - 1981	Chief Engineer, San Francisco
	1976 - 1980	Project Engineer
1976	Cooper Clark and Associates	
1971 - 1974	U.S. Army, 82nd Airborne Division, surveyor	

PROFESSIONAL REGISTRATION

Registered Civil Engineer, California
Registered Geotechnical Engineer, California

EDUCATION

Master of Science, Civil Engineering, University of California, Berkeley, 1976 (graduate specialization in geotechnical engineering)

Bachelor of Science, Civil Engineering, University of California, Berkeley, 1975

MEMBERSHIPS

American Society of Civil Engineers
American Council of Independent Laboratories
California Groundwater Association

R. WILLIAM RUDOLPH
Principal Geotechnical Engineer
Vice President

Mr. Rudolph has a wide range of project management and technical experience dealing with geotechnical and environmental issues. Numerous projects have required both geotechnical engineering expertise such as developing grading and foundation design criteria, as well as evaluating soil and groundwater contamination problems. He has conducted field investigations at contaminated or potentially contaminated sites, and is familiar with sample handling and preparation procedures, design and installation of monitoring (groundwater and vadose) systems, characterizing soil and groundwater problems, and remedial actions. Mr. Rudolph has supervised numerous projects at the construction stage involving grading, foundation installation, removal and closure in-place of underground tanks and contaminated soil removal. Mr. Rudolph has negotiated with regulatory agencies on many occasions.

EXPERIENCE

1984 - Present	Subsurface Consultants, Inc., Vice President	
1980 - 1984	Harding Lawson Associates	
	1983 - 1984	Chief Engineer, San Francisco
	1980 - 1983	Project Manager
1977 - 1980	Peter Kaldveer Associates	
	1978 - 1980	Project Engineer
	1977	Engineering Technician

PROFESSIONAL REGISTRATION

Registered Civil Engineer, California
Registered Geotechnical Engineer, California

EDUCATION

Master of Science, Civil Engineering, University of California, Berkeley, 1978 (graduate specialization in geotechnical engineering)

Bachelor of Science, Civil Engineering, University of California, Berkeley, 1977

MEMBERSHIPS

American Society of Civil Engineers
Structural Engineers Association of Northern California
East Bay Structural Engineers Society

JERIANN ALEXANDER
Engineer

Ms. Alexander has been the project engineer for numerous projects involving the investigation of contaminated soil and groundwater sites. Ms. Alexander's broad background includes site assessments for tank removal and closure, contaminant spills, hazardous materials identification, and contaminant plume characterization. She is very familiar with current federal, state and local environmental legislation governing underground storage tank programs and site assessments. Her on-site responsibilities have included supervising drilling contractors, classifying soils, soil and groundwater sampling, installing groundwater monitoring wells, and conducting controlled pumping tests and other in-situ permeability tests. Ms. Alexander is experienced in data acquisition utilizing state-of-the-art instrumentation for pump tests. She has experience in interpreting pump test data to evaluate site specific aquifer characteristics.

EXPERIENCE

1984 - Present	Subsurface Consultants, Inc. Project Engineer
1983 - 1984	Napa Valley Vineyard Company Engineer

PROFESSIONAL REGISTRATION

Registered Civil Engineer, California

EDUCATION

Master of Science, Civil Engineering, University of California, Berkeley, 1984 (graduate specialization in geotechnical engineering)

Bachelor of Science, Agricultural Engineering, California Polytechnic State University, San Luis Obispo, 1983

MEMBERSHIPS

American Society of Civil Engineers