

April 22, 1992

Project No. 6-92-5314

6/25/92  
\* install a M. well  
\* monitor every 3 months for TPH compounds  
metals.

DRAFT

Mr. Ravi Arulanantham  
Alameda County Health Care Services Agency  
Department of Environmental Health  
80 Swan Way, Room 200  
Oakland, California 94021

**SUBJECT: Alcopark Facility, 165-13th Street, Oakland, California**

Dear Mr. Arulanantham:

Environmental Science & Engineering, Inc. (ESE) was contracted by the County of Alameda General Services Agency (GSA) to provide professional environmental consulting services related to the removal of one waste oil storage tank located at the subject facility. ESE presents this post-closure report in accordance with Alameda County Health Care Agency (HCA) permit requirements. The following information is submitted in support of this tank closure.

#### TANK HISTORY

The County of Alameda General Services Agency owned and operated one 550 gallon waste oil storage tank at the subject facility. Alcopark, a county-owned parcel, is located on the corner of 13th and Jackson Streets in Oakland, California (see Figure 1, "Location Map" and Figure 2, "Site Plan"). The tank, which was of single walled, carbon steel construction, was located in the basement of this facility.

The Alcopark basement is used for vehicle parking and the maintenance of county-owned vehicles. The waste oil tank was utilized for the storage of used crankcase motor oil, and was filled via three remote fills. The remote fills are a network of buried pipe which gravity feeds the waste oil tank (see Figure 3, "Tank Plan"). The waste oil storage tank was routinely evacuated every three months. The tank, which was buried below the floor, was precision tested in 1989 and tested tight at that time. It should be noted that noticeable spillage of waste oil around the tank fill riser (located within a concrete sump directly over the tank) was observed during the preliminary site visit.

Two operational gasoline storage tanks exist at this site on the corner of 13th and Jackson, 4 feet below street level. A piping leak from these tanks has occurred in the past, and

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gasoline constituents have been detected in ground water beneath these tanks. As a result, ground-water monitoring has been initiated in the vicinity of the gasoline tanks.

### TANK CLOSURE ACTIVITIES

1. Evacuation of existing waste oil in the tank was conducted by Waste Oil Recovery of Oakland, California, on Wednesday, February 12, 1992. Approximately 100 gallons of waste oil and water (used to rinse the tank) were removed. Additionally, a small amount (<5 gallons) of waste oil pooled within the concrete containment sump around the fill neck, was also removed. These fluids were transported by Waste Oil Recovery to Demenno Kerdoon, 200 N. Alameda, Compton, California, State-licensed treatment storage and disposal facility (TSDF). A copy of the disposal manifest is attached.
2. Permits for this tank removal were procured by Aqua Science Engineers (ASE), subcontractor to ESE, from the cognizant agencies. This tank closure was conducted under Alameda County Health Care Agency permit HCA 7782. Copies of these permits are attached.
3. Excavation and removal, of a nine foot by nine foot section of concrete from the basement floor over the tank, was conducted on Thursday, February 13, 1992. Soil was removed to free the tank from the excavation pit. This soil was temporarily stockpiled near the excavation (see Figure 3 for stockpile location). The tank internal atmosphere was rendered inert by the addition of 15 pounds of dry ice. In the presence of Mr. Ravi Arulanantham of HCA and Mr. Marlon Brundle of the City of Oakland Fire Prevention Bureau, the waste oil storage tank was lifted from the excavation and loaded onto a flatbed truck. The tank was inspected, and while no holes were found, corrosion along the bottom two feet of the tank was noted. The tank was manifested as a hazardous waste, and transported to Erikson Environmental, of Richmond, California, a state licensed TSDF. A copy of the tank manifest is attached.
4. Piping from the three remote fills to the tank was cut and capped at the limit of excavation. This piping was rinsed, grouted and abandoned in place. Removal of the piping would have required the removal of an area of concrete flooring in a personnel work area and a disruption of vehicle maintenance work.
5. The final dimensions of the tank excavation were nine feet by ten feet by eight and one-half feet in depth. The tank top was located five feet below the concrete floor and the bottom of the tank was nine feet below the concrete floor. Soil excavated from the tank pit consisted of a silty sand imported tank fill material. After tank removal, this imported tank fill material was completely excavated and removed from the tank pit.

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Native soil was observed to consist of a sandy silt, containing up to 50 percent sand. No native soil was removed during excavation activities.

Ground water was encountered at eight and one-half feet below ground surface, contaminated by a hydrocarbon sheen. This depth to ground water is consistent with that observed in the monitoring wells located near the fuel tanks at the intersection of Jackson and 13th Street. After excavation of backfill, a small lens of hydrocarbon stained soil was noted on the southeast excavation pit wall between four and six feet below the concrete floor. No root holes or other potential contaminant pathways were observed.

6. Soil samples were collected by ESE from two side walls of the excavation pit (as directed by the HCA representative) and from three locations near the remote fill ports in the service bay area (see Figure 3) as required by HCA Permit. The two excavation pit soil samples, sample identifications (ID's) WOTP-FE-8' and WOTP-DL-8', were collected at a depth of eight feet below the concrete floor. The three remote fill soil samples, sample ID's: WOL-1-4', WOL-2-4' and WOL-3-4' were collected at a depth of four feet below the concrete floor adjacent to each remote fill. Additionally, four soil stockpile samples, sample ID's: SS-WO-1, 2, 3 and 4, were collected (see Figure 3). These samples were collected approximately 18 inches below the surface of the stockpile at the locations shown. Soil samples from around the remote fill line were collected utilizing a slide hammer sampler fitted with two-inch diameter brass rings. Soil samples from the stockpiled soil were collected manually utilizing two inch brass rings. Soil samples from the excavation pit were collected utilizing a four inch hand auger bit. Soil was transferred from the auger bucket to two-inch diameter brass rings. The brass sampling ring ends were covered with Teflon tape, plastic end caps, and sealed with duct tape.

A ground-water sample was collected from standing ground-water within the excavation pit (see Figure 3) after approximately 60 gallons of water was purged from the pit. This sample, sample ID WOP-GW-8.5', was collected at a depth of eight and one-half feet below ground surface utilizing a disposable polyethylene bailer. The sample was placed in four, one-liter amber bottles, four 90 ml VOA's and one plastic pint bottle. The purge water was stored in two 55 gallon drums, and remains on site.

All samples were placed in a cooler with ice and transported to Curtis and Tompkins, Ltd., a California Department of Health Services (DHS) certified analytical laboratory. All samples were analyzed by the following methods:

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- EPA Method 8015M for Total Volatile Hydrocarbons (TVH) as Gasoline;
  - EPA Method 8020 for Benzene, Toluene, Ethylbenzene, and Xylene (BTEX);
  - EPA Method 8015M for Total Extractable Hydrocarbons (TEH) as Diesel;
  - Standard Methods for Water & Wastewater (SMWW) 5520 for Total Oil and Grease (TOG);
  - EPA Method 8270 for Semi-Volatile Organics;
  - Methods 6010, 7421 for Total Lead, Cadmium, Chromium, Zinc and Nickel; and
  - EPA Method 8010 for Chlorinated Organics.
7. Tables 1-4 summarize sample ID's, analytical methods, and analytical results. Copies of laboratory reports and chain of custody documentation are attached.
8. On Friday, February 14, 1992 Aqua Science Engineers backfilled and compacted the excavation with clean import fill (crushed rock). This area was repaved with reinforced concrete to match the former condition.
9. The stockpiled soil resulting from the excavation was transported off-site to Santa Rita Rehabilitation Center, Dublin, California on March 13, 1992. Based on laboratory results this material is viewed as non-hazardous waste soil and was transported without manifest. The soil, approximately 25 cubic yards, was delivered to Santa Rita and spread over plastic sheeting. This material will be periodically turned/aerated. Prior to final disposal or re-use of this soil, it will be resampled and analyzed for oil and grease, petroleum hydrocarbons and semi-volatile hydrocarbons. Final disposition of this material will be reported to HCA.

## DISCUSSION

Analysis of soil samples collected from tank pit sidewalls after removal of tank backfill (sample ID WOTP-DL-8' and WOTP-FE-8') resulted in non-detectable concentrations of TVH-gasoline, Benzene, Toluene, Ethylbenzene, TEH-diesel/kerosene, TOG, semi-volatile organics, chlorinated organics, and total lead (Pb). Sample WOTP-FE-8' had nondetectable concentrations of total xylenes and sample WOTP-FE-8' had 6.8 micrograms per kilogram total xylenes. Concentrations of Cadmium (Cd), Chromium (Cr), and Zinc (Zn) are each less than the State of California, Title 22, Total Threshold Limit Concentration (TTLC) and Soluble Threshold Limit Concentration (STLC). Concentrations of Nickel (Ni) are less than TTLC but exceed STLC. The concentrations of Ni are consistent with concentrations of Ni measured in soil samples from the remote fill area and soil stockpiles.

Analysis of the composite soil sample of tank piping runs (Sample ID COMP WOL-1, 2, 3) resulted in detectable concentrations of TVH-gasoline, Toluene, and Total Xylenes. TEH-

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diesel and TOG were also detected. No chlorinated hydrocarbons were detected. Concentrations of Zn, Cd, and Pb were below STLC limits and concentrations of Ni were consistent with all observed concentrations of Ni from soil stockpiles and tank pit. Analysis of the tank piping run soil composite for semi-volatile organics reported constituents in concentrations ranging from 380 to 740 micrograms per kilogram.

Analysis of a composite of soil samples collected from the stockpile (sample ID COMP SS-WO-1, 2, 3, 4) resulted in detectable concentrations of TVH-gasoline, Toluene, Ethylbenzene, Xylenes, TEH-diesel, and TOG. Concentrations of metals (Cd, Cr, Zn, Pb, and Ni) were consistent with metal concentrations from other soil samples analyzed from the site. Analysis for chlorinated hydrocarbons reported concentrations of trichloroethylene. Analysis for semi-volatile organics reported a maximum concentration of 3,100 micrograms per kilogram.

Analysis of the ground water sample collected from the tank pit (sample ID WOP-GW-8.5') resulted in detectable concentrations of TVH-gasoline, BTEX, and kerosene. Concentrations of metals are less than Maximum Contaminant Level (MCL), where applicable, and less than STLC's for other metals. Concentrations of chlorinated organics were detected to a maximum of 320 micrograms per liter. Concentrations of semi-volatile organics to a maximum of 120 micrograms per liter were detected.

### CONCLUSIONS

Based on the results of soil samples collected from the tank pit walls at 8 feet below floor level, it appears that the walls of the tank pit were not impacted by waste oil constituents. The observed spillage in the vicinity of the tank riser apparently migrated vertically through the granular import tank backfill, around the sides of the tank, and into ground water.

Low concentrations of waste oil constituents were detected in soil samples collected at the remote fills along the waste oil tank pipe run. Low concentrations of volatile organics, semi-volatile organics, and TEH-diesel were detected in soils collected along the pipe run. No chlorinated organics were detected. This remote-fill piping sloped downward to the tank and contained product only during filling of the tank. The line was empty during all other times. The source of the detectable concentrations of waste oil constituents in the soil samples collected from the vicinity of each of the tank remote-fill pipes is not apparent. Each remote-fill pipe was sealed at the floor surface. Due to the concrete floor's vapor barrier, spillage of waste oil from the floor surface to the subsurface is not likely.

Low concentrations of semi-volatile organics, volatile organics, TOG, and chlorinated organics were detected in the soil stockpiles. This is probably a result of past poor waste

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Mr. Ravi Arulanantham  
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oil management practices and local spillage in the vicinity of the tank riser. This soil material was classified as non-hazardous and transported off site.

Analysis of the ground-water sample collected from the open tank excavation indicated detectable concentrations of TVH-gasoline, TEH-diesel, BTEX, semi-volatile organics, chlorinated organics, and metals. Ground-water monitoring for gasoline constituents has been conducted for the last 1.5 years at this facility. It is conceivable that the observed gasoline and BTEX in the ground water may originate from this other source (gasoline tanks located on the corner of 13th Street and Jackson Street). The diesel fuel observed in the ground-water probably originated from the waste oil tank overspillage. Of the semi-volatile organics found in the ground water, only naphthalene was found in soil from the tank pit and fill areas and none of the chemicals reported are listed in California Drinking Water Standards. Of the chlorinated compounds, only tetrachloroethylene (PCE) was found in soil and of the compounds detected in ground water, only PCE and 1,1, trichloroethane (TCA) exceed MCLs.

#### **RECOMMENDATIONS**

Based on the concentrations of petroleum hydrocarbons observed in soil samples, ESE recommends that closure be granted for the vadose zone and no further vadose zone investigation work be required.

. . . .

Our professional services have been performed using that degree of care and skill ordinarily exercised under similar circumstances by other hydrogeologists and engineers practicing in this field. No other warranty, express or implied, is made as to the professional advice in this report.

Please contact Patrick Galvin at (510) 685-4053 with any questions regarding this work.

Sincerely,

**ENVIRONMENTAL SCIENCE & ENGINEERING, INC.**

  
Patrick Galvin  
Senior Engineer

Susan Wickham, RG 3851  
Senior Geologist

Figures (3)

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Tables (4)  
Attachments (4)

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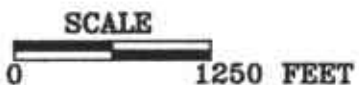
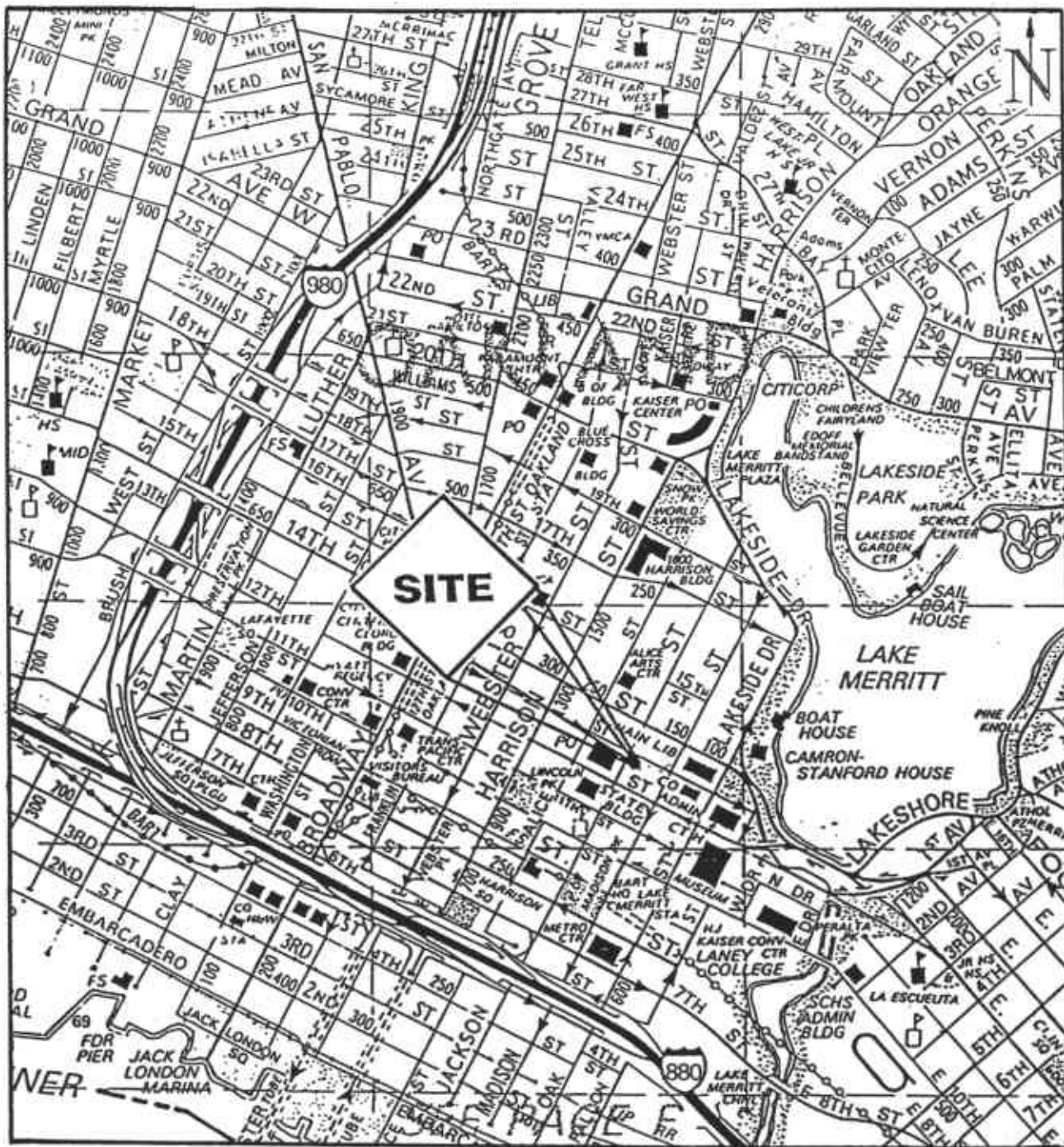
## **FIGURES**

**Figure 1 - Location Map**

**Figure 2 - Site Plan**

**Figure 3 - Tank Plan**



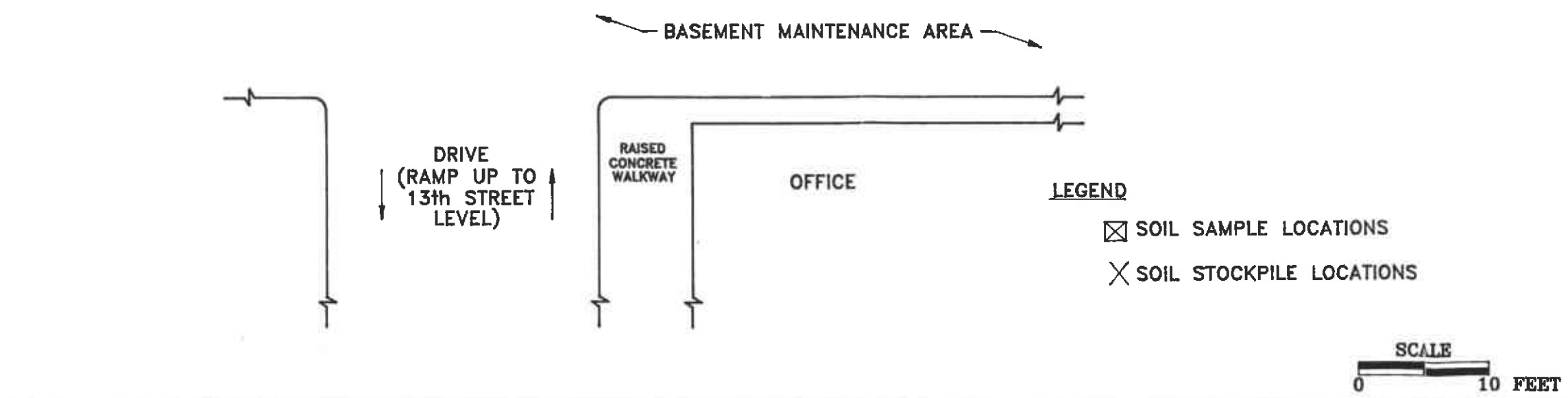
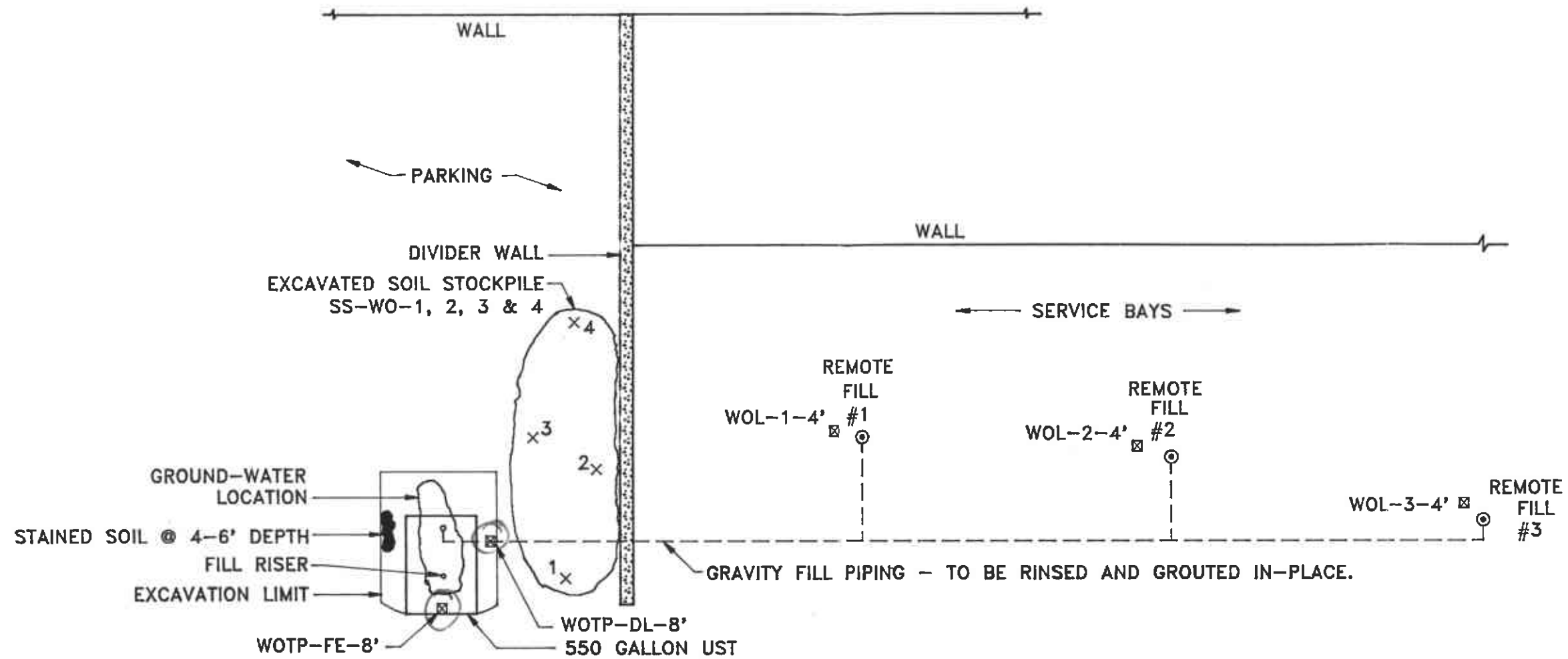


**Environmental  
Science &  
Engineering, Inc.**

**ALAMEDA COUNTY  
ALCOPARK  
OAKLAND, CA**

**FIGURE 1  
LOCATION MAP**

DRAWN BY CVS	APPROVED BY	REVISED 5/91 CVS
DATE 11/90	FILE NAME FILM10	PROJ. NO. 6-90-5042



		Environmental Science & Engineering, Inc.
ALAMEDA COUNTY GSA ALCOPARK 165 13th ST, OAKLAND CALIFORNIA		
FIGURE 3 TANK PLAN		
DRAWN BY DWR	APPROVED BY 	REVISION 4/92 DWR
DATE 6/91	FILE NAME F1UST10	PROJ. NO. 6-90-5122

## **TABLES**

- Table 1 - Analytical Results: Soil Samples from Excavation Pit Walls**
- Table 2 - Analytical Results: Soil Samples from Remote Fill Areas**
- Table 3 - Analytical Results: Stockpile Soil Samples**
- Table 4 - Analytical Results: Ground-Water Sampling from Excavation Pit**

**TABLE 1 - ANALYTICAL RESULTS  
SOIL SAMPLES FROM EXCAVATION PIT WALLS**

SAMPLE ID	TVH AS GASOLINE (mg/Kg)	BENZENE (µg/Kg)	TOLUENE (µg/Kg)	ETHYL BENZENE (µg/Kg)	TOTAL XYLENES (µg/Kg)	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	OIL & GREASE (mg/Kg)	SEMI VOLATILE ORGANICS (8270) (µg/Kg)	CHLORINATED HYDROCARBONS (8010) (µg/Kg)
WOTP-DL-8'	ND	ND	ND	ND	6.8	ND	ND	ND	ND	ND
WOTP-FE-8'	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

**TOTAL METALS  
(mg/Kg)**

SAMPLE ID	CADMIUM	CHROMIUM	LEAD	NICKEL	ZINC
WOTP-DL-8'	0.28	39.7	ND	30.9	18.2
WOTP-FE-8'	ND	43.6	ND	35.1	20.4

ND = Not detected at or above reporting limit.

**TABLE 2 - ANALYTICAL RESULTS  
SOIL SAMPLES FROM REMOTE FILL AREAS**

SAMPLE ID	TVH AS GASOLINE (mg/Kg)	BENZENE (µg/Kg)	TOLUENE (µg/Kg)	ETHYL BENZENE (µg/Kg)	TOTAL XYLENES (µg/Kg)	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	OIL & GREASE (mg/Kg)	CHLORINATED HYDROCARBONS (8010) (µg/Kg)
COMP WOL-1, 2, 3	1.8	ND	11	ND	21	**	140	70	ND
<b>TOTAL METALS (mg/Kg)</b>									
SAMPLE ID	CADMIUM	CHROMIUM	LEAD	NICKEL	ZINC				
COMP WOL-1, 2, 3	ND	41.2	ND	30.8	25.5				
<b>SEMI VOLATILE ORGANICS (8270) (µg/Kg)</b>									
SAMPLE ID	PHENANTHRENE	FLUORANTHENE	PYRENE						
COMP WOL-1, 2, 3	740	440	380						

ND = Not detected at or above reporting limit.

\*\* Kerosene range not reported

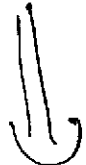
**TABLE 3 - ANALYTICAL RESULTS  
STOCKPILE SOIL SAMPLES**

SAMPLE ID	TVH AS GASOLINE (mg/Kg)	BENZENE (µg/Kg)	TOLUENE (µg/Kg)	ETHYL BENZENE (µg/Kg)	TOTAL XYLENES (µg/Kg)	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	OIL & GREASE (mg/Kg)	
COMP SS-WO-1 SS-WO-2 SS-WO-3 SS-WO-4	13*	ND	39	99	710	ND	53	250	
<b>TOTAL METALS (mg/Kg)</b>									
SAMPLE ID	CADMIUM	CHROMIUM	LEAD	NICKEL	ZINC				
COMP SS-WO-1 SS-WO-2 SS-WO-3 SS-WO-4	ND	42.0	ND	31.7	32.5				
<b>SEMI VOLATILE ORGANICS (8270) (µg/Kg)</b>									
SAMPLE	NAPHTHALENE	2-METHYLNAPHTHALENE	ACENAPHTHENE	DIBENZOFURAN	FLUORENE	PHENANTHRENE	FLUORANTHENE	INDENO (1,2,3-cd) PYRENE	BENZO (K) FLUORANTHENE
COMP SS-WO-1 SS-WO-2 SS-WO-3 SS-WO-4	1,400	1,300	510	350	570	3,100	1,700	340	1,000
<b>CHLORINATED HYDROCARBONS (8010) (µg/Kg)</b>									
<b>TETRACHLOROETHYLENE</b>									
COMP SS-WO-1 SS-WO-2 SS-WO-3 SS-WO-4	300								

ND = Not detected at or above reporting limit.  
\* Pattern does not match gasoline standard.

**TABLE 4 - ANALYTICAL RESULTS  
GROUND-WATER SAMPLE FROM EXCAVATION PIT**

SAMPLE ID	TVH AS GASOLINE (µg/L)	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL BENZENE (µg/L)	TOTAL XYLENES (µg/L)	KEROSENE RANGE (µg/L)	DIESEL RANGE (µg/L)	OIL & GREASE (mg/L)
WOP-GW-8.5'	2,800 <i>3 ppm</i>	<b>52</b>	200	40	310	19,000 <i>19 ppm</i>	**	ND
TOTAL METALS (µg/L)								
SAMPLE ID	CADMIUM	CHROMIUM	LEAD	NICKEL	ZINC			
WOP-GW-8.5'	ND	ND	5.7	70	<b>270</b>			
SEMI VOLATILE ORGANICS (8270) (µg/L)								
SAMPLE ID	PHENOL	2-METHYLPHENOL	4-METHYLPHENOL	NAPHTHALENE				
WOP-GW-8.5'	102	90	120	30				
CHLORINATED HYDROCARBONS (8010) (µg/L)								
SAMPLE ID	TRICHLOROFLUOROMETHANE	1,1-DICHLOROETHENE	1,1,1-TRICHLOROETHANE	TETRACHLOROETHENE				
WOP-GW-8.5'	110	5.5	<b>320</b>	75				



*3 3 6*

\*\* Diesel Range not reported.

## **ATTACHMENTS**

- **Hazardous Waste Disposal Manifest - Tank Contents**
- **Permits**
- **Hazardous Waste Disposal Manifest - Tank**
- **Laboratory Reports and Chain-of-Custody Documentation**





Project Specialist (print) Paul M. Smith 2/5/92

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

ACCEPTED

DEPARTMENT OF ENVIRONMENTAL HEALTH  
470 - 47th Street, Third Floor  
Oakland, CA 94612  
Telephone: (415) 974-7237

These plans have been reviewed and found to be acceptable and essentially meet 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 project proposed herein is now released in accordance of any required building permits for construction. One copy of these accepted plans must be on file and available to all contractors and all teams involved with the removal.

Any change or alteration of these plans must be submitted to this Department for review and approval. Building Inspection Division will be notified of any changes made to these plans. Notify this Department if you have any questions following required inspections.

Removal of Tank and Contents  
 Excavation  
 Backfill operation

Issuance of a permit is subject to compliance with all applicable regulations with accepted plans and all applicable regulations.

THERE IS A FEE FOR THIS SERVICE.  
GENERAL TANKING REGULATIONS

**UNDERGROUND TANK CLOSURE PLAN**  
**\* \* \* Complete according to attached instructions \* \* \***

- Business Name ALCOPARK  
Business Owner Alameda County General Services Agency
- Site Address 165 13th Street  
City Oakland Zip 94612 Phone 272-6400
- Mailing Address 165 13 Street  
City Oakland Zip 94612 Phone 272-6400
- Land Owner Alameda County General Services Agency  
Address 4400 Mac Arthur Blvd. City, State Oakland, CA Zip 94619
- Generator name under which tank will be manifested Alameda County General Services Agency  
EPA I.D. No. under which tank will be manifested CAD982469389



# BAY AREA AIR QUALITY MANAGEMENT DISTRICT

939 ELLIS STREET  
SAN FRANCISCO, CALIFORNIA 94109  
(415) 771-6000

REGULATION 8, RULE 40  
Aeration of Contaminated Soil and *Grose*  
Removal of Underground Storage Tanks

## NOTIFICATION FORM

Removal or Replacement of Tanks  
 Excavation of Contaminated Soil

### SITE INFORMATION

SITE ADDRESS <u>165 13th Street</u>	
CITY, STATE <u>Oakland, CA</u>	ZIP <u>94607</u>
OWNER NAME <u>Alameda County - General Services Agency</u>	
SPECIFIC LOCATION OF PROJECT <u>Bottom of East Entrance Ramp</u>	
<b>TANK REMOVAL</b>	<b>CONTAMINATED SOIL EXCAVATION</b>
SCHEDULED STARTUP DATE <u>2/13/92</u>	SCHEDULED STARTUP DATE _____
VAPORS REMOVED BY:	STOCKPILES WILL BE COVERED? YES _____ NO _____
<input type="checkbox"/> WATER WASH	ALTERNATIVE METHOD OF AERATION (DESCRIBE BELOW):
<input checked="" type="checkbox"/> VAPOR FREEING (CO <sup>2</sup> )	_____
<input type="checkbox"/> VENTILATION	(MAY REQUIRE PERMIT)

### CONTRACTOR INFORMATION

NAME <u>Aqua Science Engineers, Inc</u>	CONTACT <u>David Prull</u>
ADDRESS <u>1041 Shary Circle</u>	PHONE ( 510 ) <u>685-6700</u>
CITY, STATE, ZIP <u>Concord, CA 94518</u>	

### CONSULTANT INFORMATION

(IF APPLICABLE)

NAME <u>Environmental Science &amp; Engineering</u>	CONTACT <u>John Burns</u>
ADDRESS <u>4090 Nelson Ave., Suite J</u>	PHONE ( 510 ) <u>685-4053</u>
CITY, STATE, ZIP <u>Concord, CA 94520</u>	

### FOR OFFICE USE ONLY

DATE RECEIVED FAX _____	BY _____
DATE POSTMARKED <u>2/7/92</u>	BY <u>JP</u> (init.)
CC: INSPECTOR NO. <u>524</u>	DATE <u>2/10/92</u>
UPDATE: CONTACT NAME _____	DATE _____
BAAQMD N # _____	DATA ENTRY <u>2/10/92</u>
	BY <u>blg</u> (init.)
	BY _____ (init.)

Excavation Permit Granted \_\_\_\_\_ No. \_\_\_\_\_

# CITY OF OAKLAND

Tank Permit

Permit to Excavate and Install, Repair, or Remove Inflammable Liquid Tanks. No. 9545

Oakland, California, \_\_\_\_\_ FEBRUARY 7, 1992

PERMISSION IS HEREBY GRANTED TO ~~XXXXX~~ remove ~~XXXXX~~ Gasoline tank and excavate commencing \_\_\_\_\_ feet inside PROPERTY line

on the \_\_\_\_\_ side of \_\_\_\_\_ Street Avenue \_\_\_\_\_ feet \_\_\_\_\_ of \_\_\_\_\_ Street Avenue

House No. 165 - 13TH STREET Street Avenue \_\_\_\_\_ Present Storage \_\_\_\_\_

Owner ALAMEDA COUNTY GSA Address 4400 MACARTHUR OAKLAND Phone 272-6400

Applicant AQUA SCIENCE ENGINEERS Address 1041 SHARY CR. CONCORD 94518 Phone 685-6700

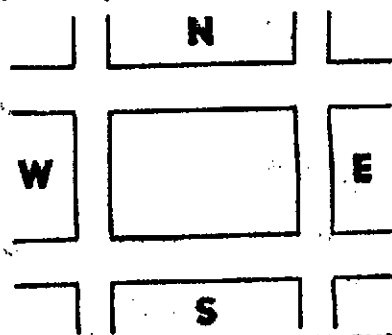
Dimensions of street (sidewalk) surface to be disturbed \_\_\_\_\_ X \_\_\_\_\_ Number of Tanks 1 Capacity 500 Gallons, each.

Remarks: \_\_\_\_\_

This Permit is granted in accordance with existing City Ordinances.  
Owner hereby agrees to remove tanks on discontinuance of use or when notified by the City Authorities.  
When installing, removing or repairing tanks, no 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 CMS, Sec. 6-2.04

\_\_\_\_\_ square feet of digging or removal granted.

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 \_\_\_\_\_ 19\_\_\_\_

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

Inspection Fee Paid \_\_\_\_\_ \$ 80.00 CK#014469 REC#662001

Received by G. M. Johnson  
FIRE PREVENTION BUREAU

## NOTICE

Before Covering Tanks, Above Certificate Must Be Signed.

When ready for inspection notify Fire Prevention Bureau, 273-3851

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

# Permit Application and Job Notification Form

Construction Demolition Trenches Excavations Buildings Structures Falsework Scaffolding

State of California  
Department of Industrial Relations  
Division of Occupational Safety & Health

District (Name) Oakland  
Date 2/7/92  
No. 550350

Sections 6500, 6501 and 6502 of the California Labor Code require that certain activities which by their nature involve substantial risk of injury may not be performed without a permit issued by DOSH. The Labor Code requires that the applicant

supply, and that the Division review information necessary to evaluate the safety of the worksite subject to permit requirements. A permit will not be issued until evidence has been demonstrated that the place of employment will be safe and healthful.

"Applicant" refers to the employer applying for the Permit

Employer: Aqua Science Engineers, Inc.  
Address: 1041 Shary Circle  
Concord, CA 94518  
Phone: (510) 685-6700

Project Safety Contact: David Prull  
Employer's Representative: Gerald Sasso  
Title & Phone No: (510) 685-6700  
Employer's State Contractor's License No.: 487000

Check Applicable Items "Applicant" refers to the employer applying for the Permit

Applicant is

- General Building Contractor  
 General Engineering Contractor  
 Specialty Contractor  
Specialty Contractor Type \_\_\_\_\_  
 Other \_\_\_\_\_

\_\_\_\_\_ General Contractor Option

Initial this blank if applicant elects to assume responsibility for obtaining a single permit to cover one multi-employer project, e.g. a high-rise construction project. The duties of employers at the site to obey safety and health laws are not changed by this election. A list of employers on site will be attached by the Division to this application and the list will be updated as necessary.

Type of Permit Sought:

- Annual  
 Single Project  
 Job Start Notification Only

\_\_\_\_\_ Multiple Project. (If projects to be covered are similar in all important aspects, work is performed by the same employer, and information concerning each project covered is provided.)

For

- Construction of:  Building  Structure  
Demolition of:  Building  Structure  
 Trench and/or Excavation  
 Tower Crane Erector, Dismantling  
 Scaffolding and/or Falsework and/or Vertical Shoring

Any permit based on this application is issued with the understanding that the applicant has knowledge of occupational safety and health orders applicable to the project(s) described in this application and attachments, and that the applicant and supervising personnel will take special care to insure compliance with safety orders reviewed with the applicant by the Division in the application process.

Issuance of the permit is also conditioned upon the following:

- 1) Upon initiation of any new project not described in this application, the holder of an annual permit will provide the Division with a completed Project Description Form describing the new project prior to the start of work, preferably at least one week in advance of start-up date. A phone call may be used to meet the deadline but will not be considered valid notice unless followed in writing by mailing a completed Project Description Form.
- 2) The applicant has implemented a written accident prevention program and Code of Safe Practices which meet the requirements of 8 California Administrative Code, Section 1505.
- 3) The Division will be notified of significant changes in information provided with this application if such changes might affect the safety of the activity.

4) The applicant understands that under the permit program, DOSH schedules routine inspections by authorized personnel for the purpose of verifying that holders of permits are meeting their obligation to provide a safe work place for their employees. The Division reserves the right to revoke a permit if it is unable to promptly verify compliance with the terms and conditions of the permit and its issuance.

5) The applicant understands that failure to comply with any of the above listed conditions for obtaining a permit could result in denial, suspension or revocation of the permit. Employers may appeal these actions to the Director of the Department of Industrial Relations (California Labor Code, Section 6506 et seq., and 8 California Administrative Code, Section 341).

Is the applicant conducting any activities to be covered by this permit application in partnership or joint venture with any other persons or corporations conducting activities requiring permits? Yes \_\_\_\_\_ No  If "yes" give details \_\_\_\_\_

Have any permits for any project to be covered by this permit application previously been applied for or obtained? Yes \_\_\_\_\_ No  If "yes" when \_\_\_\_\_ from what district office \_\_\_\_\_ in whose name \_\_\_\_\_

**Permit Application and Job Notification Form (Continued)**

Specific jobsite location <u>165 13th Street</u> <u>Bottom of East Entrance Ramp</u>	Field phone <u>(510) 685-6700</u>
Nearest major cross street <u>Peralta St.</u>	Office phone <u>(510) 685-6700</u>
City <u>Oakland</u>	No. of employees <u>2</u>
County <u>Alameda County</u>	Starting date <u>2/13/92</u>
Name and title of jobsite supervisor <u>David Prull</u>	Anticipated completion date <u>2/14/92</u>
	High Voltage Lines in Proximity <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes

**TYPE OF JOB**

INSTRUCTIONS: THE APPROPRIATE ITEM(s) must be completed and signed by a person knowledgeable about the project, for each jobsite to be covered by a permit. Please fill in or check off blanks where appropriate.

**Construction of:**  Building  Structure Type: \_\_\_\_\_  Steel Frame  Tiered  Concrete  
 Tilt-up  Wood frame  Liftslab  Precast  Slip Form  Depth \_\_\_\_\_  No. of Stories \_\_\_\_\_  
 Description (1) 1,000 Gallon Waste Oil Tank Removal

**Scaffolding** Height \_\_\_\_\_  Metal  Wood  Metal over 125 ft  
 Wood over 60 ft (require design by California Registered Civil Engineer, plans at site.) [CSO 1643, 1644(c)(7)]  
 Job description \_\_\_\_\_

**Falsework/Vertical Shoring** Maximum Height: \_\_\_\_\_ Maximum Span: \_\_\_\_\_ Material: \_\_\_\_\_  
 Job description \_\_\_\_\_

**Tower Crane Erection/Dismantling**  
 Maximum Radius: \_\_\_\_\_ Capacity: \_\_\_\_\_ Make and model of crane: \_\_\_\_\_  
 Foundation and/or support(s) for crane on this site designed/constructed by (see Section 1584(a), CSO): \_\_\_\_\_  
 Will crane be stepped or jumped as construction proceeds (see CSO Section 1584.1)  Yes  No  
 Name of crane certifier: \_\_\_\_\_

**Demolition of:**  Building  Structure Type: \_\_\_\_\_ Height: \_\_\_\_\_ No. of Stories: \_\_\_\_\_  
 Steel frame  Wood frame  Concrete  Demolition Ball  Clam  Explosives  
 Loader/tractors  Other: \_\_\_\_\_  
 CSO Article 31 - Demolition

**Excavations/Trenches** Depth range (min./max) 7' Width range (min./max.) 5' Total Length 10'  
 Ground Protection Method Shoring \_\_\_\_\_ Sloping  Trench Shield \_\_\_\_\_ Alternate: \_\_\_\_\_  
 Project description: (1) 1,000 Gallon Waste Oil Tank Removal

**Division Use Only**

Fee \_\_\_\_\_  
 Paid \_\_\_\_\_  
 Approved \_\_\_\_\_  
 Conference \_\_\_\_\_  
 Other \_\_\_\_\_

I hereby certify that, to the best of my knowledge, the above information and assertions are true and correct and that I/the applicant have knowledge of and will comply with the foregoing.

Signature: Craig Hert  
 Title: Project Engineer  
 Date: 2/7/92

CITY OF OAKLAND  
REPORT OF FIRE INSPECTION

ENGINE CO.

ADDRESS 165 13<sup>th</sup> ST E 12

NAME Steve 685 6700

GENERAL INSPECTION  PERMIT   
OTHER  HAZARD NOTED  HAZARD ABATED

NOTICE LEFT LETTER  1st NOTICE  2nd NOTICE  FINAL

DATE	VIOLATION	O.F.C.	CONTACTED
2-13-92	Tank Removal Let 1% no Holes noted		02.1%
	Hauled By Erickson #205169		

A REINSPECTION WILL BE MADE WITHIN \_\_\_\_\_ DAYS.

FIRE PREVENTION BUREAU - PHONE 273-3851

INSPECTOR Branth

7754

TTB

**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator's US EPA ID No. CA1D1982416193189191211312  
 Manifest Document No.

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

3. Generator's Name and Mailing Site Address  
 ALCOPARK  
 4400 Mac Arthur Blvd  
 Oakland, Ca. 94619  
 4. Generator's Phone (510) 272-6400

A. State Manifest Document Number  
 90792137

5. Transporter 1 Company Name  
 Erickson Trucking Inc  
 6. US EPA ID Number CA1D1010191416161312

B. State Generator's ID

7. Transporter 2 Company Name

C. State Transporter's ID 205169  
 D. Transporter's Phone (510) 235-1393

9. Designated Facility Name and Site Address  
 Erickson, Inc.  
 253 Parr Blvd.  
 Richmond, Ca. 94801  
 10. US EPA ID Number 10A10009466191

E. State Transporter's ID

F. Transporter's Phone

G. State Facility's ID CA1D0091466392  
 H. Facility's Phone (510) 272-6400

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	13. Total Quantity	14. Unit WI/Vol	15. Waste No.
a. Waste Empty Storage Tank NON-RCRA Hazardous Waste Solids	001171P	1101010	P	State: 512 EPA/Other:
b. <del>Waste</del>				State: NONE EPA/Other:
c. <del>Waste</del>				State: EPA/Other:
d. <del>Waste</del>				State: EPA/Other:

J. Additional Descriptions for Materials Listed Above  
 Qty. 1 Empty Storage Tank (s) # 8106,  
 Tank (s) have been inerted with 15 lbs  
 Dry Ice per 1000 Gal. Capacity

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

15. Special Handling Instructions and Additional Information  
 Keep away from sources of ignition. Always wear hardhats when working around  
 U.S.T.'s 24 Hr. Contact Name Jim de Vos & Phone (510) 272-6400

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: Nancy Wiener for ALCOPARK  
 Signature: [Signature]  
 Month Day Year: 12/13/92

17. Transporter 1 Acknowledgement of Receipt of Materials  
 Printed/Typed Name: Steve Fleming  
 Signature: [Signature]  
 Month Day Year: 12/13/92

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: Donald H. Fosson  
 Signature: [Signature]  
 Month Day Year: 12/13/92

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8602; WITHIN CALIFORNIA CALL 1-800-852-7650





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

18 1992

DATE RECEIVED: 02/14/92  
DATE REPORTED: 02/26/92


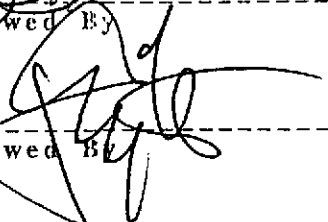
LABORATORY NUMBER: 106569

CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING

PROJECT ID: 6-92-5314

LOCATION: ALCO PARK-OAKLAND, CA

RESULTS: SEE ATTACHED

  
Reviewed By  
  
Reviewed By



LABORATORY NUMBER: 106569  
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
 PROJECT ID: 6-92-5314  
 LOCATION: ALCO PARK- OAKLAND

DATE RECEIVED: 02/14/92  
 DATE EXTRACTED: 02/19/92  
 DATE ANALYZED: 02/20/92  
 DATE REPORTED: 02/24/92

Extractable Petroleum Hydrocarbons in Soils & Wastes  
 California DOHS Method  
 LUFT Manual October 1989

LAB ID	SAMPLE ID	KEROSENE RANGE (mg /Kg)	DIESEL RANGE (mg /Kg)	REPORTING LIMIT* (mg /Kg)
106569-2	WOTP-DL-8'	ND	ND	1.0
106569-3	WOTP-FE-8'	ND	ND	1.0
106569-7	COMP WOL-1,2,3	**	140	1.0

ND = Not Detected at or above reporting limit.

\*Reporting limit applies to all analytes.

\*\*Kerosene Range not reported.

QA/QC SUMMARY: LABORATORY CONTROL SAMPLE

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RECOVERY, %

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82

LABORATORY NUMBER: 106569  
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
 PROJECT ID: 6-92-5314  
 LOCATION: ALCO PARK-OAKLAND, CA

DATE RECEIVED: 02/14/92  
 DATE ANALYZED: 02/20/92  
 DATE REPORTED: 02/26/92

=====  
 ANALYSIS: OIL & GREASE  
 ANALYSIS METHOD: SMMW 5520EF  
 =====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
106569-2	WOTP-DL-8'	ND	mg / Kg	50
106569-3	WOTP-FE-8'	ND	mg / Kg	50
106569-7	COMP WOL-1, 2, 3	70	mg / Kg	50

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

=====  
 RPD, % 4  
 RECOVERY, % 84  
 =====



LABORATORY NUMBER: 106569-2  
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
PROJECT ID: 6-92-5314  
LOCATION: ALCO PARK-OAKLAND, CA  
SAMPLE ID: WOTP-DL-8'

DATE RECEIVED: 02/14/92  
DATE EXTRACTED: 02/18/92  
DATE ANALYZED: 02/23/92  
DATE REPORTED: 02/26/92

EPA 8270: Base/Neutral and Acid Extractables in Soils & Wastes  
Extraction Method: EPA 3550 Sonication

ACID COMPOUNDS	RESULT ug/kg	REPORTING LIMIT ug/kg
Phenol	ND	330
2-Chlorophenol	ND	330
Benzyl Alcohol	ND	330
2-Methylphenol	ND	330
4-Methylphenol	ND	330
2-Nitrophenol	ND	1650
2,4-Dimethylphenol	ND	330
Benzoic Acid	ND	1650
2,4-Dichlorophenol	ND	1650
4-Chloro-3-methylphenol	ND	330
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	1650
2,4-Dinitrophenol	ND	1650
4-Nitrophenol	ND	1650
4,6-Dinitro-2-methylphenol	ND	1650
Pentachlorophenol	ND	1650
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	330
Aniline	ND	330
Bis(2-chloroethyl)ether	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
1,2-Dichlorobenzene	ND	330
Bis(2-chloroisopropyl)ether	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
Bis(2-chloroethoxy)methane	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1650

LABORATORY NUMBER: 106569-2  
 SAMPLE ID: WOTP-DL-8'

EPA 8270

BASE/NEUTRAL COMPOUNDS	RESULT ug/kg	REPORTING LIMIT ug/kg
Dimethylphthalate	ND	330
Acenaphthylene	ND	330
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1650
Acenaphthene	ND	330
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
4-Chlorophenyl-phenylether	ND	330
Fluorene	ND	330
4-Nitroaniline	ND	1650
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Fluoranthene	ND	330
Benzidine	ND	330
Pyrene	ND	330
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	1650
Benzo(a)anthracene	ND	330
Chrysene	ND	330
Bis(2-ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	330
Benzo(k)fluoranthene	ND	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenzo(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330

ND = Not detected at or above reporting limit.

## QA/QC SUMMARY: % SURROGATE RECOVERIES

2-Fluorophenol	107	Nitrobenzene-d5	85
Phenol-d6	100	2-Fluorobiphenyl	96
2,4,6-Tribromophenol	97	Terphenyl-d14	85

LABORATORY NUMBER: 106569-2  
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
 PROJECT ID: 6-92-5314  
 LOCATION: ALCO PARK-OAKLAND, CA  
 SAMPLE ID: WOTP-DL-8'

DATE RECEIVED: 02/14/92  
 DATE ANALYZED: 02/21/92  
 DATE REPORTED: 02/25/92

EPA 8010: Volatile Halocarbons in Soil & Wastes  
 Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethylene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Dibromochloromethane	ND	5.0
2-Chloroethylvinyl ether	ND	10
Bromoform	ND	5.0
Tetrachloroethylene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Chlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

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Surrogate Recovery, %

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84



LABORATORY NUMBER: 106569-2  
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
PROJECT ID: 6-92-5314  
LOCATION: ALCO PARK- OAKLAND, CA  
SAMPLE ID: WOTP-DL-8'

DATE RECEIVED: 02/14/92  
DATE ANALYZED: 02/18-19/92  
DATE REPORTED: 02/21/92

METAL	RESULT mg /Kg	REPORTING LIMIT mg /Kg	METHOD
Cadmium	0.28	0.25	EPA 6010
Chromium (total)	39.7	0.50	EPA 6010
Lead	ND	3.0	EPA 7420
Nickel	30.9	1.6	EPA 6010
Zinc	18.2	1.0	EPA 6010

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

	RPD, %	RECOVERY, %
Cadmium	4	102
Chromium (total)	<1	93
Lead	<1	102
Nickel	5	90
Zinc	3	91



LABORATORY NUMBER: 106569-3  
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
 PROJECT ID: 6-92-5314  
 LOCATION: ALCO PARK-OAKLAND, CA  
 SAMPLE ID: WOTP-FE-8'

DATE RECEIVED: 02/14/92  
 DATE EXTRACTED: 02/18/92  
 DATE ANALYZED: 02/23/92  
 DATE REPORTED: 02/26/92

EPA 8270: Base/Neutral and Acid Extractables in Soils & Wastes  
 Extraction Method: EPA 3550 Sonication

ACID COMPOUNDS	RESULT	REPORTING
	ug/kg	LIMIT ug/kg
Phenol	ND	330
2-Chlorophenol	ND	330
Benzyl Alcohol	ND	330
2-Methylphenol	ND	330
4-Methylphenol	ND	330
2-Nitrophenol	ND	1650
2,4-Dimethylphenol	ND	330
Benzoic Acid	ND	1650
2,4-Dichlorophenol	ND	1650
4-Chloro-3-methylphenol	ND	330
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	1650
2,4-Dinitrophenol	ND	1650
4-Nitrophenol	ND	1650
4,6-Dinitro-2-methylphenol	ND	1650
Pentachlorophenol	ND	1650
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	330
Aniline	ND	330
Bis(2-chloroethyl)ether	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
1,2-Dichlorobenzene	ND	330
Bis(2-chloroisopropyl)ether	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
Bis(2-chloroethoxy)methane	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1650

LABORATORY NUMBER: 106569-3  
 SAMPLE ID: WOTP-FE-8'

EPA 8270

BASE/NEUTRAL COMPOUNDS	RESULT ug/kg	REPORTING LIMIT ug/kg
Dimethylphthalate	ND	330
Acenaphthylene	ND	330
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1650
Acenaphthene	ND	330
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
4-Chlorophenyl-phenylether	ND	330
Fluorene	ND	330
4-Nitroaniline	ND	1650
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Fluoranthene	ND	330
Benzidine	ND	330
Pyrene	ND	330
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	1650
Benzo(a)anthracene	ND	330
Chrysene	ND	330
Bis(2-ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	330
Benzo(k)fluoranthene	ND	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenzo(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330

ND = Not detected at or above reporting limit.

## QA/QC SUMMARY: % SURROGATE RECOVERIES

2-Fluorophenol	103	Nitrobenzene-d5	89
Phenol-d6	94	2-Fluorobiphenyl	91
2,4,6-Tribromophenol	96	Terphenyl-d14	84



LABORATORY NUMBER: 106569-3  
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
PROJECT ID: 6-92-5314  
LOCATION: ALCO PARK-OAKLAND, CA  
SAMPLE ID: WOTP-FE-8'

DATE RECEIVED: 02/14/92  
DATE ANALYZED: 02/21/92  
DATE REPORTED: 02/25/92

EPA 8010: Volatile Halocarbons in Soil & Wastes  
Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethylene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Dibromochloromethane	ND	5.0
2-Chloroethylvinyl ether	ND	10
Bromoform	ND	5.0
Tetrachloroethylene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Chlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	79
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LABORATORY NUMBER: 106569-3  
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
 PROJECT ID: 6-92-5314  
 LOCATION: ALCO PARK- OAKLAND, CA  
 SAMPLE ID: WOTP-FE-8'

DATE RECEIVED: 02/14/92  
 DATE ANALYZED: 02/18-19/92  
 DATE REPORTED: 02/21/92

METAL	RESULT mg /Kg	REPORTING LIMIT mg /Kg	METHOD
Cadmium	ND	0.25	EPA 6010
Chromium (total)	43.6	0.50	EPA 6010
Lead	ND	3.0	EPA 7420
Nickel	35.1	1.6	EPA 6010
Zinc	20.4	1.0	EPA 6010

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

	RPD, %	RECOVERY, %
Cadmium	4	102
Chromium (total)	<1	93
Lead	<1	102
Nickel	5	90
Zinc	3	91

LABORATORY NUMBER: 106569-7  
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
 PROJECT ID: 6-92-5314  
 LOCATION: ALCO PARK-OAKLAND, CA  
 SAMPLE ID: COMP WOL-1,2,3

DATE RECEIVED: 02/14/92  
 DATE EXTRACTED: 02/18/92  
 DATE ANALYZED: 02/25/92  
 DATE REPORTED: 02/26/92

EPA 8270: Base/Neutral and Acid Extractables in Soils & Wastes  
 Extraction Method: EPA 3550 Sonication

ACID COMPOUNDS	RESULT ug/kg	REPORTING LIMIT ug/kg
Phenol	ND	330
2-Chlorophenol	ND	330
Benzyl Alcohol	ND	330
2-Methylphenol	ND	330
4-Methylphenol	ND	330
2-Nitrophenol	ND	1650
2,4-Dimethylphenol	ND	330
Benzoic Acid	ND	1650
2,4-Dichlorophenol	ND	1650
4-Chloro-3-methylphenol	ND	330
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	1650
2,4-Dinitrophenol	ND	1650
4-Nitrophenol	ND	1650
4,6-Dinitro-2-methylphenol	ND	1650
Pentachlorophenol	ND	1650
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	330
Aniline	ND	330
Bis(2-chloroethyl)ether	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
1,2-Dichlorobenzene	ND	330
Bis(2-chloroisopropyl)ether	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
Bis(2-chloroethoxy)methane	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1650

LABORATORY NUMBER: 106569-7  
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
 PROJECT ID: 6-92-5314  
 LOCATION: ALCO PARK-OAKLAND, CA  
 SAMPLE ID: COMP WOL-1,2,3

DATE RECEIVED: 02/14/92  
 DATE ANALYZED: 02/21/92  
 DATE REPORTED: 02/25/92

EPA 8010: Volatile Halocarbons in Soil & Wastes  
 Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethylene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Dibromochloromethane	ND	5.0
2-Chloroethylvinyl ether	ND	10
Bromoform	ND	5.0
Tetrachloroethylene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Chlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

=====

Surrogate Recovery, %

=====

85

LABORATORY NUMBER: 106569-7  
 SAMPLE ID: COMP WOL-1,2,3

EPA 8270

## BASE/NEUTRAL COMPOUNDS

	RESULT ug / kg	REPORTING LIMIT ug / kg
Dimethylphthalate	ND	330
Acenaphthylene	ND	330
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1650
Acenaphthene	ND	330
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
4-Chlorophenyl-phenylether	ND	330
Fluorene	ND	330
4-Nitroaniline	ND	1650
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Phenanthrene	740	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Fluoranthene	440	330
Benzidine	ND	330
Pyrene	380	330
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	1650
Benzo(a)anthracene	ND	330
Chrysene	ND	330
Bis(2-ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	330
Benzo(k)fluoranthene	ND	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenzo(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330

ND = Not detected at or above reporting limit.

## QA/QC SUMMARY: % SURROGATE RECOVERIES

2-Fluorophenol	83	Nitrobenzene-d5	94
Phenol-d6	90	2-Fluorobiphenyl	90
2,4,6-Tribromophenol	46	Terphenyl-d14	79

LABORATORY NUMBER: 106569-7  
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
 PROJECT ID: 6-92-5314  
 LOCATION: ALCO PARK- OAKLAND, CA  
 SAMPLE ID: COMP WOL-1,2,3

DATE RECEIVED: 02/14/92  
 DATE ANALYZED: 02/18-19/92  
 DATE REPORTED: 02/21/92

METAL	RESULT mg /Kg	REPORTING LIMIT mg /Kg	METHOD
Cadmium	ND	0.25	EPA 6010
Chromium (total)	41.2	0.50	EPA 6010
Lead	ND	3.0	EPA 7420
Nickel	30.8	1.6	EPA 6010
Zinc	25.5	1.0	EPA 6010

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

	RPD, %	RECOVERY, %
Cadmium	4	102
Chromium (total)	<1	93
Lead	<1	102
Nickel	5	90
Zinc	3	91



LABORATORY NUMBER: 106569  
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
 PROJECT ID: 6-92-5314  
 LOCATION: ALCO PARK-OAKLAND, CA  
 SAMPLE ID: METHOD BLANK

DATE ANALYZED: 02/20/92  
 DATE REPORTED: 02/25/92

EPA 8010  
 Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl chloride	ND	2.0
Chloroethane	ND	2.0
Methylene chloride	ND	20
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
Freon 113	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
Trichloroethylene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Dibromochloromethane	ND	1.0
2-Chloroethylvinyl ether	ND	2
Bromoform	ND	1.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	84
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LABORATORY NUMBER: 106569  
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
 PROJECT ID: 6-92-5314  
 LOCATION: ALCO PARK-OAKLAND, CA  
 SAMPLE ID: METHOD BLANK

DATE ANALYZED: 02/21/92  
 DATE REPORTED: 02/25/92

EPA 8010: Volatile Halocarbons in Soil & Wastes  
 Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethylene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Dibromochloromethane	ND	5.0
2-Chloroethylvinyl ether	ND	10
Bromoform	ND	5.0
Tetrachloroethylene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Chlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	84
-----------------------	----



LABORATORY NUMBER: 106569  
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
 PROJECT ID: 6-92-5314  
 LOCATION: ALCO PARK- OAKLAND

DATE RECEIVED: 02/14/92  
 DATE EXTRACTED: 02/18/92  
 DATE ANALYZED: 02/21/92  
 DATE REPORTED: 02/24/92

Extractable Petroleum Hydrocarbons in Aqueous Solutions  
 California DOHS Method  
 LUFT Manual October 1989

LAB ID	CLIENT ID	KEROSENE RANGE (ug/L)	DIESEL RANGE (ug/L)	REPORTING LIMIT* (ug/L)
106569-1	WOP-GW-8.5'	19,000	**	500

ND = Not detected at or above reporting limit.

\*Reporting limit applies to all analytes.

\*\*Diesel Range not reported.

QA/QC SUMMARY

RPD, %	13
RECOVERY, %	78

Client: Environmental Science &amp; Engineering

Laboratory Login Number: 106569

Project Name: Alco Park- Oakland, CA

Report Date: 25 February 92

Project Number: 6-92-5314

ANALYSIS: Hydrocarbon Oil &amp; Grease (Gravimetric)

METHOD: SMWW 17:5520BF

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
106569-001	WOP-GW-8.5'	Water	13-FEB-92	14-FEB-92	18-FEB-92	ND	mg/L	5	TR	4297

ND = Not Detected at or above Reporting Limit (RL).

Q C B a t c h R e p o r t

Client: Environmental Science & Engineering Laboratory Login Number: 106569  
 Project Name: Alco Park- Oakland, CA Report Date: 25 February 92  
 Project Number: 6-92-5314

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) QC Batch Number: 4297

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
BLANK	ND	5	mg/L	SMWW 17:5520BF	18-FEB-92

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	91%	SMWW 17:5520BF	18-FEB-92
BSD	93%	SMWW 17:5520BF	18-FEB-92

		Control Limits
Average Spike Recovery	92%	80% - 120%
Relative Percent Difference	2.2%	< 20%

LABORATORY NUMBER: 106569-1  
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
 PROJECT ID: 6-92-5314  
 LOCATION: ALCO PARK-OAKLAND, CA  
 SAMPLE ID: WOP-GW-8.5'

DATE RECEIVED: 02/14/92  
 DATE EXTRACTED: 02/18/92  
 DATE ANALYZED: 02/25/92  
 DATE REPORTED: 02/26/92

EPA 8270: Base/Neutral and Acid Extractables in Water  
 Extraction Method: EPA 3520 Continuous Liquid/Liquid

ACID COMPOUNDS	RESULT ug/L	REPORTING LIMIT ug/L
Phenol	102	5.0
2-Chlorophenol	ND	5.0
Benzyl Alcohol	ND	5.0
2-Methylphenol	90	5.0
4-Methylphenol	120	5.0
2-Nitrophenol	ND	25
2,4-Dimethylphenol	ND	5.0
Benzoic Acid	ND	25
2,4-Dichlorophenol	ND	5.0
4-Chloro-3-methylphenol	ND	5.0
2,4,6-Trichlorophenol	ND	5.0
2,4,5-Trichlorophenol	ND	25
2,4-Dinitrophenol	ND	25
4-Nitrophenol	ND	25
4,6-Dinitro-2-methylphenol	ND	25
Pentachlorophenol	ND	25
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	5.0
Aniline	ND	5.0
Bis(2-chloroethyl)ether	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
Bis(2-chloroisopropyl)ether	ND	5.0
N-Nitroso-di-n-propylamine	ND	5.0
Hexachloroethane	ND	5.0
Nitrobenzene	ND	5.0
Isophorone	ND	5.0
Bis(2-chloroethoxy)methane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Naphthalene	30	5.0
4-Chloroaniline	ND	5.0
Hexachlorobutadiene	ND	5.0
2-Methylnaphthalene	ND	5.0
Hexachlorocyclopentadiene	ND	5.0
2-Chloronaphthalene	ND	5.0
2-Nitroaniline	ND	25

LABORATORY NUMBER: 106569-1  
 SAMPLE ID: WOP-GW-8.5'

EPA 8270

## BASE/NEUTRAL COMPOUNDS

	RESULT	REPORTING
	ug/L	LIMIT ug/L
Dimethylphthalate	ND	5.0
Acenaphthylene	ND	5.0
2,6-Dinitrotoluene	ND	5.0
3-Nitroaniline	ND	25
Acenaphthene	ND	5.0
Dibenzofuran	ND	5.0
2,4-Dinitrotoluene	ND	5.0
Diethylphthalate	ND	5.0
4-Chlorophenyl-phenylether	ND	5.0
Fluorene	ND	5.0
4-Nitroaniline	ND	25
N-Nitrosodiphenylamine	ND	5.0
Azobenzene	ND	5.0
4-Bromophenyl-phenylether	ND	5.0
Hexachlorobenzene	ND	5.0
Phenanthrene	ND	5.0
Anthracene	ND	5.0
Di-n-butylphthalate	ND	5.0
Fluoranthene	ND	5.0
Benzidine	ND	5.0
Pyrene	ND	5.0
Butylbenzylphthalate	ND	5.0
3,3'-Dichlorobenzidine	ND	25
Benzo(a)anthracene	ND	5.0
Chrysene	ND	5.0
Bis(2-ethylhexyl)phthalate	ND	5.0
Di-n-octylphthalate	ND	5.0
Benzo(b)fluoranthene	ND	5.0
Benzo(k)fluoranthene	ND	5.0
Benzo(a)pyrene	ND	5.0
Indeno(1,2,3-cd)pyrene	ND	5.0
Dibenzo(a,h)anthracene	ND	5.0
Benzo(g,h,i)perylene	ND	5.0

ND = Not detected at or above reporting limit.

## QA/QC SUMMARY: % SURROGATE RECOVERIES

2-Fluorophenol	100	Nitrobenzene-d5	103
Phenol-d6	107	2-Fluorobiphenyl	62
2,4,6-Tribromophenol	84	Terphenyl-d14	80



LABORATORY NUMBER: 106569-1  
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
 PROJECT ID: 6-92-5314  
 LOCATION: ALCO PARK-OAKLAND, CA  
 SAMPLE ID: WOP-GW-8.5'

DATE RECEIVED: 02/14/92  
 DATE ANALYZED: 02/20/92  
 DATE REPORTED: 02/25/92

EPA 8010  
 Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	100
Trichlorofluoromethane	110	5.0
1,1-Dichloroethene	5.5	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
1,1,1-Trichloroethane	320	5.0
Carbon tetrachloride	ND	5.0
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethylene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Dibromochloromethane	ND	5.0
2-Chloroethylvinyl ether	ND	10
Bromoform	ND	5.0
Tetrachloroethene	75	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Chlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

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Surrogate Recovery, %

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88

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LABORATORY NUMBER: 106569-1  
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
PROJECT ID: 6-92-5314  
LOCATION: ALCO PARK- OAKLAND, CA  
SAMPLE ID: WOP-GW-8.5'

DATE RECEIVED: 02/14/92  
DATE ANALYZED: 02/19-20/92  
DATE REPORTED: 02/21/92

METAL	RESULT ug/L	REPORTING LIMIT ug/L	METHOD
Cadmium	ND	5.0	EPA 6010
Chromium (total)	ND	10.0	EPA 6010
Lead	5.7	3.0	EPA 7421
Nickel	70	32.0	EPA 6010
Zinc	270	20.0	EPA 6010

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

	RPD, %	RECOVERY, %	RPD, %	RECOVERY, %
Cadmium			13	109
Chromium (total)			2	104
Lead			6	101
Nickel			5	103
Zinc			1	99

106569

CHAIN OF CUSTODY RECORD

DATE 2-13-92 PAGE 1 OF 2

PROJECT NAME ALCOPARK

ADDRESS OAKLAND, CA

PROJECT NO. 6925314

SAMPLED BY Mike Edmonson

LAB NAME WCHS & TEMPKNS



Environmental Science & Engineering, Inc.

4090 Nelson Avenue Suite J Concord, CA 94520

(415) 685-4053

Fax (415) 685-5323

ANALYSES TO BE PERFORMED

MATRIX

NUMBER OF CONTAINERS

REMARKS (CONTAINER, SIZE, ETC.)

SAMPLE #	DATE	TIME	LOCATION	TPH-G (3030) w/BTEX (3015)	TPH-D (3550) (oil)	Oil + Grease 5520 (D+F)	8270 (Semi Vol H.C.)	PAH (6010) Cd, Cr, Pb, Zn, Ni	8010 (Cl-HCs)	MATRIX	NUMBER OF CONTAINERS	REMARKS (CONTAINER, SIZE, ETC.)
WOP-GW-85	2-13-92	16:30	WASTE OIL PIT	X	X	X	X	X	X	Aq.	9	4 liters, 2 VOA (HCL), 2 VOA, 1 Pint (HNO3)
WOTP-DL-8	2-13-92	16:55	WASTE OIL PIT	X	X	X	X	X	X	SOIL	1	1 Brass Ring
WOTP-FE-8	2-13-92	17:00	WASTE OIL PIT	X	X	X	X	X	X	SOIL	1	1 Brass Ring
WOL-1-4	2-13-92	11:15	Pipeline	X	X	X	X	X	X	SOIL	1	1 Brass Ring
WOL-2-4	2-13-92	11:30	Pipeline							SOIL	1	1 Brass Ring
WOL-3-4	2-13-92	12:40	Pipeline							SOIL	1	1 Brass Ring

2nd Sample ID is

RELIN 1. WOTP-DL-8

TESTED BY: (signature) [Signature] (ESE) date 2/14/92 time 0900

14

TOTAL NUMBER OF CONTAINERS

REPORT RESULTS TO: Patrick Galvin

SPECIAL SHIPMENT REQUIREMENTS  
Keep Chilled

SAMPLE RECEIPT

INSTR Composite 3 samples, WOL-1-4', WOL-2-4', WOL-3-4' and analyze as one sample. Note Revised Project Number, Store all samples 90 days. Client request to send 1 Pint (HNO3) w/ 2000 samples on 2/14/92

CHAIN OF CUSTODY SEALS

REC'D GOOD COND'TN/COLD

CONFORMS TO RECORD

Top 10 samples 2/18. JH 2/18



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

DATE RECEIVED: 02/14/92

DATE REPORTED: 02/26/92

LABORATORY NUMBER: 106568

CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING

PROJECT ID: 6-92-5314

LOCATION: ALCOPARK

RESULTS: SEE ATTACHED

*Kathy O'Brien*  
Reviewed By

*[Signature]*  
Reviewed By

LABORATORY NUMBER: 106568

DATE RECEIVED: 02/14/92

CLIENT: ENVIRONMENTAL SCIENCE &amp; ENGINEERING

DATE ANALYZED: 02/18/92

PROJECT ID: 6-92-5314

DATE REPORTED: 02/21/92

LOCATION: ALCOPARK

Total Volatile Hydrocarbons with BTXE in Soils & Wastes  
 TVH by California DOHS Method/LUFT Manual October 1989  
 BTXE by EPA 5030/8020

LAB ID	SAMPLE ID	TVH AS GASOLINE (mg/Kg)	BENZENE (ug/Kg)	TOLUENE (ug/Kg)	ETHYL BENZENE (ug/Kg)	TOTAL XYLENES (ug/Kg)
106568-5	COMP SS-WO-1	13*	ND(5.0)	39	99	710
	SS-WO-2					
	SS-WO-3					
	SS-WO-4					

\* Pattern does not match gasoline standard.

ND = Not detected at or above reporting limit; Reporting limit indicated in parentheses.

## QA/QC SUMMARY

RPD, %	3
RECOVERY, %	102

LABORATORY NUMBER: 106568  
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
 PROJECT ID: 6-92-5314  
 LOCATION: ALCOPARK

DATE RECEIVED: 02/14/92  
 DATE EXTRACTED: 02/19/92  
 DATE ANALYZED: 02/20/92  
 DATE REPORTED: 02/21/92

Extractable Petroleum Hydrocarbons in Soils & Wastes  
 California DOHS Method  
 LUFT Manual October 1989

LAB ID	SAMPLE ID	KEROSENE RANGE (mg /Kg)	DIESEL RANGE (mg /Kg)	REPORTING LIMIT* (mg /Kg)
106568-5	COMP SS-WO-1	ND	53	1.0
	SS-WO-2			
	SS-WO-3			
	SS-WO-4			

ND = Not Detected at or above reporting limit.

\*Reporting limit applies to all analytes.

QA/QC SUMMARY

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LCS RECOVERY, %

=====

82

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LABORATORY NUMBER: 106568  
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
 PROJECT ID: 6-92-5314  
 LOCATION: ALCOPARK

DATE RECEIVED: 02/14/92  
 DATE ANALYZED: 02/19/92  
 DATE REPORTED: 02/21/92

ANALYSIS: HYDROCARBON OIL AND GREASE  
 METHOD: SMWW 17:5520 E&F

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
106568-5	COMP SS-WO-1	250	mg/Kg	50 mg/Kg
	SS-WO-2			
	SS-WO-3			
	SS-WO-4			

QA/QC SUMMARY

=====  
 RPD, % 4  
 RECOVERY, % 84  
 =====

LABORATORY NUMBER: 106568-1  
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
 PROJECT ID: 6-92-5314  
 LOCATION: ALCOPARK  
 SAMPLE ID: COMPOSITE SS-WO-1,2,3,4

DATE RECEIVED: 02/14/92  
 DATE EXTRACTED: 02/18/92  
 DATE ANALYZED: 02/22/92  
 DATE REPORTED: 02/26/92

EPA 8270: Base/Neutral and Acid Extractables in Soils & Wastes  
 Extraction Method: EPA 3550 Sonication

ACID COMPOUNDS	RESULT ug/kg	REPORTING LIMIT ug/kg
Phenol	ND	330
2-Chlorophenol	ND	330
Benzyl Alcohol	ND	330
2-Methylphenol	ND	330
4-Methylphenol	ND	330
2-Nitrophenol	ND	1,650
2,4-Dimethylphenol	ND	330
Benzoic Acid	ND	1,650
2,4-Dichlorophenol	ND	1,650
4-Chloro-3-methylphenol	ND	330
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	1,650
2,4-Dinitrophenol	ND	1,650
4-Nitrophenol	ND	1,650
4,6-Dinitro-2-methylphenol	ND	1,650
Pentachlorophenol	ND	1,650
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	330
Aniline	ND	330
Bis(2-chloroethyl)ether	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
1,2-Dichlorobenzene	ND	330
Bis(2-chloroisopropyl)ether	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
Bis(2-chloroethoxy)methane	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	1,400	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
2-Methylnaphthalene	1,300	330
Hexachlorocyclopentadiene	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1,650



LABORATORY NUMBER: 106568-1  
 SAMPLE ID: COMPOSITE SS-WO-1,2,3,4

EPA 8270

## BASE/NEUTRAL COMPOUNDS

	RESULT ug / kg	REPORTING LIMIT ug / kg
Dimethylphthalate	ND	330
Acenaphthylene	ND	330
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1,650
Acenaphthene	510	330
Dibenzofuran	350	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
4-Chlorophenyl-phenylether	ND	330
Fluorene	570	330
4-Nitroaniline	ND	1,650
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Phenanthrene	3,100	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Fluoranthene	1,700	330
Benzidine	ND	330
Pyrene	ND	330
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	1,650
Benzo(a)anthracene	ND	330
Chrysene	ND	330
Bis(2-ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	330
Benzo(k)fluoranthene	1,000	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	340	330
Dibenzo(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330

ND = Not detected at or above reporting limit.

## QA/QC SUMMARY: % SURROGATE RECOVERIES

2-Fluorophenol	100	Nitrobenzene-d5	89
Phenol-d6	95	2-Fluorobiphenyl	97
2,4,6-Tribromophenol	108	Terphenyl-d14	113

LABORATORY NUMBER: 106568-5  
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
 PROJECT ID: 6-92-5314  
 LOCATION: ALCOPARK  
 SAMPLE ID: COMPOSITE SS-WO-1,2,3,4

DATE RECEIVED: 02/14/92  
 DATE ANALYZED: 02/21/92  
 DATE REPORTED: 02/24/92

EPA 8010: Volatile Halocarbons in Soil & Wastes  
 Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Chloromethane	ND	50
Bromomethane	ND	50
Vinyl chloride	ND	50
Chloroethane	ND	50
Methylene chloride	ND	100
Trichlorofluoromethane	ND	25
1,1-Dichloroethene	ND	25
1,1-Dichloroethane	ND	25
cis-1,2-Dichloroethene	ND	25
trans-1,2-Dichloroethene	ND	25
Chloroform	ND	25
Freon 113	ND	25
1,2-Dichloroethane	ND	25
1,1,1-Trichloroethane	ND	25
Carbon tetrachloride	ND	25
Bromodichloromethane	ND	25
1,2-Dichloropropane	ND	25
cis-1,3-Dichloropropene	ND	25
Trichloroethylene	ND	25
1,1,2-Trichloroethane	ND	25
trans-1,3-Dichloropropene	ND	25
Dibromochloromethane	ND	25
2-Chloroethylvinyl ether	ND	50
Bromoform	ND	25
Tetrachloroethylene	330	25
1,1,2,2-Tetrachloroethane	ND	25
Chlorobenzene	ND	25
1,3-Dichlorobenzene	ND	25
1,2-Dichlorobenzene	ND	25
1,4-Dichlorobenzene	ND	25

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

=====

Surrogate Recovery, %

=====

93

LABORATORY NUMBER: 106568-METHOD BLANK  
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
 PROJECT ID: 6-92-5314  
 LOCATION: ALCOPARK

DATE ANALYZED: 02/21/92  
 DATE REPORTED: 02/24/92

EPA 8010: Volatile Halocarbons in Soil & Wastes  
 Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug /Kg	REPORTING LIMIT ug /Kg
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethylene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Dibromochloromethane	ND	5.0
2-Chloroethylvinyl ether	ND	10
Bromoform	ND	5.0
Tetrachloroethylene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Chlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

=====

Surrogate Recovery, %

=====

84

LABORATORY NUMBER: 106568-5  
 CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING  
 PROJECT ID: 6-92-5314  
 LOCATION: ALCOPARK  
 SAMPLE ID: COMPOSITE SS-WO-1  
                                   SS-WO-2  
                                   SS-WO-3  
                                   SS-WO-4

DATE RECEIVED: 02/14/92  
 DATE ANALYZED: 02/18,19/92  
 DATE REPORTED: 02/21/92

PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
CADMIUM	ND	mg /Kg	0.25	EPA 6010
CHROMIUM	42.0	mg /Kg	0.50	EPA 6010
LEAD	ND	mg /Kg	3.0	EPA 7420
NICKEL	31.7	mg /Kg	1.6	EPA 6010
ZINC	32.5	mg /Kg	1.0	EPA 6010

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

	RPD, %	Recovery, %
CADMIUM	4	102
CHROMIUM	<1	93
LEAD	<1	102
NICKEL	5	90
ZINC	3	91

MS/MSD SUMMARY SHEET FOR EPA 8010/8020

Operator: CW Spike file: 051E/F005  
 Analysis date: 2/20/92 Spike dup file: 051E/F006  
 Sample type: WATER Instrument: GC05  
 Sample Number: 106585-001 5ml

8010 MS/MSD DATA (spiked at 20 ppb) Ave Rec= 105 %

SPIKE COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	21.23	106 %	OK	1 - 183
Trichloroethene	22.81	114 %	OK	55 - 155
Chlorobenzene	19.96	100 %	OK	66 - 133
SPIKE DUP COMPOUNDS				
1,1-Dichloroethene	18.49	92 %	OK	1 - 183
Trichloroethene	22.06	110 %	OK	55 - 155
Chlorobenzene	21.58	108 %	OK	66 - 133
SURROGATES				
1-bromo-4-fluorobenzene (MS)	90.00	90 %	OK	72 - 131
1-bromo-4-fluorobenzene (MSD)	90.00	90 %	OK	72 - 131

8020 MS/MSD DATA (spiked at 20 ppb) Ave Rec= 117 %

SPIKE COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
Benzene	22.96	115 %	OK	76 - 127
Toluene	23.43	117 %	OK	76 - 125
Chlorobenzene	23.61	118 %	OK	66 - 133
SPIKE DUP COMPOUNDS				
Benzene	22.77	114 %	OK	76 - 127
Toluene	23.17	116 %	OK	76 - 125
Chlorobenzene	23.91	120 %	OK	66 - 133
SURROGATES				
Bromobenzene (MS)	100.00	100 %	OK	72 - 131
Bromobenzene (MSD)	100.00	100 %	OK	72 - 131

RPD DATA 8010 RPD= 8.3 % 8020 RPD= 1.1 %

8010 COMPOUNDS	SPIKE	SPIKE DUP	RPD	STATUS	LIMITS
1,1-Dichloroethene	21.23	18.49	14 %	OK	< 14
Trichloroethene	22.81	22.06	3 %	OK	< 14
Chlorobenzene	19.96	21.58	8 %	OK	< 13
8020 COMPOUNDS					
Benzene	22.96	22.77	1 %	OK	< 11
Toluene	23.43	23.17	1 %	OK	< 13
Chlorobenzene	23.61	23.91	1 %	OK	< 13

LABORATORY CONTROL SAMPLE SUMMARY SHEET FOR EPA 8010/8020

Operator: CW Spike file: 051E/F003  
 Analysis date: 2/20/92 Instrument: GC05 (QUANT COLUMN)  
 Sample type: WATER Sequence Name FEB20

LCS SPIKE DATA (spiked at 20 ppb)

8010 COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	21.64	108 %	OK	60 - 133
Trichloroethene	24.29	121 %	OK	88 - 125
Chlorobenzene	21.57	108 %	OK	90 - 127
SURROGATES				
<del>Bromobenzene</del> Bromofluorobenzene	91.02	91 %	NOT OK	98 - 115
8020 COMPOUNDS				
	READING	RECOVERY	STATUS	LIMITS
Benzene	23.67	118 %	OK	62 - 120
Toluene	24.02	120 %	OK	61 - 121
Chlorobenzene	20.62	103 %	OK	84 - 115
SURROGATES				
Bromobenzene	100.57	101 %	OK	91 - 107

need to set new control limits due to change of surrogate.

LABORATORY CONTROL SAMPLE SUMMARY SHEET FOR EPA 8010/8020

Operator: CW Spike file: 051E/F004  
 Analysis date: 2/20/92 Instrument : GC05 (QUANT COLUMN)  
 Sample type: SOIL Sequence Name FEB20

LCS SPIKE DATA (spiked at 20 ppb)

8010 COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	21.78	109 %	OK	28 - 167
Trichloroethene	23.57	118 %	OK	35 - 146
Chlorobenzene	21.77	109 %	OK	38 - 150
SURROGATES				
Bromofluorobenzene	89.28	89 %	<del>NOT</del> OK	98 - 115

8020 COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
Benzene	23.31	117 %	OK	39 - 150
Toluene	23.25	116 %	OK	46 - 148
Chlorobenzene	23.20	116 %	OK	55 - 135
SURROGATES				
Bromobenzene	97.30	97 %	OK	91 - 107

Changed surrogate for 8010. Need to set new control limits.

106568

CHAIN OF CUSTODY RECORD

DATE 2-13-92 PAGE 2 OF 2

PROJECT NAME ALCOPARK  
 ADDRESS OAKLAND, CA

PROJECT NO: 6925314  
~~6-90-5042 PA~~

SAMPLED BY Mike Edmondson

LAB NAME Curtis & Tompkins



Environmental Science & Engineering, Inc.

4090 Nelson Avenue  
 Suite J  
 Concord, CA 94520

(415) 685-4053

Fax (415) 685-5323

SAMPLE #	DATE	TIME	LOCATION	ANALYSES TO BE PERFORMED						MATRIX	MATRIX	NUMBER OF CONTAINERS	REMARKS (CONTAINER, SIZE, ETC.)
				8015M, TPH-G BTEX	8015M, TPH-D (C550)	Oil + Grease SS20	8270 (Semi Vol. HC) (600)	Cd, Cr, Pb, Zn, Ni, Mn	8010 (CI-HC's)				
SS-WO-1	2-13-92	17:25	Stockpile	X	X	X	X	X	X	SOIL	1	1 Brass Ring	
SS-WO-2	2-13-92	17:30	Stockpile	X	X	X	X	X	X	SOIL	1	1 Brass Ring	
SS-WO-3	2-13-92	17:40	Stockpile	X	X	X	X	X	X	SOIL	1	1 Brass Ring	
SS-WO-4	2-13-92	17:45	Stockpile	X	X	X	X	X	X	SOIL	1	1 Brass Ring	

RELINQUISHED BY: (signature) 1. <u>Mike Edmondson</u>	RECEIVED BY: (signature) 1. <u>Patrick Galvin (ESE)</u>	date 1. <u>2/14/92</u>	time 1. <u>0900</u>	4	TOTAL NUMBER OF CONTAINERS
2. <u>Pat Galvin</u>	2. <u>Patrick Galvin</u>	2. <u>7/14/92</u>			
3.					
4.					
5.					

REPORT RESULTS TO: Patrick Galvin

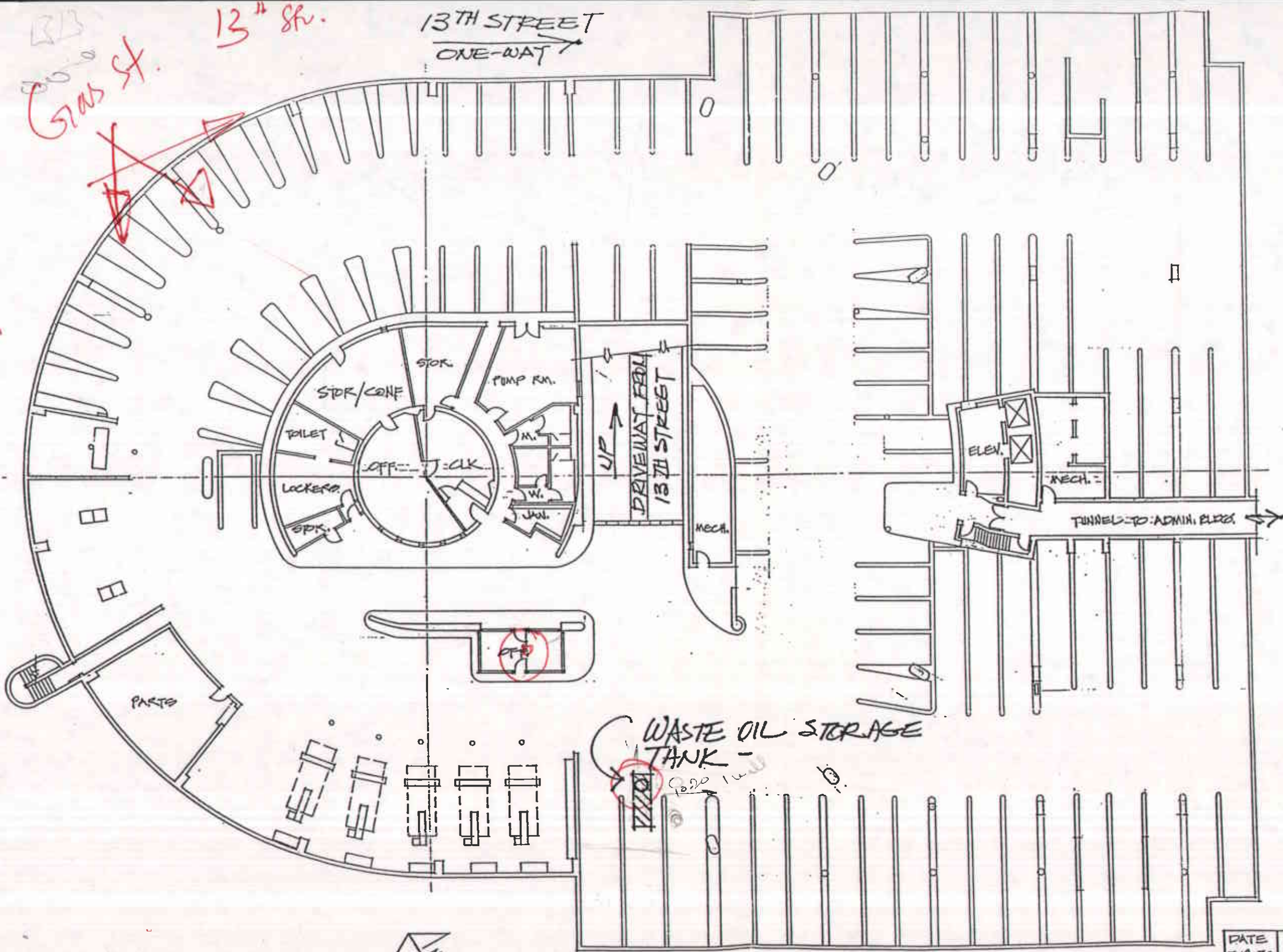
SPECIAL SHIPMENT REQUIREMENTS: Keep Chilled

SAMPLE RECEIPT

INSTRUCTIONS TO LABORATORY (handling, analyses, storage, etc.):  
 Composite 4 Samples, SS-WO-1, SS-WO-2, SS-WO-3, SS-WO-4 and  
 Analyze as one sample. Note revised Project Number, please store 90 days.

CHAIN OF CUSTODY SEALS  
 REC'D GOOD COND'TN/COLD  
 CONFORMS TO RECORD





**FIGURE 2  
SITE PLAN**

**BASEMENT PLAN  
(GARAGE & MOTOR POOL)**

DATE	COUNTY OF ALAMEDA		
7-12-76	GENERAL SERVICES AGENCY		
REV.	BUILDING MAINTENANCE DEPARTMENT		
4-9-86	ALCOPARK		
SCALE	105-12TH ST, OAKLAND, CALIF.		
1/4" = 1'-0"	BASEMENT PLAN		
DR BY	H.R. SAVAGE	SHT/OF	DWG NO.
TCS	BLDG. SUPT.	1/5	75-6-156