



# PORT OF OAKLAND

92 JUN 17 11:13:20

June 15, 1992

Barney Chan  
County of Alameda  
Health Care Services Agency  
Hazardous Materials Program  
80 Swan Way, Room 200  
Oakland, CA 94621

Dear Barney:

**SUBJECT: Report on Removal of Underground Storage Tanks at the  
Old Kaiser Yard, 2801 Seventh St., Oakland**

Enclosed please find one copy of the above-referenced report for your review.

We are also providing copies of the report to the Regional Water Quality Control Board.

The Port will be developing a work plan for assessment of the groundwater quality in the former underground storage tank area. We will provide you with the work plan as soon as we finalize it.

If you have any questions, please contact me at 272-1220.

Sincerely,

Dan Schoenholz  
Assistant Environmental Scientist

*Goodin*  
*Sally Goodin*

DS

Enclosure

cc(w/enclosure): Regional Water Quality Control Board

(w/o/enclosure): Elizabeth Wells, Geomatrix

pc/dsustrpt/wp51

*(415) 434-9400*  
*4/14/92*

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**REMOVAL OF UNDERGROUND STORAGE TANKS  
Kaiser Yard  
2801 Seventh Street  
Oakland, California**

**1.0 INTRODUCTION**

This report describes tank removal activities conducted from 14 to 16 April 1992 at the former Kaiser Yard at 2801 Seventh Street in Oakland, California (Figure 1). This report describes removal and disposal of three underground fuel storage tanks, soil and groundwater sampling, laboratory analytical results, and conclusions and recommendations.

One 3000-gallon-capacity steel tank and one 5000-gallon capacity steel tank, reportedly used for gasoline storage, and one 5000-gallon-capacity steel tank, reportedly used for diesel storage, were removed from the site. It is unknown when these tanks, which were inactive at the time work was performed, were installed or taken out of use.

**2.0 TANK REMOVAL ACTIVITIES**

The Port of Oakland retained Envirotex Technologies, Inc. (Envirotex), an earthwork contractor of Sacramento, California, to remove and dispose of the tanks. Tank removal was performed from 14 to 16 April 1992, under a closure plan approved by the Alameda County Department of Environmental Health (ACDEH). A permit also was obtained from the Oakland Fire Marshall. A copy of the closure plan and permit are included in Appendix A.

The Port of Oakland retained Geomatrix to observe tank removal and to collect soil and grab groundwater samples from the tank excavation and soil samples from stockpiles generated during tank removal. Both ACDEH and Oakland Fire Department (OFD)

representatives were on site during tank removal. The ACDEH representative remained on site during excavation and soil sampling.

## 2.1 SITE PREPARATION

In preparation for tank removal, Envirotex reportedly performed the following activities (Geomatrix was not on site to observe these activities).

- An underground utility check was performed in the vicinity of the tanks.
- At the request of the Port of Oakland, several trees were removed to allow access to the northern part of the tank area (Figure 3).
- 25 cubic yards of concrete overlying the tanks was removed and temporarily stockpiled on site. The concrete was transported off site by Trident Trucking of Hayward, California and disposed of at Landfill Management's facility in Hayward, California.
- The fuel pumps and appurtenant piping for the tanks were removed and stored temporarily on site following removal of the concrete. The fuel pumps and appurtenant piping were transported off site by Trident Trucking (see Section 2.3).

## 2.2 TANK STABILIZATION

On 14 April 1992, Envirotex excavated soil to expose the three underground storage tanks. The excavated soil, stockpiled at two on-site locations, was placed on plastic sheeting, then covered with plastic sheeting.

The 5000-gallon diesel tank contained no residual liquid; the two gasoline tanks each contained approximately 1 to 1.5 inches of residual liquid. The residual liquid was not pumped from the tanks before the tanks were rendered inert. The tanks were rendered inert by inserting approximately 100 pounds of dry ice into each tank to remove organic vapors and oxygen. Explosivity meter readings that Envirotex took in the tanks before they were removed indicated that vapor concentrations were 0 to 0.01 percent of the Lower Explosive

Limit; oxygen was measured at 10 to 10.9 percent. The OFD representative approved removal of the tanks based on these measurements.

### **2.3 TANK REMOVAL AND DISPOSAL/FIELD OBSERVATIONS**

A Geomatrix field engineer observed tank removal activities, noting sediment types encountered and the occurrence of petroleum product in soil and groundwater, if any. The former tank locations and excavation boundary are shown on Figure 3.

The top of the 3000-gallon tank was approximately 3.5 feet below ground surface. The tank measured approximately 10.5 feet long and 6 feet in diameter. The top of each 5000-gallon tank was approximately 3 feet below ground surface; these tanks measured approximately 14 feet long and 8 feet in diameter. The bottom of the 3000-gallon tank was approximately 9.5 feet below ground surface; the bottoms of the 5000-gallon tanks were approximately 11 feet below ground surface.

Fill material immediately surrounding the tanks consisted of a fine to medium, well-sorted sand. Soil outside the tank excavation area was also a sandy material and contained shells. Groundwater was observed at a depth of approximately 8.5 to 9 feet below ground surface.

Geomatrix personnel made visual and olfactory observations and used a photoionization detector to measure concentrations of volatile organic compounds (VOCs) in order to identify any petroleum product in the soil or groundwater. No staining or petroleum odor was observed in the soil removed from the tops of the tanks, or in that from between the tanks. In addition, no staining was observed on the sidewalls of the excavation.

Petroleum odors and staining were observed in the soil beneath the two 5000-gallon tanks, below the groundwater table. In addition, groundwater near these tanks was observed to contain a film of petroleum product as much as approximately 0.25 inches thick.

After the tanks had been removed from the excavation, the Geomatrix field engineer examined them for holes and for indications of leakage. All three tanks were wrapped in

tar paper; no visible holes or cracks were observed. Loose sand was removed from the tanks. The tanks, fuel pumps, and appurtenant piping were transported by a licensed hazardous waste transporter (Trident Trucking) to a licensed receiving facility (Erickson, Inc.) in Richmond, California, for disposal under a Uniform Hazardous Waste Manifest. A copy of the manifest is included in Appendix A.

At the recommendation of the ACDEH representative, the Port of Oakland requested that groundwater and floating petroleum product be pumped from the excavation before a grab groundwater sample was collected. Erickson pumped groundwater from the tank excavation into a truck, then groundwater was allowed to recharge; this process was repeated twice. Petroleum product was observed on the surface of the groundwater after each recharge. A total of approximately 800 gallons of product and water was removed from the tank excavation and transported under a Uniform Hazardous Waste Manifest to Erickson's receiving facility in Richmond, California. A copy of the manifest is included in Appendix A.

It is our understanding that on 22 April 1992 Envirotex backfilled the tank excavation with reported fill and some of the tank backfill that had been stockpiled on site. The Port of Oakland forwarded the analytical data for the soil samples from the excavation and stockpiles to the ACDEH. Based on analytical results, we understand that the ACDEH approved backfilling the excavation with the portion of stockpiled soil that contained no detectable concentrations of hydrocarbons. Analytical results of soil samples collected from the stockpiled material are discussed in Section 4.2 of this report.

### 3.0 SOIL AND GROUNDWATER SAMPLING

Soil sample locations in the tank excavation were selected based on field discussions with the ACDEH representative (Figure 3). Soil samples were collected on 15 April 1992 from the sidewalls of the excavation at depths of 8 to 8.5 feet below ground surface, which was about 0.5 to 1.0 feet above groundwater level. A backhoe bucket was used to collect soil;

after approximately 6 inches of soil was removed from the top of the bucket, a clean, thin-walled brass tube was driven into the soil.

The stockpiled soil was sampled for chemical analysis. Four soil samples were collected from each of the two stockpiles. Approximately 6 inches of soil was removed from the surface of each stockpile at the sampling location, and a clean, thin-walled brass tube was driven into the soil. The full sample tubes were sealed at each end with aluminum foil, duct tape, and plastic end caps, then labeled.

A grab groundwater sample was collected from the tank excavation on 16 April 1992 after groundwater had been pumped from the excavation as described in Section 2.3. The grab groundwater sample was collected by lowering a container into the excavation and allowing the container to fill with water. The groundwater was decanted into 40-milliliter volatile organic analysis vials and 1-liter amber bottles. The bottles were then sealed and labeled.

The soil and grab groundwater samples were placed in an ice-cooled chest for delivery under Geomatrix chain-of-custody procedures to Clayton Environmental Consultants (Clayton), of Pleasanton, California, a state-certified analytical laboratory retained by the Port of Oakland to perform the analytical testing. Analytical methods and results for the soil and grab groundwater samples are discussed in Section 4.3 of this report. Analytical laboratory reports and chain-of-custody records are included in Appendix B.

## **4.0 ANALYTICAL METHODS AND RESULTS**

### **4.1 SOIL SAMPLES FROM EXCAVATION SIDEWALLS**

At the request of the ACDEH, the soil samples collected from the excavation sidewalls were analyzed for total petroleum hydrocarbons as diesel (TPHd) by U.S. Environmental Protection Agency (EPA) Method 8015; total petroleum hydrocarbons as gasoline (TPHg) by modified EPA Method 8015; and benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8020. The ACDEH also requested that four of the six soil samples (POK-

EX-1 through POK-EX-4) be analyzed for total lead; these analyses were performed in accordance with EPA Method 6010. Analytical results are summarized in Table 1.

TPHd, TPHg, and BTEX were not reported above the laboratory detection limits. Total lead was detected in each sample at concentrations ranging from 2 to 9 milligrams per kilogram (mg/kg).

#### 4.2 SOIL SAMPLES FROM STOCKPILES

Each set of four soil samples collected from the stockpiled material was composited by the analytical laboratory before analysis. The composited soil samples were analyzed for TPHd by EPA Method 8015; TPHg by modified EPA Method 8015; BTEX by EPA Method 8020; and total lead by EPA Method 6010. Analytical results are summarized in Table 1.

Benzene and TPHd were not reported above the laboratory detection limits in the composited soil samples. One set of composited samples (POK-SP-5 through -8) also contained no TPHg, toluene, ethylbenzene, or xylenes above the laboratory detection limits. TPHg, toluene, ethylbenzene, and xylenes were detected in the sample composited from POK-SP-1 through -4 at concentrations of 0.5, 0.033, 0.007, and 0.044 mg/kg, respectively. Total lead was detected in the composited samples at concentrations of 10 and 17 mg/kg.

#### 4.3 GRAB GROUNDWATER SAMPLE

The grab groundwater sample was analyzed for TPHd by EPA Method 8015; TPHg by modified EPA Method 8015; BTEX by EPA Method 8020; and total lead by EPA Method 6010. The sample collected for total lead was filtered and acidified by the analytical laboratory. The analytical results are summarized in Table 2.

*4.1 ppm*

The grab groundwater sample contained TPHg at a concentration of 4100 micrograms per liter ( $\mu\text{g/l}$ ). The sample also contained benzene, toluene, ethylbenzene, and xylenes at



concentrations of 3.4, 1.4, 62, and 860  $\mu\text{g/l}$ , respectively. TPHd and total lead were not reported above the laboratory detection limits.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results from the excavation soil samples indicate that near the former location of three underground storage tanks, soil above the groundwater table has not been affected by petroleum hydrocarbons. Although all the tanks appeared to be in good condition and contained no visible holes, observations made during tank removal, including staining of soil and petroleum odor, suggest that soil beneath the 5000-gallon gasoline and diesel tanks, and below the groundwater table, may contain petroleum hydrocarbons.

The analytical results of the composited stockpile soil samples indicated low concentrations of TPHg, toluene, ethylbenzene, and xylenes in some of the stockpiled soil. The ACDEH reportedly approved use of some of the stockpiled soil in which hydrocarbons were not detected for backfill in the excavation.

Analytical results for the grab groundwater sample indicated that groundwater in the tank excavation contained TPHg and BTEX.

Based on the analytical results and field observations, we recommend that a work plan be developed to assess groundwater quality in the former underground storage tank area. In addition, we recommend that the stockpiled soil containing low concentrations of TPHg and BTEX be disposed of appropriately.

**TABLE 1**  
**ANALYTICAL RESULTS FOR SOIL SAMPLES<sup>1</sup>**  
 Kaiser Yard  
 Port of Oakland  
 Oakland, California

Concentrations in milligrams per kilogram (mg/kg)

Sample I.D.	TPH <sup>2</sup> as Diesel	TPH <sup>2</sup> as Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total Lead
<b>Excavation Samples</b>							
POK-EX-1	<1.0	<0.3	<0.005	<0.005	<0.005	<0.005	2
POK-EX-2	<1.0	<0.3	<0.005	<0.005	<0.005	<0.005	9
POK-EX-3	<1.0	<.03	<0.005	<0.005	<0.005	<0.005	2
POK-EX-4	<1.0	<0.3	<0.005	<0.005	<0.005	<0.005	8
POK-EX-5	<5.0	<0.3	<0.005	<0.005	<0.005	<0.005	NA <sup>3</sup>
POK-EX-6	<2.0	<0.3	<0.005	<0.005	<0.005	<0.005	NA
<b>Stockpile Samples</b>							
POK-SP-1 through -4	<2.0	0.5	<0.005	0.033	0.007	0.044	10
POK-SP-5 through -8	<2.0	<0.3	<0.005	<0.005	<0.005	<0.005	17

<sup>1</sup> Soil samples collected by Geomatrix Consultants, Inc., and analyzed by Clayton Environmental Consultants of Pleasanton, California for TPH as diesel by EPA Method 8015; TPH as gasoline by modified EPA Method 8015; benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020; and total lead by EPA Method 6010. Stockpile soil samples composited by laboratory before analysis.

<sup>2</sup> TPH - total petroleum hydrocarbons.

<sup>3</sup> NA - not analyzed for compound indicated.

**TABLE 2**

**ANALYTICAL RESULTS FOR GRAB GROUNDWATER SAMPLE<sup>1</sup>**  
**Kaiser Yard**  
**Port of Oakland**  
**Oakland, California**

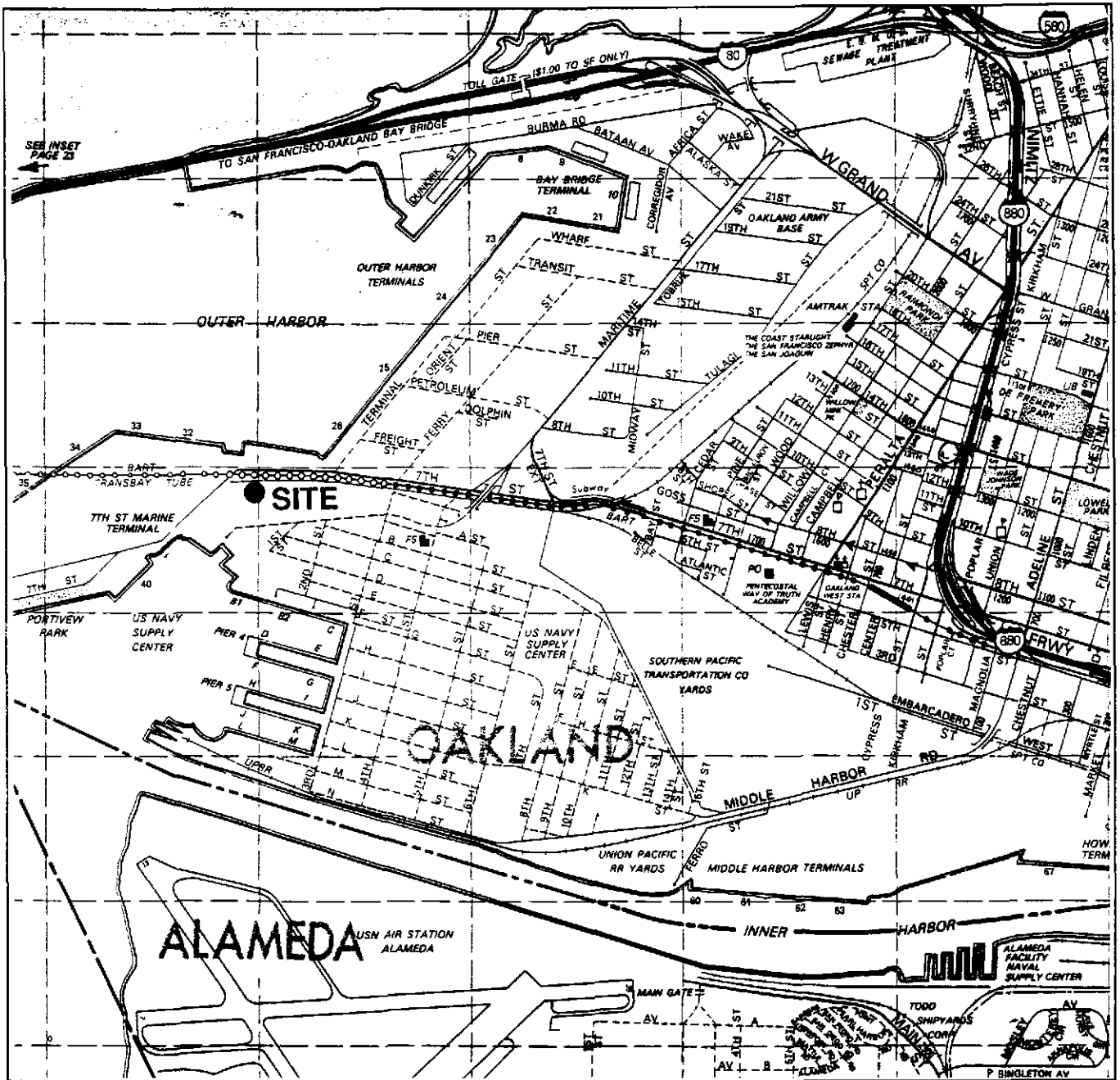
Concentrations in micrograms per liter ( $\mu\text{g/l}$ )

Sample I.D.	TPH <sup>2</sup> as Diesel	TPH <sup>2</sup> as Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total Lead
POK-GW-1	<200	4100	3.4	1.4	62	860	ND <sup>3</sup>

<sup>1</sup> Grab groundwater sample collected by Geomatrix Consultants, Inc., and analyzed by Clayton Environmental Consultants of Pleasanton, California, for TPH as diesel by EPA Method 8015; TPH as gasoline by modified EPA Method 8015; benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020; and total lead by EPA Method 6010.

<sup>2</sup> TPH - total petroleum hydrocarbons.

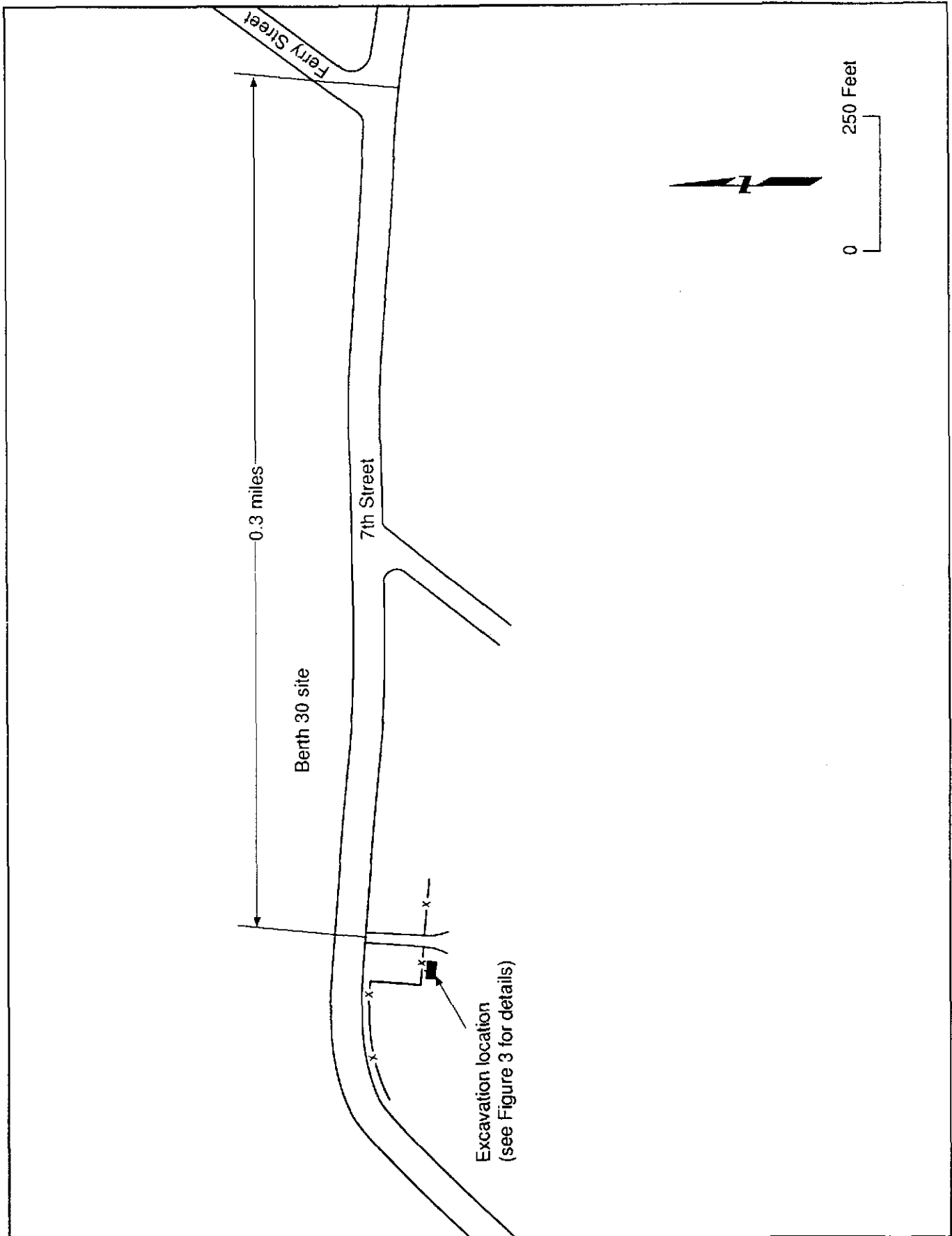
<sup>3</sup> ND - indicates total lead not detected above laboratory detection limit of 0.05 milligrams per liter (mg/l).



**SITE LOCATION MAP**  
 Port of Oakland - Kaiser Yard  
 2801 Seventh Street  
 Oakland, California

Figure  
 1

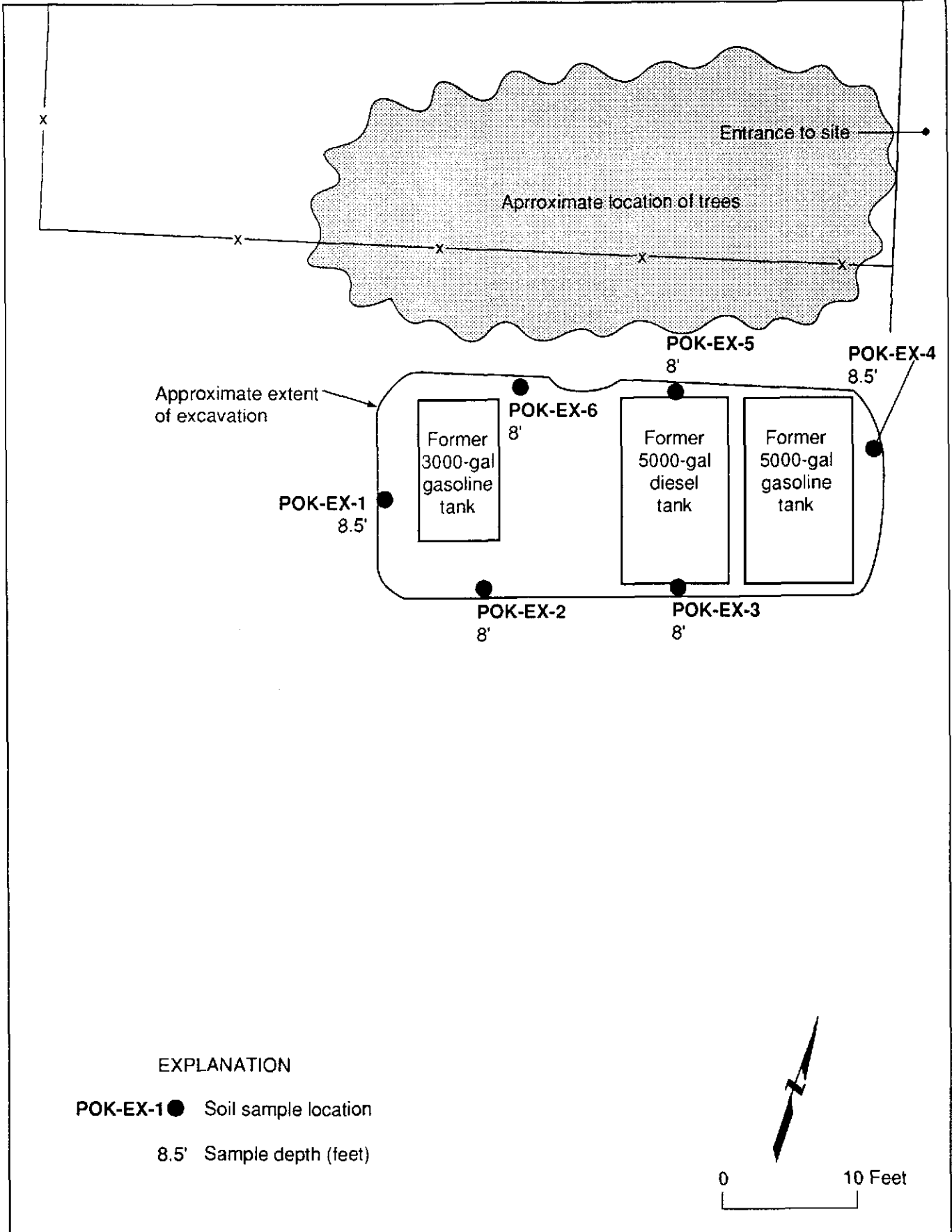
Project No.  
 2026.01



**SITE PLAN**  
 Port of Oakland - Kaiser Yard  
 2801 Seventh Street  
 Oakland, California

Figure  
 2

Project No.  
 2026.01



LOCATIONS OF EXCAVATION, TANKS, AND SOIL SAMPLES  
 Port of Oakland - Kaiser Yard  
 2801 Seventh Street  
 Oakland, California

Figure  
 3

Project No.  
 2026.01

**APPENDIX A**

**Tank Closure Plan, Tank Removal Permit,  
and Uniform Hazardous Waste Manifests**

Project Specialist (print) SUSAN L. HUGO

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY  
DEPARTMENT OF ENVIRONMENTAL HEALTH  
HAZARDOUS MATERIALS DIVISION  
80 SWAN WAY, ROOM 200  
OAKLAND, CA 94621  
PHONE NO. 415/271-4320  
510

ACCEPTED

DEPARTMENT OF ENVIRONMENTAL HEALTH  
470 - 27th Street, Third Floor  
Oakland, CA 94612  
Telephone: (415) 874-7237

These plans have been reviewed and found to be acceptable and essentially in compliance with the requirements of State and local health laws. Changes to your plans indicated by this Department are to assure compliance with State and local laws. The permit provided herein is now released for issuance of any required building permits for construction.

One copy of these approved plans must be on the job and available to all contractors and craftsmen involved with the removal.

Any change or alterations of these plans and specifications must be submitted to this Department and to the Fire and Building Inspection Department to determine if such changes meet the requirements of State and local laws. Notify this Department at least 48 hours prior to the following required inspections:

- Removal of Tank and Piping
- Sampling
- Final Inspection

Issuance of a permit to operate is dependent on compliance with accepted plans and all applicable laws and regulations.

THERE IS A FINANCIAL PENALTY FOR NOT OBTAINING THESE INSPECTIONS.

*Susan L. Hugo*  
4/06/92

UNDERGROUND TANK CLOSURE PLAN

\*\*\* Complete according to attached instructions \*\*\*

1. Business Name PORT OF OAKLAND  
Business Owner PORT OF OAKLAND
2. Site Address 2801 Seventh Street  
city OAKLAND zip 94607 Phone (510) 272-1100
3. Mailing Address 530 WATER STREET  
city OAKLAND zip 94607 phone (510) 272-1100
4. Land owner PORT OF OAKLAND  
Address 530 WATER STREET city, state OAKLAND, CA zip 94607
5. Generator name under which tank will be manifested PORT OF OAKLAND  
EPA I.D. No. under which tank will be manifested CAC 000707408



6. Contractor ENVIAOTOX TECHNOLOGIES INC.  
Address 1334 DIXIEANNE AVE  
city SACRAMENTO Phone 916 9200664  
License Type \_\_\_\_\_ ID# SEE ATTACHED

\*Effective January 1, 1992, Business and Professional Code Section 7058.7 requires prime contractors to also hold Hazardous Waste Certification issued by the State Contractors License Board. Indicate that the certificate has been received, in addition, to holding the appropriate contractors license type.

7. Consultant GEOMATRIX CONSULTANTS  
Address 100 PINE STREET, 10<sup>th</sup> FLOOR  
city SAN FRANCISCO, CA Phone (415) 434-9400  
94111 Elizabeth Wells:

8. Contact Person for Investigation  
Name JON AMDUR Title ENVIRONMENTAL SCIENTIST  
Phone (510) 272-1184

9. Number of tanks being closed under this plan 3  
Length of piping being removed under this plan 40'  
Total number of tanks at facility 3

10. State Registered Hazardous Waste Transporters/Facilities (see instructions).

\*\* Underground tanks are hazardous waste and must be handled \*\*  
as hazardous waste

a) Product/Residual Sludge/Rinsate Transporter

Name ERICKSON, INC. EPA I.D. No. CAD009466392  
Hauler License No. 0019 License Exp. Date 5/31/92  
Address 255 PARR BLVD.  
city RICHMOND State CA zip 94801

b) Product/Residual Sludge/Rinsate Disposal Site

Name ERICKSON, INC. EPA I.D. No. CAD009466392  
Address 255 PARR BLVD.  
city RICHMOND State CA zip 94801

State of California  
Contractors State License Board

Pursuant to Chapter 9 of Division 3 of the Business and Professions Code  
and the Rules and Regulations of the Contractors State License Board,  
the Registrar of Contractors does hereby issue this license to:

ENVIROTOX TECHNOLOGIES INCORPORATED



to engage in the business or act in the capacity of a contractor  
in the following classification(s):

C21 - Building Moving, Wrecking, C61/D06 - Concrete Related Services, C61/D40  
- Service Station Equipment & Maintenance, A - General Engineering Contractor,  
HAZ - Hazardous Substances Removal, B - General Building Contractor



Witness my hand and seal this day,

June 22, 1989

Issued October 7, 1981  
Replacement

*Daniel R. Phillips*  
Registrar of Contractors

*Joyce S. Howard*  
Signature of Licensee  
*Thomas Howard*  
Signature of License Qualifier

480497

License Number

This license is the property of the Registrar of Contractors, is not  
transferable, and shall be returned to the Registrar upon demand  
when suspended, revoked, or invalidated for any reason. It becomes  
void if not renewed.

No 224028

c) Tank and Piping Transporter

Name ERICKSON, INC. EPA I.D. No. CA0009466392  
Hauler License No. 0019 License Exp. Date 5-31-92  
Address 255 PARR BLVD.  
city RICHMOND state CA zip 94801

d) Tank and Piping Disposal Site

Name ERICKSON, INC. EPA I.D. No. \_\_\_\_\_  
Address 255 PARR BLVD.  
city RICHMOND state CA zip 94801

11. Experienced Sample Collector

Name ELIZABETH WELLS  
Company GEOMATRIX CONSULTANTS  
Address 100 PINE STREET, 10<sup>th</sup> FLOOR  
city SAN FRANCISCO state CA zip 94111 phone (415) 434-9400

12. Laboratory

Name CLAYTON  
Address 1252 QUARRY LANE, PO BOX 9019  
city PLEASANTON state CA zip 94566  
State Certification No. 1196

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

If yes, describe. Not detected  
\_\_\_\_\_  
\_\_\_\_\_

14. Describe methods to be used for rendering tank inert

20 LBS. OF DRY ICE PER 1000 GALS

Before tanks are pumped out and inerted, all associated piping must be flushed out into the tanks. All accessible associated piping must then be removed. Inaccessible piping must be plugged.

The Bay Area Air Quality Management District (771-6000), along with local Fire and Building Departments, must also be contacted for tank removal permits. Fire departments typically require the use of explosion proof combustible gas meters to verify tank inertness. It is the contractor's responsibility to bring a working combustible gas meter on site to verify tank inertness.

15. Tank History and Sampling Information

Tank		Material to be sampled (tank contents, soil, groundwater, etc.)	Location and Depth of Samples
Capacity (Gallons)	Use History (see instructions)		
3,000	Gasoline	SOIL	From the wall of the pit at each end of the tank. Collected at the soil/water interface, or not greater than 2 ft. into native soil
5,000	Gasoline	Groundwater, if present	
5,000	Diesel  (installation dates unknown)		

One soil sample must be collected for every 20 feet of piping that is removed. A ground water sample must be collected should any ground water be present in the excavation.

Excavated/Stockpiled Soil	
Stockpiled Soil Volume (Estimated) <b>260-300</b> <b>CUBIC YARDS</b>	<b>Sampling Plan</b>  <b>ONE SAMPLE EVERY 20 Y<sup>2</sup> MAXIMUM OR</b> <b>ONE SAMPLE EVERY 50 Y<sup>2</sup> MINIMUM. ANALYZE</b> <b>FOR TPH-6, TPH-7, BTEX, AND TOTAL LEAD.</b>

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

16. Chemical methods and associated detection limits to be used for analyzing samples

The Tri-Regional Board recommended minimum verification analyses and practical quantitation reporting limits should be followed. See attached Table 2.

Contaminant Sought	EPA, DHS, or Other Sample Preparation Method Number	EPA, DHS, or Other Analysis Method Number	Method Detection Limit
<b>TPH GASOLINE</b>	<b>5030</b>	<b>GCFID</b>	SOIL 1 ppm WATER 50 ppb
<b>TPH DIESEL</b>	<b>3550 / 3510</b>	<b>GCFID</b>	SOIL 1 ppm WATER 50 ppb
<b>BTEX</b>	<b>5030</b>	<b>8020 or 8240</b>	SOIL 5 ppb WATER .5 ppb
<b>TOTAL LEAD</b>	<b>AA</b>		<b>3 ppm</b>

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

18. Submit Worker's Compensation Certificate copy (Fourth coming)

Name of Insurer TRANSAMERICA / Policy No. 80482858 / 1/1/92 to 1/1/93

19. Submit Plot Plan (See Instructions)

20. Enclose Deposit (See Instructions)

21. Report any leaks or contamination to this office within 5 days of discovery. The report shall be made on an Underground Storage Tank Unauthorized Leak/Contamination Site Report form. (see Instructions)

22. Submit a closure report to this office within 60 days of the tank removal. This report must contain all the information listed in item 22 of the instructions.

I declare that to the best of my knowledge and belief the statements and information provided above are correct and true.

I understand that information in addition to that provided above may be needed in order to obtain an approval from the Department of Environmental Health and that no work is to begin on this project until this plan is approved.

I understand that any changes in design, materials or equipment will void this plan if prior approval is not obtained.

I understand that all work performed during this project will be done in compliance with all applicable OSHA (Occupational Safety and Health Administration) requirements concerning personnel health and safety. I understand that site and worker safety are solely the responsibility of the property owner or his agent and that this responsibility is not shared nor assumed by the County of Alameda.

Once I have received my stamped, accepted closure plan, I will contact the project Hazardous Materials Specialist at least three working days in advance of site work to schedule the required inspections.

Signature of Contractor ENVIROTOX TECHNOLOGIES, INCORPORATED

Name (please type) Joyce L. Sherwood, President

Signature *Joyce L. Sherwood*

Date March 5, 1992

Signature of Site Owner or Operator

Name (please type) Port of Oakland Andrew Clark-Clough

Signature *Andrew Clark-Clough*, authorized agent

Date 3/11/92 for Port of Oakland

## INSTRUCTIONS

### General Instructions

- \* Three (3) copies of this plan plus attachments and deposit must be submitted to this Department.
- \* Any cutting into tanks requires local fire department approval.
- \* One complete copy of your approved plan must be at the construction site at all times; a copy of your approved plan must also be sent to the landowner.

### Item Specific Instructions

2. SITE ADDRESS  
Address at which closure is taking place.
5. EPA I.D. NO. under which the tanks will be manifested  
EPA I.D. numbers may be obtained from the State Department of Health Services, 916/324-1781.
6. CONTRACTOR  
Prime contractor for the project.
10. STATE REGISTERED HAZARDOUS WASTE TRANSPORTERS/FACILITIES
  - a) All residual liquids and sludges are to be removed from tanks before tanks are inerted.
  - c) Tanks must be hauled as hazardous waste.
  - d) This is the place where tanks will be taken for cleaning.
15. TANK HISTORY AND SAMPLING INFORMATION  
Use History - This information is essential and must be accurate. Include tank installation date, products stored in the tank, and the date when the tank was last used.  
  
Material to be sampled - e.g. water, oil, sludge, soil, etc.  
  
Location and depth of samples - e.g. beneath the tank a maximum of two feet below the native soil/backfill interface, side wall at the high water mark, etc.

## 17. SITE HEALTH AND SAFETY PLAN

A site specific Health and Safety plan must be submitted. We advocate the site health and safety plan include the following items, at a minimum:

- a) The name and responsibilities of the site health and safety officer;
- b) Identification of health and safety hazards of each work task. Include potential fire, explosion, physical, and chemical hazards;
- c) An outline of briefings to be held before work each day to appraise employees of site health and safety hazards;
- d) Frequency and types of air and personnel monitoring to be used - along with the environmental sampling techniques and instrumentation. Include instrumentation maintenance and calibration methods and frequencies;
- e) Specific personal protective equipment and procedures to be used by workers to protect themselves from the identified hazards. Also state the contaminant concentrations in air - or other conditions - which will trigger changes in work or work habits to ensure workers are not exposed to high levels of hazardous chemicals or to other unsafe conditions;
- f) Confined space entry procedures (if applicable);
- g) Decontamination procedures;
- h) Measures to be taken to secure the site, excavation and stockpiled soil during and after work hours (e.g. barricades, caution tape, fencing, trench plates, security guards, etc.);
- i) Spill containment and emergency/contingency plan. Be sure to include emergency phone numbers, the location of the phone nearest the site, and directions to the hospital nearest the site;
- j) Documentation that all site workers have received the appropriate OSHA approved trainings and participate in appropriate medical surveillance per 29 CFR 1910.120; and
- k) Page for employees to sign indicating they have read and will comply with the site health and safety plan.

The safety plan must be distributed to all employees and contractors working in hazardous waste operations on site. A complete copy of the site health and safety plan along with any standard operating procedures shall be on site and accessible at all times.



NOTE: These requirements are excerpts from 29 CFR Part 1910.120, Hazardous Waste Operations and Emergency Response; Final Rule, March 6, 1989. Safety plans of certain underground tank sites may need to meet the complete requirements of this Rule.

19. PLOT PLAN

The plan should consist of a scaled view of the facility at which the tank(s) are located and should include the following information:

- a) Scale;
- b) North Arrow;
- c) Property Lines;
- d) Location of all Structures;
- e) Location of all relevant existing equipment including tanks and piping to be removed and dispensers;
- f) Streets;
- g) Underground conduits, sewers, water lines, utilities;
- h) Existing wells (drinking, monitoring, etc.);
- i) Depth to ground water; and
- j) All existing tanks and piping in addition to the ones being pulled.

20. DEPOSIT

A deposit, payable to Alameda County for the amount indicated on the Alameda County Underground Storage Tank Fee Schedule, must accompany the plans.

21. Blank Unauthorized Leak/Contamination Site Report forms may be obtained in limited quantities from our office and from the San Francisco Bay Regional Water Quality Control Board (415/464-1255). Larger quantities may be obtained directly from the State Water Resources Control Board at (916) 739-2421.

22. TANK CLOSURE REPORT

The tank closure report should contain the following information:

- a) General description of the closure activities;
- b) Description of tank, fittings and piping conditions. Indicate tank size and former contents; note any corrosion, pitting, holes, etc.;

- c) Description of the excavation itself. Include the tank and excavation depth, a log of the stratigraphic units encountered within the excavation, a description of root holes or other potential contaminant pathways, the depth to any observed ground water, descriptions and locations of stained or odor-bearing soil, and descriptions of any observed free product or sheen;
- d) Description of sampling methods;
- e) Description of any remedial measures conducted at the time of tank removal;
- f) To-scale figures showing the excavation size and depth, nearby buildings, sample locations and depths, and tank and piping locations. Include a copy of the plot plan prepared for the Tank Closure Plan under item 19;
- g) Chain of custody records;
- h) Copies of signed laboratory reports;
- i) Copies of "TSDF to Generator" Manifests for all hazardous wastes hauled offsite (sludge, rinsate, tanks and piping, contaminated soil, etc.); and
- j) Tabulation of the volume and final destination of all non-manifested contaminated soil hauled offsite.

**TABLE #2**  
**RECOMMENDED MINIMUM VERIFICATION ANALYSES FOR**  
**UNDERGROUND TANK LEAKS**

<u>HYDROCARBON LEAK</u>	<u>SOIL ANALYSIS</u>		<u>WATER ANALYSIS</u>	
Unknown Fuel	TPH G	GCFID(5030)	TPH G	GCFID(5030)
	TPH D	GCFID(3550)	TPH D	GCFID(3510)
	BTX&E	8020 or 8240	BTX&E	602, 624 or 8260
	TPH AND	BTX&E 8260		
Leaded Gas	TPH G	GCFID(5030)	TPH G	GCFID(5030)
	BTX&E	8020 OR 8240	BTX&E	602 or 624
	TPH AND	BTX&E 8260	TOTAL LEAD AA	
	TOTAL LEAD AA			
	-----Optional-----			
	TEL	DHS-LUFT	TEL	DHS-LUFT
	EDB	DHS-AB1803	EDB	DHS-AB1803
Unleaded Gas	TPH G	GCFID(5030)	TPH G	GCFID(5030)
	BTX&E	8020 or 8240	BTX&E	602, 624 or 8260
	TPH AND	BTX&E 8260		
Diesel, Jet Fuel and Kerosene	TPH D	GCFID(3550)	TPH D	GCFID(3510)
	BTX&E	8020 or 8240	BTX&E	602, 624 or 8260
	TPH AND	BTX&E 8260		
Fuel/Heating Oil	TPH D	GCFID(3550)	TPH D	GCFID(3510)
	BTX&E	8020 or 8240	BTX&E	602, 624 or 8260
	TPH AND	BTX&E 8260		
Chlorinated Solvents	CL HC	8010 or 8240	CL HC	601 or 624
	BTX&E	8020 or 8240	BTX&E	602 or 624
	CL HC AND	BTX&E 8260	CL HC AND	BTX&E 8260
Non-chlorinated Solvents	TPH D	GCFID(3550)	TPH D	GCFID(3510)
	BTX&E	8020 or 8240	BTX&E	602 or 624
	TPH AND	BTX&E 8260	TPH and	BTX&E 8260
Waste and Used Oil or Unknown (All analyses must be completed and submitted)	TPH G	GCFID(5030)	TPH G	GCFID(5030)
	TPH D	GCFID(3550)	TPH D	GCFID(3510)
	TPH AND	BTX&E 8260		
	O & G	5520 D & F	O & G	5520 C & F
	BTX&E	8020 or 8240	BTX&E	602, 624 or 8260
	CL HC	8010 or 8240	CL HC	601 or 624
	ICAP or AA TO DETECT METALS: Cd, Cr, Pb, Zn, Ni			
	METHOD 8270 FOR SOIL OR WATER TO DETECT:			
	PCB*		PCB	
	PCP*		PCP	
	PNA		PNA	
	CREOSOTE		CREOSOTE.	

\* If found, analyze for dibenzofurans (PCBs) or dioxins (PCP)

Reference: Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites, 10 August 1990

## EXPLANATION FOR TABLE #2: MINIMUM VERIFICATION ANALYSIS

1. OTHER METHODOLOGIES are continually being developed and as methods are accepted by EPA or DHS, they also can be used.
2. For DRINKING WATER SOURCES, EPA recommends that the 500 series for volatile organics be used in preference to the 600 series because the detection limits are lower and the QA/QC is better.
3. APPROPRIATE STANDARDS for the materials stored in the tank are to be used for all analyses on Table #2. For instance, seasonally, there may be five different jet fuel mixtures to be considered.
4. To AVOID FALSE POSITIVE detection of benzene, benzene-free solvents are to be used.
5. TOTAL PETROLEUM HYDROCARBONS (TPH) as gasoline (G) and diesel (D) ranges (volatile and extractable, respectively) are to be analyzed and characterized by GC/FID with a fused capillary column and prepared by EPA method 5030 (purge and trap) for volatile hydrocarbons, or extracted by sonication using 3550 methodology for extractable hydrocarbons. Fused capillary columns are preferred to packed columns; a packed column may be used as a "first cut" with "dirty" samples or once the hydrocarbons have been characterized and proper QA/QC is followed.
6. TETRAETHYL LEAD (TEL) analysis may be required if total lead is detected unless the determination is made that the total lead concentration is geogenic (naturally occurring).
7. CHLORINATED HYDROCARBONS (CL HC) AND BENZENE, TOLUENE, XYLENE AND ETHYLBENZENE (BTX&E) are analyzed in soil by EPA methods 8010 and 8020 respectively, (or 8240) and in water, 601 and 602, respectively (or 624).
8. OIL AND GREASE (O & G) may be used when heavy, straight chain hydrocarbons may be present. Infrared analysis by method 418.1 may also be acceptable for O & G if proper standards are used. "Standard Methods" 17th Edition, 1989, has changed the 503 series to 5520.
9. PRACTICAL QUANTITATION REPORTING LIMITS are influenced by matrix problems and laboratory QA/QC procedures. Following are the Practical Quantitation Reporting Limits:

	<u>SOIL PPM</u>	<u>WATER PPB</u>
TPH G	1.0	50.0
TPH D	1.0	50.0
BTX&E	0.005	0.5
O & G	50.0	5,000.0

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4. To AVOID FALSE POSITIVE detection of benzene, benzene-free solvents are to be used.
5. TOTAL PETROLEUM HYDROCARBONS (TPH) as gasoline (G) and diesel (D) ranges (volatile and extractable, respectively) are to be analyzed and characterized by GCFID with a fused capillary column and prepared by EPA method 5030 (purge and trap) for volatile hydrocarbons, or extracted by sonication using 3550 methodology for extractable hydrocarbons. Fused capillary columns are preferred to packed columns; a packed column may be used as a "first cut" with "dirty" samples or once the hydrocarbons have been characterized and proper QA/QC is followed.
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O & G	50.0	5,000.0

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Based upon a Regional Board survey of Department of Health Services Certified Laboratories, the Practical Quantitation Reporting Limits are attainable by a majority of laboratories with the exception of diesel fuel in soils. The Diesel Practical Quantitation Reporting Limits, shown by the survey, are:

ROUTINE	MODIFIED PROTOCOL
≤ 10 ppm (42%)	≤ 10 ppm (10%)
≤ 5 ppm (19%)	≤ 5 ppm (21%)
≤ 1 ppm (35%)	≤ 1 ppm (60%)

When the Practical Quantitation Reporting Limits are not achievable, an explanation of the problem is to be submitted on the laboratory data sheets.

- LABORATORY DATA SHEETS are to be signed and submitted and include the laboratory's assessment of the condition of the samples on receipt including temperature, suitable container type, air bubbles present/absent in VOA bottles, proper preservation, etc. The sheets are to include the dates sampled, submitted, prepared for analysis, and analyzed.
- IF PEAKS ARE FOUND, when running samples, that do not conform to the standard, laboratories are to report the peaks, including any unknown complex mixtures that elute at times varying from the standards. Recognizing that these mixtures may be contrary to the standard, they may not be readily identified; however, they are to be reported. At the discretion of the LIA or Regional Board the following information is to be contained in the laboratory report:

The relative retention time for the unknown peak(s) relative to the reference peak in the standard, copies of the chromatogram(s), the type of column used, initial temperature, temperature program is C/minute, and the final temperature.

- REPORTING LIMITS FOR TPH are: gasoline standard ≤ 20 carbon atoms, diesel and jet fuel (kerosene) standard ≤ 50 carbon atoms. It is not necessary to continue the chromatography beyond the limit, standard, or EPA/DHS method protocol (whichever time is greater).

#### EPILOGUE

ADDITIVES: Major oil companies are being encouraged or required by the federal government to reformulate gasoline as cleaner burning fuels to reduce air emissions. MTBE (Methyl-tertiary butyl ether), ETHANOL (ethyl alcohol), and other chemicals may be added to reformulate gasolines to increase the oxygen content in the fuel and thereby decrease undesirable emissions (about four percent with MTBE). MTBE and ethanol are, for practical purposes, soluble in water. The removal

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from the water column will be difficult. Other compounds are being added by the oil companies for various purposes. The refinements for detection and analysis for all of these additives are still being worked out. If you have any questions about the methodology, please call your Regional Board representative.

ALAMEDA COUNTY HAZARDOUS MATERIALS DIVISION  
Acknowledgement of Refund Recipient for Site Account  
DEPOSITOR FILLS OUT PER SITE  
-- REQUIRED --

The depositor will use this form to acknowledge that the property owner or his or her designee will receive any refund due at the completion of all deposit/refund projects at the site listed below.

SITE NUMBER/ADDRESS:

REFUND RECIPIENT-PROPERTY OWNER

Site Number

Port of Oakland

Company Name

2801 Seventh St.

Street Address

Oakland

City

94607

Zip Code

Port of Oakland

Owner's Name

530 Water St.

Owner's Address

Oakland

Owner's City

CA

State

94607

Zip

I have read the description of the project Deposit/Refund Procedure, and have had an opportunity to ask questions about it. I understand that regardless of who deposits money into the site account, any deposit money remaining at the completion of all projects being conducted at this site will be refunded solely to the property owner or his or her designee.

Signature of Depositor

Date

Andrew Clark-Clough

Depositor Name

Port of Oakland

Company Name

530 Water St.

Street Address

Oakland, CA

City / Zip

94607



**SITE SAFETY PLAN**  
**Underground Storage Tank Removal**  
**at**  
**PORT OF OAKLAND**  
**Oakland CA**

## **INTRODUCTION**

This Site Safety Plan describes basic safety requirements for the underground storage tank removal project at Port of Oakland, Oakland CA.

The provisions set forth in this Plan apply to the employees of **ENVIROTOX TECHNOLOGIES, INCORPORATED (Envirotox)** and its subcontractors working on this project. The subcontractors may elect to modify these provisions, but only to upgrade or increase the safety requirements, and only with the concurrence of Envirotox, as designated and accepted in writing.

This Site Safety Plan will address the expected potential hazards that may be encountered on the worksite for this project. Work is scheduled to begin at the site on \_\_\_\_\_ with the duration estimated at \_\_\_\_\_. If changes in site or working conditions occur as activities progress, addenda to this plan will be provided by Envirotox.

## **AUTHORITY FOR SITE SAFETY**

The Envirotox personnel responsible for project safety are the Project Manager and the field superintendent. The Health and Safety Coordinator is responsible for the overall Envirotox Health and Safety Program and may choose to audit the site for compliance and take appropriate action to correct deficiencies. The Project Manager is responsible for implementing the provisions of this Plan, for providing a copy of this Plan to field personnel and subcontractors, and for advising the field superintendent on health and safety matters. The Project Manager and field superintendent have the authority to audit site activities for compliance with the provisions of this Plan. They may suspend or modify work practices or dismiss subcontractors whose conduct does not meet the requirements specified in this Plan.

The field superintendent is responsible for communicating the information contained in this Plan to the Envirotox personnel assigned to the project and to the responsible representative of each subcontractor working for Envirotox on the project.

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The field superintendent will also act as the Site Safety Officer. As such, the field superintendent is responsible for addressing the following items:

- Implementing the Site Safety Plan, Company policy, and procedures
- Requiring and maintaining adequate safety supplies and equipment inventory onsite
- Conducting daily safety meeting and advising workers regarding hazards
- Site control, decontamination, and contamination-reduction procedures
- Reporting accidents or incidents

The field superintendent has the authority to suspend work any time he or she finds that the provisions of the Plan are inadequate for worker safety. The field superintendent will inform the Project Manager and the Health and Safety Coordinator promptly of deficiencies within the Plan or individuals or subcontractors whose conduct is not consistent with the requirements of this Plan.

**MEDICAL SURVEILLANCE**

Envirotox personnel and subcontractors engaged in project activities must participate in a medical surveillance program and must be cleared by the examining physician(s) to wear respiratory protection devices and protective clothing for working with hazardous materials. The applicable requirements of Title 8, Section 5216, of the California Administrative Code will be observed. The applicable requirements under 29CFR 1910.120 of the Federal Administrative Code will also be observed.

**SAFETY AND ORIENTATION MEETING**

Field personnel from Envirotox and its subcontractors will attend a project-specific training meeting for safety issues and review the project tasks before beginning work. The meeting will be led by the field superintendent. In addition, fit-testing of respiratory protective devices will be conducted as part of the safety orientation meeting when the use of a respirator may be required. We do not anticipate that respiratory devices will be required on this job.

*Environox Technologies, Inc.*

Port of Oakland Site Safety Plan

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**HAZARD ASSESSMENT**

The major contaminants expected to be encountered on the project are gasoline and its hydrocarbon constituents, diesel fuel and gasoline. The anticipated contaminants and their exposure standards are listed in Table 1. It is not anticipated that the potential levels of exposure will reach the permissible exposure limits (PEL) or threshold limit values (TLV). Inhalation and dermal contact are the potential exposure pathways. Protective clothing will be mandatory for field personnel specified in this Plan. In addition, respiratory protective devices are required to be worn by each person onsite or to be within easy reach should irritating odors be detected or irritation of the respiratory tract occur.

**TABLE 1  
EXPOSURE LIMITS OF ANTICIPATED CHEMICAL  
CONTAMINANTS**

(PAGE 1 OF 2)

Contaminant	PEL	EL	ED	CL	TWA	STEL
Benzene	1*	---	-----	---	10*	5*
Ethylbenzene	100*	---	-----	---	100*	125*
Gasoline	300*	---	-----	---	300*	500*
Toluene (Skin)	100*	---	10 min per 8 hrs		100*	150*
Xylene (o,m, & p isomers) (skin)	100*	200*	30 min per 8 hrs	500*	100*	150*
See notes on page 2. of 2.						

*Environ Technologies, Inc.*

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**TABLE 2  
EXPOSURE LIMITS OF ANTICIPATED CHEMICAL  
CONTAMINANTS**

-----  
(PAGE 1 OF 2)  
-----

Contaminant	PEL	EL	ED	CL	TWA	STEL
PEL	-	Permissible exposure limit: 8 hour, time-weighted average, California Occupational Safety and Health Administration Standard (CAL-OSHA)				
EL	-	Excursion limit: maximum concentration of an airborne contaminant to which an employee may be exposed without regard to duration provided the 8 hour time-weighted average for PEL is not exceeded (CAL-OSHA)				
ED	-	Excursion duration: maximum time period permitted for an exposure above the excursion limit but not exceeding the ceiling limit (CAL-OSHA)				
CL	-	Ceiling limit: maximum concentration of airborne contaminant which employees may be exposed permitted (CAL-OSHA)				
TWA	-	Time-weighted average: 8 hour, [(same as threshold limit value (TLV)], American Conference of Governmental Industrial Hygienists (ACGIH)				
STEL	-	Short-term exposure limit: 15 minute time-weighted average (ACGIH)				
#	-	Milligrams of substance per cubic meter of air				
*	-	Parts of gas or vapor per million parts air				
(CARC)	-	Substance identified as a suspected or confirmed carcinogen				
(SKIN)	-	Substance may be absorbed into the bloodstream through the skin, mucous membranes, or eyes				
1	-	Federal OSHA benzene limits given for PEL and STEL; STEL has a 50 minute duration limit				
2	-	Federal OSHA gasoline limit given for PEL; STEL is the same for FED-OSHA and ACGIH				

A brief description of the physical characteristics, incompatibilities, toxic effects, routes of entry, and target organs has been summarized from the NIOSH Pocket Guide to Chemical Hazards for the contaminants anticipated to be encountered. This information is used in onsite safety meeting to alert personnel to the hazards associated with the expected contaminants.

*Evirotox Technologies, Inc.*

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**Benzene**

Benzene is a colorless, aromatic liquid. Benzene may create any explosion hazard. Benzene is incompatible with strong oxidizers, chlorine, and bromine with iron. Benzene is irritating to the eyes, nose, and respiratory system. Prolonged exposure may result in giddiness, headache, nausea, staggering gait, fatigue, bone marrow depression, or abdominal pain. Routes of entry include inhalation, absorption, ingestion, and skin or eye contact. The target organs are blood, the central nervous system (CNS), skin, bone marrow, eyes and respiratory system. Benzene is carcinogenic.

**Ethylbenzene**

Ethylbenzene is a colorless, aromatic liquid. Ethylbenzene may create an explosion hazard. Ethylbenzene is incompatible with strong oxidizers. Ethylbenzene is irritating to the eyes and mucous membranes. Prolonged exposure may result in headache, dermatitis, narcosis, or coma. Routes of entry include inhalation, ingestion, and skin or eye contact. The target organs are the eyes, upper respiratory system, skin, and the CNS.

**Toluene**

Toluene is a colorless, aromatic liquid. Toluene may create an explosion hazard. Toluene is incompatible with strong oxidizers. Prolonged exposure may result in fatigue, confusion, euphoria, dizziness, headache, dilation of pupils, lacrimation, insomnia, dermatitis, photophobia. Routes of entry are inhalation, absorption, ingestion, and skin or eye contact. The target organs are the CNS, liver, kidneys, and skin.

**Xylene Isomers**

Xylene is a colorless, aromatic liquid. Xylene may create an explosion hazard. Xylene is incompatible with strong oxidizers. Xylene is irritating to the eyes, nose, and throat. Prolonged exposure may result in dizziness, excitement, drowsiness, staggering gait, corneal vacuolization, vomiting, abdominal pain, or dermatitis. Routes of entry are inhalation, absorption, ingestion, and skin or eye contact. The target organs are the CNS eyes, gastrointestinal tract, blood, liver, kidneys, and skin.

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**GENERAL PROJECT SAFETY REQUIREMENTS**

Project activities will be conducted in accordance with the following minimum safety requirements and procedures specified in EM 385-1-1, US Army Corp of Engineers Safety and Health Requirements Manual.

- Eating, drinking, and smoking will be restricted to a designated area.
- Gross decontamination and removal of all personal protective equipment will be performed before leaving the site. Contaminated clothing will be removed and collected in a drum for disposal.
- Shaking or blowing dust or other materials off potentially contaminated clothing or equipment to remove dust or other materials is not permitted.
- The field superintendent will be responsible for taking steps to protect employees from physical hazards including:
  - \* Falling objects, such as tools or equipment
  - \* Fall from elevations
  - \* Tripping over hoses, pipes, tools, or equipment
  - \* Slipping on wet or oily surfaces
  - \* Insufficient or faulty protective equipment
  - \* Insufficient or faulty equipment or tools
- All personnel will be required to wash hands and faces before eating, drinking, or smoking in the aforementioned designated areas.
- Field personnel will be cautioned to inform each other of the non-visual effects of the presence of toxics, such as:
  - \* Headaches
  - \* Dizziness
  - \* Nausea
  - \* Blurred vision
  - \* Cramps
  - \* Irritation of eyes, skin, or respiratory tract
  - \* Changes in complexion or skin discoloration
  - \* Changes in apparent motor coordination
  - \* Changes in personality or demeanor
  - \* Excessive salivation or changes in pupillary response
  - \* Changes in speech ability or pattern

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Port of Oakland Site Safety Plan

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**PROTECTIVE EQUIPMENT REQUIREMENTS**

Field personnel and visitors are required to wear the following protective clothing and equipment, as a minimum, while in the work area at: Port of Oakland, CA

- Hard hat
- Safety Glasses
- Steel-toed boots

Field personnel engaged in work are required to wear the following equipment:

- Hard hat
- Safety glasses
- Steel-toed chemical resistant boots (rubber, neoprene, or polyvinyl chloride [PVC] )
- Gloves (rubber, neoprene, PVC, or nitrile)
- Orange or red safety vest (if equipment or motor vehicles are operating onsite or nearby)
- Standard Tyvek coveralls (when required by field superintendent)
- Respirator with organic vapor and acid gas cartridge (if lowest PEL or TLV is exceeded in the breathing zone or field superintendent decides respirators should be worn)

**RESPIRATORY PROTECTION PROGRAM**

This section summarizes Envirotox's Respiratory Protection Program. Envirotox's subcontractors must have company medical surveillance and respiratory protection programs including adequate training of their employees. Subcontractors must provide personal protective equipment as required in this Site Safety Plan for their employees. Envirotox will attempt to verify worker training but does not assume the responsibility of the employer in any way. The following sections outline the Envirotox Respiratory Protection Program.

Respirators are not issued to employees until the Company physician conducts a complete physical and decides the employee can 1) wear personal protective equipment and 2) wear a respirator. After the physician has issued written approval to Envirotox, the Health and Safety Coordinator conducts the required training including these basic topics:

- Applicable OSHA regulation 1910.134 and 1910.120

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**RESPIRATORY PROTECTION PROGRAM (Continued)**

- Nature of respiratory hazards to be encountered in the work environment and how to select proper respiratory equipment
- Use of respirators and proper fitting
- Functions and limitations of respirators
- Cleaning disinfection, inspection, maintenance, and storage of respirators

**Functions and Limitations of Respirators**

Respirators are not intended for and may not be used in atmospheres which are, or may become immediately dangerous to life or health (IDLH) or in atmospheres where the identity or concentration of the contaminant(s) is unknown. Respirators may not be used in atmospheres containing less than 19.5 percent oxygen.

Cartridges or canisters for respirators are selected and supplied to employees by the Health and Safety Coordinator. The failure to choose or use a respirator equipped with cartridges or filters suitable for the contaminant(s) in the atmosphere or likely to be released in the atmosphere may result in the respirator providing little or no protection against the contaminated atmosphere. The Site Safety Plan specifies the contaminant(s) to be encountered and type of cartridge or canister appropriate for personal protection.

Assuming that the respirator is properly fitted in good condition, free from leaks, and has the proper cartridges for the contaminant(s) present, the length of time the respirator will provide protection also depends on the conditions of use.

The conditions of use include but are not limited to the following:

- The concentration of contaminant(s) in the atmosphere
- The temperature and humidity of the ambient atmosphere
- Any previous use of the cartridges and filters
- The elapsed time since the removal of the cartridges or filters from their protective packaging
- The emotional state of the wearer
- The level of physical activity of the wearer



***Evirotech Technologies, Inc.*****Port of Oakland Site Safety Plan**

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Cartridges designed and specified to protect the wearer against airborne particles are not appropriate for protection against gases and vapors. Cartridges designed and specified for protections against specific gases and vapors are not appropriate for protection against airborne particles or other gases or vapors beyond the scope of that type of cartridge. Every cartridge is labeled with specific instructions defining the use and limitations of that particular type of cartridge. If the label is missing or the type of cartridge is inappropriate then it may not be used under any circumstances; it will provide little or no protection to the wearer.

**Danger Signals Indicating Possible Respirator Failure**

If any of the danger signals in the following list are experienced while wearing a respirator, immediately return to a fresh air environment. The cartridges or filters may be inappropriate or used up or abnormal conditions may be creating vapor concentrations which are beyond the limits of the cartridges or filters. Danger is indicated when the individual subject to exposure:

- Smells or tastes chemicals, or if eyes, nose, or throat become irritated;
- Has difficulty breathing;
- Notices that the breathing air becomes uncomfortably warm;
- Experiences headaches, dizziness, cramps, nausea, or blurred vision;
- Experiences changes in complexion or skin discoloration;
- Experiences changes in motor coordination, personality, or demeanor;
- Experiences changes in speech ability or pattern;
- Experiences excessive salivation or changes in pupillary response.

**Qualitative Respirator Fit Test**

Qualitative fit testing of each respirator must be conducted before the respirator may be used to check that a good fit is still obtained. The following steps should be taken in qualitative fit test of the respirator.

1. Don the face piece with cartridge or filters in place. Pull straps together and equally to avoid distorting the mask.
2. Adjust the face piece. Do not over tighten it.
3. Negative Pressure Leak Check: Close off the inlet connections with palms of hands, inhale slowly, and hold breath momentarily. No leakage should be detected and the face piece should be drawn slightly to the face.

**Envirotox Technologies, Inc.****Port of Oakland Site Safety Plan  
Qualitative Respirator Fit Test (Continued)**

March 3, 1992

4. **Positive Pressure Leak Check:** Close opening in the exhalation valve guard by placing palm of one hand over face of guard; exhale slowly maintaining slight positive pressure. No leakage should be detected between the face seal and the face.
5. **Should any leakage be noted:**
  - a) Adjust the headstraps and face piece slightly; recheck for leakage.
  - b) Check condition of exhalation valve and seat. Check that both inlet gaskets are present and in proper condition.
  - c) In the event the face piece cannot be adjusted so there is no leakage, **DO NOT ENTER THE AREA REQUIRING PROTECTION.** Due to your particular facial features, a different style or size face piece may be required to obtain a proper facial fit.

**NOTE:** Failure to perform a qualitative fit test of the respirator each time the respirator is donned may result in little or no respiratory protection.

**Inspection Cleaning and Storage**

The respirator should be inspected, cleaned, and properly stored after use each day. The following steps are the basic elements of each procedure:

**A. Inspection**

1. Examine face seal for rips, tears, holes, deformation, or stiffness.
2. Examine face piece plastic center shell for cracks, missing components, or damaged threads.
3. Examine harness for breaks, cuts, frays, tears, and missing or damaged hardware.
4. Examine inhalation and exhalation valves and valve seats for cuts, cracks, or foreign matter which may not allow the valve to close completely. Check that valves are properly installed and are not distorted.
5. Examine cartridges for signs of abuse or damage. discard damaged items.

*Envirotox Technologies, Inc.***Part of Oakland Site Safety Plan  
Inspection Cleaning and Storage (Continued)**

March 3, 1992

6. Any respirator malfunction or deficiencies noted must be reported to the Health and Safety coordinator who will issue a new respirator or correct the deficiencies using only approved spare parts from the manufacturer of the specific model in need of repair. Spare parts from any other manufacturer may not be used under any conditions. Instructions in the manual provided by the manufacturer should be followed when the respirator needs repairing or replacing.

**B. Cleaning**

1. Unthread cartridges or filters.
2. Wash the face piece after use, with warm water and a mild detergent.
3. Disinfect the face piece if it was used by another person. The mask should routinely (once per month) be disinfected even if respirator is used solely by one individual. A hypochlorite solution may be used (i.e., 2 tablespoons chlorine bleach per gallon of water for an acceptable solution).
4. After cleaning and air-drying, check that the face piece is not damaged and that components removed prior to cleaning have been installed properly.

**C. Storage**

1. Place the respirator in its storage box in a heat-sealed or resealable plastic bag. Store flat, with the face piece and exhalation valve in an approximately normal position, to prevent the face seal from taking a permanent "set."
2. Replacement components should be stored in sealed packages in a cool, clean, low-humidity location until ready for use.

The Health and Safety Coordinator will explain Envirotox's Repertoire Protection Program to each new employee who must wear a respirator. The employee will be asked whether or not he or she understands the information provided. If the Company physician has cleared the employee for respirator use and the Health and Safety Coordinator or Branch Safety Officer has checked the fit of the respirator then the employee will be issued a respirator. A written record is signed and dated by the employee and Health and Safety Coordinator and kept in the new employee's Safety Record.

*Envirotox Technologies, Inc.*

Port of Oakland Site Safety Plan

March 3, 1992

**WORK ZONES AND SECURITY MEASURES (Continued)**

Envirotox shall render all tanks inert to prepare them for disposal using the following method: Purge tanks of all combustible vapors by adding solid carbon dioxide (CO<sub>2</sub>, dry ice) in the amount of 20 pounds per 1,000 gallons of tank capacity. The dry ice shall be crushed and distributed evenly over the greatest possible area to secure rapid evaporation. Incorporate a ground strap while purging. Avoid skin contact with dry ice because it may produce burns. As the dry ice vaporizes, flammable vapors will flow out of the tank and may surround the area. Hence, observe all normal safety precautions regarding flammable vapors. Repeat process as required to purge flammable vapors to levels that would preclude an explosion. All confined space and purging operations are to be conducted in accordance with NAVSEA S6470-AA-SAF-010 and Bay Area Quality Management District Regulation 8, 40.

When vapors cease to be forcibly emitted from the openings, such openings are to be plugged using either an approved pressure vacuum relief device or wadded paper or rags. Leave at least the equivalent of a 1/8 inch opening to allow pressure equalization between the tank and the atmosphere.

**SHORING**

It will not be necessary to employ SHORING and SHEETING (H-PILE, BRIDGE BEAMS, TRENCH BOX, HYDRAULIC SHORING, Etc.) for any of the Tank sites within the scope of this Contract, per the plans and specifications provided by the Port of Oakland, and subsequent site examination performed by ENVIROTOX TECHNOLOGIES, INC.'s Project Management.

Should site conditions change due to unknown discoveries, (ie. Discovery of Hazardous Contamination, unknown underground obstacles/equipment, Archaeological objects of historical significance, etc.) the specific circumstances will dictate the type and amount of shoring necessary.

This will constitute an additional consideration, (as spelled out in #6. - page 1-28 "Changes in character of work"). Since the contract does not specifically call for and Envirotox does not foresee any shoring requirement, such discovery would be subject to negotiation and/or a "change order" or Port of Oakland may decide to furnish all or portions of labor, material, and equipment.

*Envirotox Technologies, Inc.*

Port of Oakland Site Safety Plan

March 3, 1992

**RIGGING AND HOISTING**

All Rigging and Hoisting equipment and their operations shall comply with CAL/OSHA regulations.

**EXPOSURE MONITORING PLAN**

It is not anticipated that project personnel exposure will exceed the TLVs or PELs of the materials; however, proper personal protective equipment will be worn while working at the site. In addition, the work area will be monitored using a direct-reading combustible gas analyzer or a photoionization detector to detect the concentration of the volatile hydrocarbons in the ambient atmosphere.

If the lowest TLV or PEL is consistently being exceeded in the breathing zone, then a respirator must be worn. If the concentration exceeds 1,000 parts per million (ppm), the use of a respirator is inappropriate and personnel must withdraw from the site.

**POSSIBLE EXPLOSIVE ATMOSPHERES**

Smoking shall be prohibited in all areas where flammable, combustible, or similar hazardous materials are stored, except in those locations specifically provided for such purpose and approved by the designated authority. NO SMOKING or OPEN FLAME signs will be posted in all prohibited areas.

All Flammable/Combustible liquids, sources of ignition, tools and electric and/or battery operated equipment, lighting sources, drums, barrels, storage tanks, and other storage containers and structures, dispensers, trucks/vehicles will follow the safety procedures set forth in US ARMY CORP of ENGINEERS, Safety and Health Requirements Manual - EM 385-1-1, Rev Oct 1987 (REF 12.D.01 Thru 12.D.40) and shall be directed by qualified persons.

A safe clearance procedure shall be maintained for all sites regarding; Electrical lines and equipment, pressure systems, mechanical equipment, movement of equipment, dangerous or hazardous materials, rotating equipment, switches, gears and agitators. This includes procedures regarding authorization qualified personnel only to oversee, operate and maintain these safety procedures in compliance with US ARMY CORP of ENGINEERS, Safety and Health Requirements Manual - EM 385-1-1, Rev Oct 1987 (REF 28.A.1 thru 28.A.5)

**Envirotox Technologies, Inc.**

Port of Oakland Site Safety Plan

March 3, 1992

**POSSIBLE EXPLOSIVE ATMOSPHERES (Continued)**

Gasoline has a flammable range from approximately 1.4 to 7.6 percent in air. One percent in air is equivalent to 10,000 ppm; thus the lower explosive limit (LEL) is 14,000 ppm. Normally explosive levels may be reached in tanks, pits, or other confined spaces. Any area suspected of containing potentially explosive levels of gasoline will be evaluated with an intrinsically safe or explosion-proof combustible gas indicator (CGI). Personal response will be based on the following action levels from CGI readings:

-	Less than 10 percent of LEL*	then	Continue activities and monitoring
-	10 to 25 percent of LEL	then	Continue monitoring with extreme caution as higher levels are found
-	Greater than 25 percent of LEL	then	Explosion hazard, Cease activities and vacate area immediately

\* CGI readings in percent of lower explosive limit

If an explosion potential is present onsite beyond 25 percent of the LEL then all Envirotox' personnel and subcontractors must immediately withdraw from the site. The hazard potential will be evaluated by Envirotox's management and a plan of action will be assessed.

**DECONTAMINATION PROCEDURES**

Equipment and personal protective equipment will undergo gross decontamination onsite. This gross decontamination will include washing contaminated equipment with Alconox or trisodium phosphate (TSP) solution. Steam-cleaning is an acceptable alternative.

**EMERGENCY RESPONSE PROCEDURES**

In the event of a fire, explosion, or property damage, the Envirotox office will be immediately notified. If necessary, local fire or response agencies will be called.

*Envirotec Technologies, Inc.*

Port of Oakland Site Safety Plan

March 3, 1992

**EMERGENCY RESPONSE PROCEDURES (Continued)**

In the event of an accident resulting in physical injury, first aid will be administered and the injured worker will be transported to the nearest hospital or emergency medical clinic for emergency treatment. A physician's attention is required regardless of the severity of the injury.

**Overt Personnel Exposure**

If overt personnel exposure occurs during the project, typical responses should include the following:

Skin or Eye Wash and rinse affected area thoroughly with copious amounts of soap and water, then provide appropriate medical attention. Eyes and skin should be rinsed for a minimum of 15 minutes upon chemical contamination.

Inhalation: Move to fresh air and, if necessary, decontaminate and transport to emergency hospital

Ingestion: Decontaminate and transport to emergency hospital

Puncture Wound Decontaminate and transport to emergency hospital

**SITE AND PERSONNEL INFORMATION**

Site Address: 2801 -7th Street, Oakland, CA 94607 (Port of Oakland, Outer Harbour Terminal at Berth 30)

**ETI Responsible Site Personnel:**

Vern L. Peden, Project Superintendent

Wk. Tel.# (916) 920-0664

Hm. Tel.# (916) 721-3261

Mbl. Tel.# (916) 531-9472

Thomas Sherwood, Equip. Operator

Wk. Tel.# (916) 920-0664

Hm. Tel.# (916) 721-4780

Ron Titus, Supervisor

Wk. Tel.# (916) 920-0664

Hm. Tel.# (916) 344-6906

**Port of Oakland contact:**

John Stewert, R.E.

Wk. Tel.#(510) 272-1585

**Oakland Fire Department:**

Steven Hallert, Inspector

Wk. Tel.#(510) 444-3322

**Alameda County Health Department:**

Paul Smith, Inspector (Haz Mat)

Wk. Tel.# (510) 271-4320

SUSAN HUGO

271-4530

*Envirotox Technologies, Inc.*

Port of Oakland Site Safety Plan

March 3, 1992

## EMERGENCY TELEPHONE NUMBERS

Fire and Police..... 911

Ambulance..... 911

**Hospital:**

**SUMMIT MEDICAL CENTER..... 510/655-4000**  
**350 Hawthorne**  
**Oakland, CA 94609**

**Directions to Hospital:** From Port of Oakland, take 7 th Street to a left on Martin Luther, to Grove Shafter Feeway US980, to Hiwy 680 & 980 interchange first off ramp on US 680 will be 34th Street /Merrit, take Webster one block to Hawthorne.

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## Additional Contingency Telephone Numbers

Poison Control Center..... (800) 523-2222

Envirotox..... (916) 920-0664

CHEMTREC..... (800) 424-9300

**Note; Only call CHEMTREC in an emergency. CHEMTREC stands for Chemical Transportation Emergency Center, a public service of the Chemical Manufacturer's Association. CHEMTREC can usually provide hazard information warnings, and guidance when given the identification number or the name of the product and the nature of the problem, CHEMTREC can also contact the appropriate experts.**

**This Site Safety Plan has been reviewed by the following persons:**

**Field Superintendent: Vern L. Paden**

**Health and Safety Coordinator: Leroy M. Gordon**



SENT BY: Xerox Telecopier 7021 : 6-9-92 : 11:18AM : PORT OF OAKLAND-415 957 0965 : # 2

RECEIVED

APR 14 1992

CITY OF OAKLAND

Permit to Excavate and Install, Repair, or Remove Inflammable Liquid Tanks. No. 9560

Oakland, California, APRIL 13, 1992

PERMISSION IS HEREBY GRANTED TO XXXX remove XXXX existing tank and concrete surrounding XXXX feet into PROPERTY

Street XXXX Street XXXX  
Address XXXX Address XXXX

House No. 2801 - 7TH STREET Street XXXX Street XXXX  
Address XXXX Address XXXX

Owner CITY OF OAKLAND Address 530 HAYES STREET 94607 Phone 277-1100

Applicant ENVIROX TECHNOLOGIES, INC. Address 1336 DIXIE AVE. SACTO 95815 Phone 916-920-0664

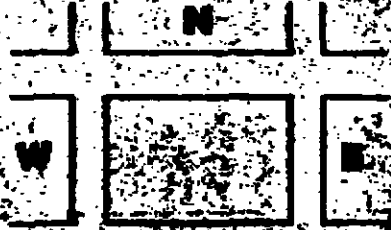
Dimensions of street (sidewalk) surface to be disturbed X Number of Tanks 1 Capacity 3,000 Gallons each

Remarks INACTIVE UGST LOCATED ADJACENT TO SEVENTH ST. AT BERTH 30 OUTER HARBOR TERMINAL

This Permit is granted in accordance with existing City Ordinances.  
Owner hereby agrees to remove tank on discontinuance of use or when notified by the City Authorities.  
When installing, removing or repairing tanks, an open flame to be on or near premises.

Approved \_\_\_\_\_ Fire Marshal

Approved \_\_\_\_\_ Drainage Division Engineering Dept.



EXCAVATING PERMIT

Issued in accordance with Ord. No. 278 OLS, Sec. 4-2.4.

The receipt of \$ \_\_\_\_\_ special deposit is hereby acknowledged.

GENERAL DEPOSIT.

BUREAU OF PERMITS AND LICENSES

CERTIFICATE OF TANK AND EQUIPMENT INSPECTION

Inspected and passed on \_\_\_\_\_

By \_\_\_\_\_ Fire Marshal

Inspection Fee Paid 160.00 CR#9820 REC#66555

Received by G. M. JOHNSON  
FIRE PREVENTION DIVISION

NOTICE

Before Covering Tanks Above Certificate Must Be Signed  
When ready for inspection notify Fire Prevention Bureau, 278-3451

THIS PERMIT MUST BE LEFT ON THE WORK AS AUTHORITY THEREFOR.

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

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8602; WITHIN CALIFORNIA, CALL 1-800-852-7550

91489016  
GENERATOR

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. <i>KIAC0007074080000001</i>	Manifest Document No. <i>01000000000000000000</i>	2. Page 1 of _____	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address <i>P.O. BOX 2064 530 WATER ST. OAKLAND, CA</i>		A. State Manifest Document Number <i>91489016</i>			B. State Generator's ID <i>204344</i>
4. Generator's Phone (510) <i>2721100</i>		C. State Transporter's ID <i>94604-2064</i>			D. Transporter's Phone <i>(510)783-2881</i>
5. Transporter 1 Company Name <i>TRIDENT TRUCK LINE, INC.</i>		6. US EPA ID Number <i>C, A, D, 9, 8, 2, 4, 8, 4, 3, 7, 0</i>			E. State Transporter's ID <i>(510)783-2881</i>
7. Transporter 2 Company Name		8. US EPA ID Number			F. Transporter's Phone
9. Designated Facility Name and Site Address <i>ERICKSON INCORPORATED 255 PARR BLVD. RICHMOND, CA 94801</i>		10. US EPA ID Number <i>C, A, D, 0, 0, 9, 4, 6, 6, 3, 9, 2</i>			G. State Facility's ID <i>C, A, D, 0, 0, 9, 4, 6, 6, 3, 9, 2</i>
					H. Facility's Phone <i>(510) 235-1393</i>

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers		13. Total Quantity	14. Unit Wt/Vol	15. Waste Number
	No.	Type			
a. <b>EMPTY TANK NON-RCRA HAZARDOUS WASTE SOLID</b>	<i>0</i>	<i>03</i>	<i>TP</i>	<i>1130000</i>	P
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above <i>QUANTITY 3 EMPTY STORAGE TANK(S) 8478</i> <i>8479 8480</i> <i>HAVE BEEN INERTED WITH 15 LBS. DRY ICE PER 1,000 GAL. CAPACITY</i>	K. Handling Codes for Wastes Listed Above a. <i>0</i> b. <i>0</i> c. <i>0</i> d. <i>0</i>
--	---

15. Special Handling Instructions and Additional Information  
**KEEP AWAY FROM SOURCES OF IGNITION. ALWAYS WEAR HARDEATS AND GLASSES WHEN WORKING AROUND UNDERGROUND STORAGE TANKS. 24 HR. CONTACT NAME: John Stewart AND PHONE: 510-2721100**

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 <i>X JOHN STEWART</i>	Signature <i>X John Stewart</i>	Month Day Year <i>04 11 1992</i>
---	------------------------------------	-------------------------------------

17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name <i>MIKE VERNAZZA</i>	Signature <i>Mike Vernazza</i>	Month Day Year <i>04 11 1992</i>
---	-----------------------------------	-------------------------------------

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 <i>Donald A Rosen</i>	Signature <i>Donald A Rosen</i>	Month Day Year <i>04 11 1992</i>
---	------------------------------------	-------------------------------------

DO NOT WRITE BELOW THIS LINE.

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

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. CA100100707402		Manifest Document No. TSPAL		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.			
3. Generator's Name and Mailing Address Part of Oakland Benth # 30 of 7TH ST Oakland CA 94601						A. State Manifest Document Number <b>90648169</b>					
4. Generator's Phone (510) 272-1100						B. State Generator's ID					
5. Transporter 1 Company Name Erickson, Inc.						US EPA ID Number 10000000000000000000		C. State Transporter's ID 202167			
7. Transporter 2 Company Name						US EPA ID Number		D. Transporter's Phone (510) 233-1393			
9. Designated Facility Name and Site Address Gibson Oil / Pilot Petroleum 475 Sea Port Blvd. Redwood City, Ca. 94606						US EPA ID Number 10000000000000000000		E. State Transporter's ID			
								F. Transporter's Phone			
								G. State Facility's ID CA100100707402			
								H. Facility's Phone (415) 368-5511			
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) a. RQ Hazardous Waste Liquids NOS ORM E NA9189 D018						12. Containers No. Type 0 0 1 TT		13. Total Quantity 1210 G		14. Unit Wt/Vol G	
						State 223		EPA/Other D018		State D018	
Additional Descriptions for Materials Listed Above Hydrocarbon Mixture With Water (99% Water, 1% Hydrocarbons) ACT GAL REC 922.19 60208281						K. Handling Codes for Wastes Listed Above a. 01		b.		State EPA/Other	
						c.		d.		State EPA/Other	
15. Special Handling Instructions and Additional Information Gibson Oil Waste Stream Profile # 10001 ERC 31 24 Hr. Contact STEWART 24 Hr. Phone # 272-1100											
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 JOHN STEWART				Signature <i>[Signature]</i>				Month Day Year 10/11/1992			
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Robert Noin				Signature <i>[Signature]</i>				Month Day Year 10/11/1992			
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 Bill Ledwin											
Signature <i>[Signature]</i>				Month Day Year 10/11/1992							

## APPENDIX B

### Chain-of-Custody Records and Analytical Laboratory Reports

Western Operations

1252 Quarry Lane  
P.O. Box 9019  
Pleasanton, CA 94566  
(510) 426-2600  
Fax (510) 426-0106

**Clayton**  
ENVIRONMENTAL  
CONSULTANTS

April 17, 1992

Ms. Elizabeth Wells  
GEOMATRIX CONSULTANTS  
100 Pine St., 10th Floor  
San Francisco, CA 94111

Client Ref. 2026.01B  
Clayton Project No. 92041.79

Dear Ms. Wells:

Attached is our analytical laboratory report for the samples received on April 15, 1992. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of 30 days after the date of this report, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Maryann Gambino, Client Services Supervisor, at (510) 426-2657.

Sincerely,

*Michael Lynch for*

Ronald H. Peters, CIH  
Director, Laboratory Services  
Western Operations

RHP/tb  
Attachments

Results of Analysis  
for  
Geomatrix Consultants

Client Reference: 2026.01B  
Clayton Project No. 92041.79

Sample Identification:	POK-EX-1	Date Sampled:	04/15/92
Lab Number:	9204179-01A	Date Received:	04/15/92
Sample Matrix/Media:	SOIL	Date Prepared:	04/16/92
Preparation Method:	EPA 5030	Date Analyzed:	04/16/92
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	---	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	---	ND	0.3
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u> LCL UCL
a,a,a-Trifluorotoluene	98-08-8	95	50 - 150

ND Not detected at or above limit of detection  
 -- Information not available or not applicable  
 Results are reported on a wet weight basis, as received

Results of Analysis  
for  
Geomatrix Consultants

Client Reference: 2026.01B  
Clayton Project No. 92041.79

Sample Identification:	POK-EX-2	Date Sampled:	04/15/92
Lab Number:	9204179-02A	Date Received:	04/15/92
Sample Matrix/Media:	SOIL	Date Prepared:	04/16/92
Preparation Method:	EPA 5030	Date Analyzed:	04/16/92
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	---	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	---	ND	0.3
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u> LCL UCL
a,a,a-Trifluorotoluene	98-08-8	85	50 - 150

ND Not detected at or above limit of detection  
-- Information not available or not applicable  
Results are reported on a wet weight basis, as received

Results of Analysis  
for  
Geomatrix Consultants

Client Reference: 2026.01B  
Clayton Project No. 92041.79

Sample Identification:	POK-EX-3	Date Sampled:	04/15/92
Lab Number:	9204179-03A	Date Received:	04/15/92
Sample Matrix/Media:	SOIL	Date Prepared:	04/16/92
Preparation Method:	EPA 5030	Date Analyzed:	04/16/92
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	---	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	---	ND	0.3
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u> LCL UCL
a,a,a-Trifluorotoluene	98-08-8	95	50 - 150

ND Not detected at or above limit of detection  
-- Information not available or not applicable  
Results are reported on a wet weight basis, as received



Results of Analysis  
for  
Geomatrix Consultants

Client Reference: 2026.01B  
Clayton Project No. 92041.79

Sample Identification:	POK-EX-4	Date Sampled:	04/15/92
Lab Number:	9204179-04A	Date Received:	04/15/92
Sample Matrix/Media:	SOIL	Date Prepared:	04/16/92
Preparation Method:	EPA 5030	Date Analyzed:	04/16/92
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	---	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	---	ND	0.3
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u> LCL UCL
a,a,a-Trifluorotoluene	98-08-8	101	50 - 150

ND Not detected at or above limit of detection  
 -- Information not available or not applicable  
 Results are reported on a wet weight basis, as received

Results of Analysis  
for  
Geomatrix Consultants

Client Reference: 2026.01B  
Clayton Project No. 92041.79

Sample Identification:	POK-EX-5	Date Sampled:	04/15/92
Lab Number:	9204179-05A	Date Received:	04/15/92
Sample Matrix/Media:	SOIL	Date Prepared:	04/16/92
Preparation Method:	EPA 5030	Date Analyzed:	04/16/92
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	---	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	---	ND	0.3
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u> LCL UCL
a,a,a-Trifluorotoluene	98-08-8	92	50 - 150

ND Not detected at or above limit of detection  
 -- Information not available or not applicable  
 Results are reported on a wet weight basis, as received

Results of Analysis  
for  
Geomatrix Consultants

Client Reference: 2026.01B  
Clayton Project No. 92041.79

Sample Identification:	POK-EX-6	Date Sampled:	04/15/92
Lab Number:	9204179-06A	Date Received:	04/15/92
Sample Matrix/Media:	SOIL	Date Prepared:	04/16/92
Preparation Method:	EPA 5030	Date Analyzed:	04/16/92
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	---	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	---	ND	0.3
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u> LCL UCL
a,a,a-Trifluorotoluene	98-08-8	106	50 - 150

ND Not detected at or above limit of detection  
 -- Information not available or not applicable  
 Results are reported on a wet weight basis, as received

Results of Analysis  
for  
Geomatrix Consultants

Client Reference: 2026.01B  
Clayton Project No. 92041.79

Sample Identification:	COMP OF POK-SP-1, 2, 3 & 4	Date Sampled:	04/15/92
Lab Number:	9204179-11A	Date Received:	04/15/92
Sample Matrix/Media:	SOIL	Date Prepared:	04/16/92
Preparation Method:	EPA 5030	Date Analyzed:	04/16/92
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	0.033	0.005
Ethylbenzene	100-41-4	0.007	0.005
p,m-Xylenes	---	0.033	0.005
o-Xylene	95-47-6	0.011	0.005
Gasoline	---	0.5 a	0.3
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u> LCL UCL
a,a,a-Trifluorotoluene	98-08-8	97	50 - 150

ND Not detected at or above limit of detection  
-- Information not available or not applicable  
Results are reported on a wet weight basis, as received

<sup>a</sup> Purgeable hydrocarbons quantitated as gasoline do not match typical gasoline pattern

Results of Analysis  
for  
Geomatrix Consultants

Client Reference: 2026.01B  
Clayton Project No. 92041.79

Sample Identification: COMP OF POK-SP-5, 6, 7 & 8 Date Sampled: 04/15/92  
Lab Number: 9204179-16A Date Received: 04/15/92  
Sample Matrix/Media: SOIL Date Prepared: 04/16/92  
Preparation Method: EPA 5030 Date Analyzed: 04/16/92  
Analytical Method: EPA 8015/8020

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	---	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	---	ND	0.3
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u> LCL UCL
a,a,a-Trifluorotoluene	98-08-8	103	50 - 150

ND Not detected at or above limit of detection  
-- Information not available or not applicable  
Results are reported on a wet weight basis, as received

Results of Analysis  
for  
Geomatrix Consultants

Client Reference: 2026.01B  
Clayton Project No. 92041.79

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9204179-17A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	04/16/92
Preparation Method:	EPA 5030	Date Analyzed:	04/16/92
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	---	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	---	ND	0.3
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u> LCL UCL
a,a,a-Trifluorotoluene	98-08-8	103	50 - 150

ND Not detected at or above limit of detection  
 -- Information not available or not applicable  
 Results are reported on a wet weight basis, as received

Results of Analysis  
 for  
 Geomatrix Consultants

Client Reference: 2026.01B  
 Clayton Project No. 92041.79

Sample Matrix/Media: SOIL Date Received: 04/15/92  
 Preparation Method: EPA 3550 Date Prepared: 04/16/92  
 Analysis Method: EPA 8015 Date Analyzed: 04/16/92

Lab No.	Sample ID	Date Sampled	Diesel (mg/kg)
01A	POK-EX-1	04/15/92	ND
02A	POK-EX-2	04/15/92	ND
03A	POK-EX-3	04/15/92	ND
04A	POK-EX-4	04/15/92	ND
05A	POK-EX-5	04/15/92	NDa
06A	POK-EX-6	04/15/92	NDb
11A	COMP OF POK-SP-1, 2, 3 & 4	04/15/92	NDb
16A	COMP OF POK-SP-5, 6, 7 & 8	04/15/92	NDb
17A	METHOD BLANK	--	ND

Detection Limit: 1

ND Not detected at or above limit of detection  
 < Not detected at or above limit of detection  
 -- Information not available or not applicable

Results are reported on a wet weight basis, as received  
 a Detection limit increased to 5 mg/kg due to presence of heavier hydrocarbons  
 b Detection limit increased to 2 mg/kg due to presence of heavier hydrocarbons

Results of Analysis  
 for  
 Geomatrix Consultants

Client Reference: 2026.01B  
 Clayton Project No. 92041.79

Sample Matrix/Media:	SOIL	Date Received:	04/15/92
Preparation Method:	EPA 3050	Date Prepared:	04/16/92
Analysis Method:	EPA 6010	Date Analyzed:	04/16/92

Lab No.	Sample ID	Date Sampled	Lead (mg/kg)
01A	POK-EX-1	04/15/92	2
02A	POK-EX-2	04/15/92	9
03A	POK-EX-3	04/15/92	2
04A	POK-EX-4	04/15/92	8
11A	COMP OF POK-SP-1, 2, 3 & 4	04/15/92	10
16A	COMP OF POK-SP-5, 6, 7 & 8	04/15/92	17
17A	METHOD BLANK	--	<1

Detection Limit: 1

ND Not detected at or above limit of detection  
 < Not detected at or above limit of detection  
 -- Information not available or not applicable

Results are reported on a wet weight basis, as received



# Chain-of-Custody Record

No. 0623

Date: 4-15-92

Page 1 of 1

Project No.: ~~2026.01 B~~ 2026.01 B

Samplers (Signatures):

*Stacy Anich*

## ANALYSES

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TOTAL Pb (AA)	COMPOSITE SAMPLES	Cooled	Soil (S) or water (W)	Acidified	Number of containers
4/15	1600	POK-EX-1					X	X	X	X			S		1
4/15	1535	POK-EX-2					X	X	X	X					1
4/15	1540	POK-EX-3					X	X	X	X					1
4/15	1545	POK-EX-4					X	X	X	X					1
4/15	1530	POK-EX-5					X	X	X						1
4/15	1550	POK-EX-6					X	X	X						1
	1145	POK-SP-1 →					X	X	X	X	X				4
		POK-SP-4					X	X	X	X	X				4
		POK-SP-5					X	X	X	X					
		POK-SP-8					X	X	X	X					

## REMARKS

Additional comments

RUSH 48-HR TAT

Please homogenize samples before analyzing for lead

Turnaround time:

48-Hour TAT

Results to:

ELIZABETH WEISS

Total No. of containers:

14

Relinquished by:

Signature:

*Stacy Anich*

Printed name:

STACY ANICH

Company:

Geomatrix

Received by:

Signature:

*Jim Mitchell*

Printed name:

JIM MITCHELL

Company:

CLAYTON ENV.

Date:

4/15/92

Relinquished by:

*Jim Mitchell*

Signature:

JIM MITCHELL

Printed name:

CLAYTON ENV.

Company:

Time:

1640

Received by:

*Rebecca Chiarello*

Signature:

REBECCA CHIARELLO

Printed name:

CLAYTON

Company:

Date:

4/15/92

Relinquished by:

Signature:

Printed name:

Company:

Time:

1735

Received by:

Signature:

Printed name:

Company:

Date:

Signature:

Printed name:

Company:

Time:

Method of shipment:

pick-up

Laboratory comments and Log No.:

9204173

OK



Geomatrix Consultants

100 Pine St. 10th Floor  
San Francisco, CA. 94111  
(415) 434-9400

Western Operations

1252 Quarry Lane  
P.O. Box 9019  
Pleasanton, CA 94566  
(510) 426-2600  
Fax (510) 426-0106

**Clayton**  
ENVIRONMENTAL  
CONSULTANTS

April 20, 1992

Ms. Elizabeth Wells  
GEOMATRIX CONSULTANTS  
100 Pine St., 10th Floor  
San Francisco, CA 94111

Client Ref. 2026.01B/201532  
Clayton Project No. 92041.92

Dear Ms. Wells:

Attached is our analytical laboratory report for the samples received on April 16, 1992. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of 30 days after the date of this report, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Maryann Gambino, Client Services Supervisor, at (510) 426-2657.

Sincerely,



Ronald H. Peters, CIH  
Director, Laboratory Services  
Western Operations

RHP/tb  
Attachments

Results of Analysis  
for  
Geomatrix Consultants

Client Reference: 2026.01B/201532  
Clayton Project No. 92041.92

Sample Identification:	POK-GW-1	Date Sampled:	04/16/92
Lab Number:	9204192-01A	Date Received:	04/16/92
Sample Matrix/Media:	WATER	Date Prepared:	04/17/92
Preparation Method:	EPA 5030	Date Analyzed:	04/17/92
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	3.4	0.4
Toluene	108-88-3	1.4	0.3
Ethylbenzene	100-41-4	62	0.3
p,m-Xylenes	---	690	0.4
o-Xylene	95-47-6	170	0.4
Gasoline	---	4,100	50

<u>SURROGATE</u>		<u>RECOVERY (%)</u>	<u>LIMITS (%)</u>
a,a,a-Trifluorotoluene	98-08-8	108	50 - 150

ND Not detected at or above limit of detection  
-- Information not available or not applicable

Results of Analysis  
for  
Geomatrix Consultants

Client Reference: 2026.01B/201532  
Clayton Project No. 92041.92

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9204192-02A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	04/17/92
Preparation Method:	EPA 5030	Date Analyzed:	04/17/92
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.4
Toluene	108-88-3	ND	0.3
Ethylbenzene	100-41-4	ND	0.3
p,m-Xylenes	---	ND	0.4
o-Xylene	95-47-6	ND	0.4
Gasoline	---	ND	50
<u>SURROGATE</u>		<u>RECOVERY (%)</u>	<u>LIMITS (%)</u>
a,a,a-Trifluorotoluene	98-08-8	101	50 - 150

ND Not detected at or above limit of detection  
-- Information not available or not applicable

Results of Analysis  
for  
Geomatrix Consultants

Client Reference: 2026.01B/201532  
Clayton Project No. 92041.92

Sample Identification: POK-GW-1  
Lab Number: 9204192-01  
Sample Matrix/Media: WATER

Date Sampled: 04/16/92  
Date Received: 04/16/92

Analyte	Concentration	Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Analysis Method
Diesel	ND	200a	ug/L	04/16/92	04/16/92	EPA 3510	EPA 8015
Lead	<0.05	0.05	mg/L	04/16/92	04/16/92	EPA 200.7	EPA 200.7

ND Not detected at or above limit of detection  
< Not detected at or above limit of detection  
-- Information not available or not applicable

a Detection limit increased due to presence of gasoline

Results of Analysis  
for  
Geomatrix Consultants

Client Reference: 2026.01B/201532  
Clayton Project No. 92041.92

Sample Identification: METHOD BLANK  
Lab Number: 9204192-02  
Sample Matrix/Media: WATER

Date Sampled: --  
Date Received: --

Analyte	Concentration	Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Analysis Method
Diesel	ND	50	ug/L	04/16/92	04/16/92	EPA 3510	EPA 8015
Lead	<0.05	0.05	mg/L	04/16/92	04/16/92	EPA 200.7	EPA 200.7

ND Not detected at or above limit of detection  
< Not detected at or above limit of detection  
--- Information not available or not applicable

9200192

<b>Chain-of-Custody Record</b>	No. <b>0624</b>	Date: <b>4-16-92</b>	Page <b>1</b> of <b>1</b>
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Project No.: <b>2026.01 B</b>			ANALYSES											REMARKS														
Samplers (Signatures): <i>Stacy Anich</i>			EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	Total Pb													Additional comments					
Date	Time	Sample Number																										
4/16	1100	POK-GW-1					X	X	X	X																		<b>RUSH 48-HR TAT</b> Please filter + preserve sample for lead at the lab Please peel Pot of Oakland directly work order # 201532
			Turnaround time: <b>48-HR TAT</b>											Results to: <b>ELIZABETH WELLS</b>				Total No. of containers: <b>4</b>										

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:	Method of shipment:
Signature: <i>Stacy Anich</i>	4-16-1992	Signature: <i>Jim Mitchell</i>	4/16/92	Signature:		<b>Pick up</b>
Printed name: <b>STACY ANICH</b>		Printed name: <b>JIM MITCHELL</b>		Printed name:		
Company: <b>Geomatrix</b>		Company: <b>CLAYTON ENV.</b>		Company:		
Received by:	Time:	Received by:	Time:	Received by:	Time:	Laboratory comments and Log No.:
Signature: <i>Rebecca L. Chiarulo</i>	11:15	Signature: <i>Rebecca L. Chiarulo</i>	12:00	Signature:		
Printed name: <b>JIM MITCHELL</b>		Printed name: <b>REBECCA L. CHIARULO</b>		Printed name:		
Company: <b>CLAYTON ENV.</b>		Company: <b>CLAYTON</b>		Company:		

**Geomatrix Consultants**  
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