COPY

Report on

UNDERGROUND TANK REMOVAL ACTIVITIES
APL CONTAINER YARD EARTHQUAKE REPAIR
1395 Middle Harbor Road
Oakland, California

Prepared for:

Port of Oakland Oakland, California

November 1990

Prepared by:

BASELINE ENVIRONMENTAL CONSULTING 5900 Hollis Street, Suite D Emeryville, California 94608 (415) 420-8686

S9-134.40



BOARD OF PORT COMMISSIONERS CITY OF OAKLAND

December 10, 1990

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SUBJECT: UNDERGROUND TANK REMOVALS AT APL CONTAINER YARD,

1395 MIDDLE HARBOR ROAD, OAKLAND, CALIFORNIA

Dear Mr. Byrne:

Enclosed please find the report on underground tank removal activities at 1395 Middle Harbor Road in Oakland, California. A copy of the report has also been forwarded to the Regional Water Quality Control Board, San Francisco Bay Region.

I you have any questions or require additional information, please contact me at 272-1178.

C/I

NO DEC

Sincerely,

Andrew B. Clark-Clough Environmental Scientist

2-12-1178

ABC/ABC

cc: Tom Gandesbery - RWQCB



BOARD OF PORT COMMISSIONERS CITY OF OAKLAND

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80 Swan Way, Rm. 200 Oakland, CA 94621

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ABC/ABC

Tom Gandesbery - RWOCB

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ENVIRONMENTAL CONSULTING

20 November 1990 S9-134.40

Mr. Andrew Clark-Clough Environmental Department Port of Oakland 530 Water Street Oakland, CA 94607-2064

Subject: Underground Tank Removals at APL Container Yard Earthquake Repair, 1395

Middle Harbor Road, Oakland, California

Dear Mr. Clark-Clough:

Enclosed please find seven copies of our report on underground tank removal activities at 1395 Middle Harbor Road in Oakland, California. Copies of the report should be sent to Alameda County Department of Environmental Health and to the Regional Water Quality Control Board, San Francisco Bay Region.

If you have any questions or require additional information, please do not hesitate to contact us at your convenience.

Irene Kan, M.P.H

Vice President

Sincerely,

Ýane Nordhav

Principal

Reg. Geologist No. 4009

YN:IK:cr/S9-134

Enclosure

Report on

UNDERGROUND TANK REMOVAL ACTIVITIES APL CONTAINER YARD EARTHQUAKE REPAIR 1395 Middle Harbor Road Oakland, California

Prepared for:

Port of Oakland Oakland, California

November 1990

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UNDERGROUND TANK REMOVAL ACTIVITIES APL CONTAINER YARD EARTHQUAKE REPAIR

INTRODUCTION

The Port of Oakland (PORT) has removed four underground storage tanks from its property in the Middle Harbor Terminal, Oakland (see Figure 1). The tanks were removed from 1395 Middle Harbor Road, a site currently occupied by American President Companies (also referred to as American President Line, or APL), a container shipping firm.¹ The four underground tanks were removed as part of the PORT's APL Container Yard Earthquake Repair, Middle Harbor Terminal Project, a four-month project to repair pavement, storm drains, and subsurface utility structures that were damaged during the October 1989 earthquake.

The purpose of this report is to provide documentation that tank removal activities were performed in accordance with the requirements of the Alameda County Department of Environmental Health (County) and with the guidelines established by the Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) for removal of underground tanks.

SCOPE OF WORK

The PORT retained BASELINE to obtain underground tank closure permits from the County and from the City of Oakland Fire Department, collect soil and groundwater samples, coordinate with regulatory agencies, supervise excavation and disposal/treatment of soils containing petroleum hydrocarbons, and document tank removal and sampling activities. The PORT retained O. C. Jones and Sons, general contractors, of Berkeley, California to perform the earthquake repair work, including the removal of the four underground tanks. IT Corporation of Martinez, California, a subcontractor to O. C. Jones and Sons, was responsible for tank removals, associated soil excavation, and site restoration.

BACKGROUND

The site is located in the northwestern portion of the City of Oakland, adjoining Oakland Middle Harbor. Railway shipping terminals are located along the adjacent waterfront areas north and west of the APL facility; Schnitzer Steel, a scrap metal yard, is located to the east.

Tank locations in the APL facility are depicted in Figure 1. Three of the removed tanks were located at the "M & R Building" and a fourth tank, at the wharf area.² Tanks FF11_FF12, and EF13 (M & R Building location) were single-wall steel tanks installed in 1975 and inactivated before 1987. Tank EF11 was a 2,000-gallon tank used for storage of gasoline; tank EF12 was a 10,000-gallon tank used for storage of diesel; and tank EF13 was a 550-gallon tank used for storage of waste oil.

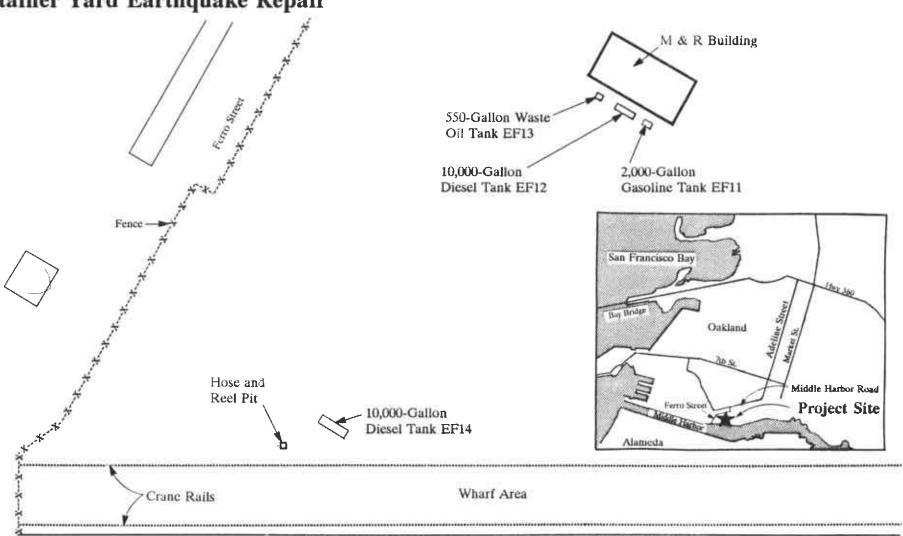
¹The tanks were located at the 1579 Middle Harbor Road address when the site was occupied by the former U.S. Lines. The tanks became part of 1395 Middle Harbor Road when American President Companies assumed operational responsibility for the facilities at 1579 Harbor Road.

²"M & R Building" is PORT nomenclature; the building is referred to by APL as the "Rigging Loft Building."

REGIONAL LOCATION AND SITE MAP

Figure 1

Underground Tank Removal American President Companies ("APL") Container Yard Earthquake Repair



1395 Middle Harbor Road Oakland, California

Middle Harbor



Source: Jordan Woodman Dobson Architecture Engineering, May 1990.

Tank EF14 (wharf location) was a 10,000-gallon, single-wall fiberglass tank installed in 1975 for storage of diesel and inactivated before 1987. Fuel was dispensed from a hose and reel pit located approximately 67 feet west of the tank.

Prior to site activities, BASELINE obtained permits from the County and the City of Oakland Fire Department to remove the underground tanks. BASELINE also notified the Bay Area Air Quality Management District (BAAQMD) of the tank removals. Copies of the tank closure permits and BAAQMD notification are included as Appendix A.

FIELD ACTIVITIES

Field activities for removal of the underground tanks consisted of: 1) observation and documentation of tank removal activities, including verification sampling of the tank excavation areas, and 2) soil sampling for management of excavated soils.

Tank Removal

In preparation for removal of the tanks, Refinery Services of Patterson, California, disposed of residual liquid from all of the tanks using a vacuum truck, and IT Corporation displaced residual combustible vapors using carbon dioxide. A copy of the hazardous waste manifest for the residual tank liquid is included as Appendix B.

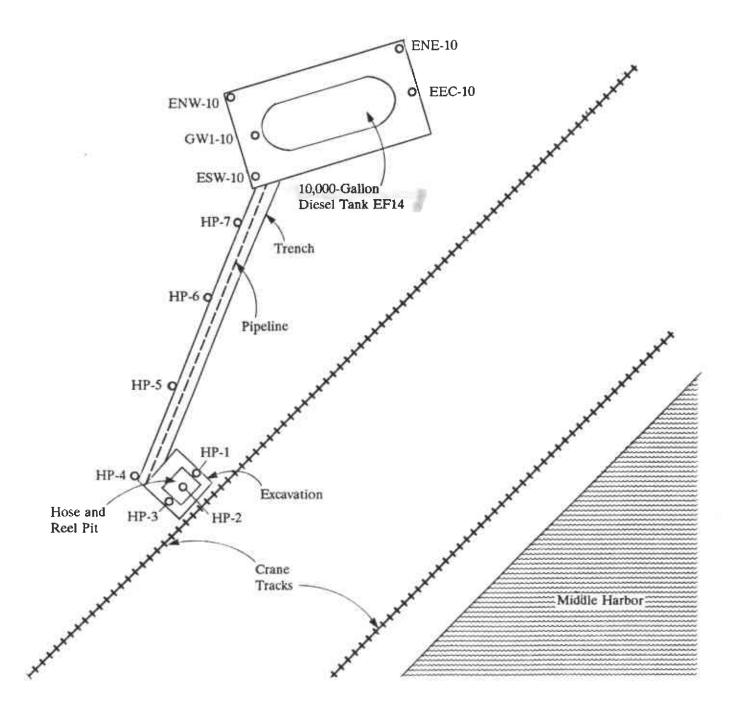
The tanks were removed after inspections by representatives of the County and the Oakland Fire Department verified that the lower explosive limit (LEL) readings within the tanks were within the acceptable range. All tanks were transported by Erickson, Inc. to their facility in Richmond, California, for cleaning and dismantling; the tanks were disposed of as scrap metal at LMC Corporation in Richmond (except for the fiberglass tank EF14). Copies of the hazardous waste manifests and certificates of disposal for the tanks are included as Appendix B. Fiberglass tank EF14 was disposed of at a Class III landfill, BFI Waste System in Livermore, California.

After removal of tanks, associated pipelines, and dispensing equipment, and after excavation of apparent contaminated soils, soil samples from the side walls and/or bottom of the excavations were collected by a backhoe at depths and locations identified by the BASELINE field person in the presence of a representative of the Alameda County Department of Environmental Health.

The soil samples were collected after removal of about six inches of the surface soil; a brass liner was driven into the soil mass, then removed and capped with aluminum foil and plastic caps, sealed with tape, placed in a ziplock bag, and placed in a cooled container. All samples were delivered to Curtis & Tompkins Laboratory in Berkeley for analysis, following strict chain-of-custody and sample labeling procedures. The laboratory reports and chain-of-custody documents are included as Appendix C. Tank removal activities and analytical results for soils collected from each of the excavation areas are described below.

Tank EF14 (Wharf Location)

IT Corporation removed tank EF14 on 30 August 1990 (Figure 2). BASELINE observed a number of cracks along the fiberglass tank seams during its removal. Groundwater accumulated in the excavation at a depth of approximately 10 feet below the ground surface. The tank invert was located 12 feet below the ground surface.



American President Companies ("APL") 1395 Middle Harbor Road Oakland, California



TABLE 1

ANALYTICAL RESULTS, VERIFICATION SAMPLING, SOIL AND GROUNDWATER

APL Container Yard Earthquake Repair 1395 Middle Harbor Road, Oakland1

> Tank EF14 (Wharf Area) (mg/kg, except where noted)

» — =	Sample Location ²	Date Sampled	Sample Depth (feet)	Diesel	Benzene	Toluene	Xylenes	Ethyl- benzene
Tank	EF14 Excavation							
	EEC-10	8/30/90	10.0	ND	ND	ND	ND	ND
	ENE-10	8/30/90	10.0	ND	ND	ND	ND	ND
	ENW-10	8/30/90	10.0	ND	ND	ND	ND	ND
	ESW-10	8/30/90	10.0	ND	ND	ND	ND	ND
	GW1-10 (mg/L)3	8/30/90	11.0	NA	ND	ND	ND	ND
Hose I	and Reel Pit							
ويستمسانا وروا	- P-1-44	8/30/90	4.0	14,000	ND	ND	0.320	0.038
Howel backful	HP-1	9/11/90	5.0	2.1	ND	ND	0.010	ND
material which	HP-2	9/11/90	5.0	200	ND	ND	0.0091	ND
to her a trans	HP-3	9/11/90	4.0	2.7	ND	ND	0.0073	ND
P. 2 codected	•							
A second control of	HP-4	9/11/90	3.0	1.8	ND	ND	0.0061	ND
rection	HP-5	9/11/90	2.75	5.3	ND	ND	0.0073	ND
	HP-6	9/11/90	2.75	9.7	ND	ND	0.010	ND
	HP-7	9/11/90	2.5	2.3	ND	ND	0.0052	ND
	EPA Method;5			8015M	5030/8020	5030/8020	5030/8020	5030/8020
	Detection Limit (mg	/kg):		1.0	0.005	0.005	0.005	0.005

Tank EF14, a 10,000-gallon diesel tank, was located at the 1579 Middle Harbor Road address until APL assumed operational responsibility for the site. The tank is now considered part of 1395 Middle Harbor Road.

Groundwater sample; not analyzed for diesel in laboratory due to insufficient sample volume.

Sample P-1-4 was also analyzed for Title 26 metals, pH, acute aquatic toxicity, and volatile organics to determine whether the soils would be classified as hazardous waste according to CCR Title 26. The analytical results indicated that the soils would not be considered hazardous waste (laboratory report in Appendix C). The sample material was excavated and stockpiled on plastic.

Soils analytical method only.

ND = None detected.

NA = Not analyzed.

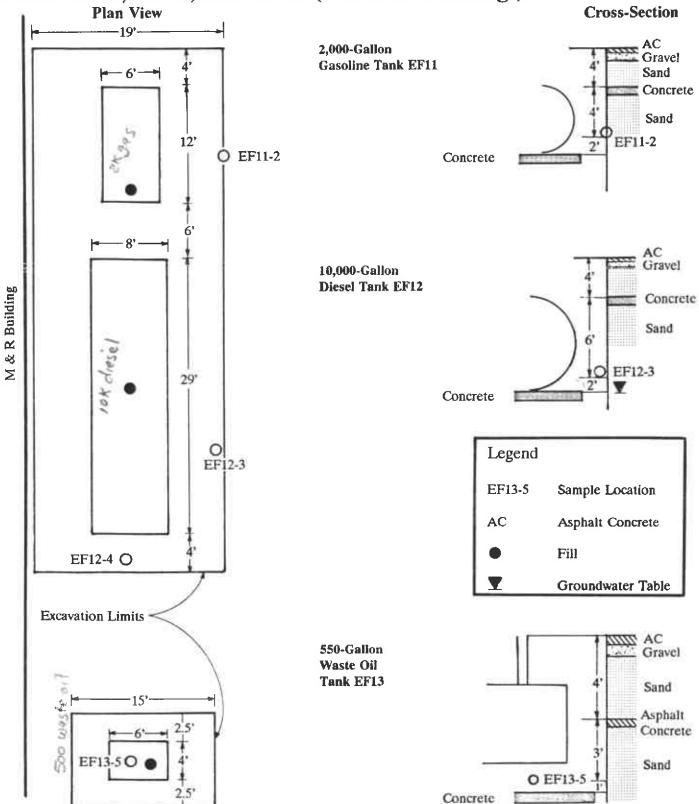
Premaining in place

In situ samples collected after completion of overexcavation activities. Sampling locations are shown in Figure 2; laboratory reports are included as Appendix C. All samples, except for sample P-1-4, represent the quality of the soil remaining in the ground after excavation.

SOIL SAMPLING LOCATIONS

Figure 3

Tanks EF11, EF12, and EF13 (" M & R Building")



American President Companies ("APL") 1395 Middle Harbor Road Oakland, California

BASELINE

TABLE 2

ANALYTICAL RESULTS, SOILS AND GROUNDWATER

APL Container Yard Earthquake Repair 1395 Middle Harbor Road, Oakland¹

Tanks EF11, EF12, EF13 (M & R Building²) (mg/kg, except where noted)

Sample Location ³	Date Sampled	Sample Depth (feet)	Diesel	Gasoline	Oil and Grease	Benzene	Toluene	Xylenes	Ethyl- benzene	Organic Lead	Metals ⁴	Volatile Organics	Semi- Volatile Organics
Tank EF11													
EF11-1	9/05/90	8.0	NA	8.3	NA	0.024	ND	0.130	0.096	ND	NA	NA	NA
EF11-2	9/05/90	8.0	NA	1.7	NA	0.036	ND	0.010	0.070	ND	NA	NA	NA
Tank EF12													
EF12-3	9/05/90	10.0	ND	NA	NA	ND	ND	ND	ND	NA	NA	NA	NA
EF12-4	9/05/90	10.0	ND	NA	NA	ND	ND	ND	ND	NA	NA	NA	NA
GW6/GW7		11.5	5.8	NA	NA	ND	0.009	0.008	ND	NA	NA	NA	NA
Tank EF13	7												
EF13-56	9/05/90	7.0	NA	NA	94	NA	NA	NA	NA	NA	Cd 0.6 Cr 15.0 Pb ND	ND	ND
			_	~	1						Zn 28.0		
	EPA Me	thod:7	*	C8015M	8015M	503E	5030/8020	5030/8020	5030/80203	0/8020	7420	Charles and the Control of the Contr	30/8240350627
	Detection	n Limit (mg	/kg):10.0	10.0	0.005	0.005	0.005	0.005	0.005	0.5	Rept.	Rept.	Rept.

Tanks EF11, EF12, and EF13 were located at the 1579 Middle Harbor Road address until APL assumed operational responsibility for the site. The tanks are now considered part of 1395 Middle Harbor Road.

Referred to by APL as the Rigging Loft Building.

Groundwater sample; results reported as mg/L...

Soils analytical methods only.

Notes: NA = Not analyzed.

ND = None detected.

Rept. = See laboratory report in Appendix C.

All samples were collected in place after completion of overexcavation activities (except for sample EF13-5). Sampling locations are shown in Figure 3; laboratory reports are included in Appendix C.

⁴ Cd = Cadmium, Cr = Chromium (total), Pb = Lead, and Zn = Zinc.

Sampled material subsequently excavated and stockpiled. Due to presence of oil and grease, excavated materials were transported to PORT site for bioremediation (see Soils Management).

Source: Standard Methods for the Examination of Water and Wastewater.

EPA Method 7420 used for analysis of lead.

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The accumulated water was evacuated by a vacuum truck (Laidlaw Environmental) and the groundwater allowed to recharge before a sample was collected (see Appendix B for the manifest). Insufficient water accumulated in the tank excavation to allow for collection of samples for analysis of total petroleum hydrocarbons (TPH). Samples were collected in VOA containers for analysis of the volatile compounds benzene, toluene, xylenes, and ethylbenzene (BTXE). Laboratory analysis indicated no detectable levels of BTXE. Analytical results for in-place soil and groundwater samples collected in the former tank (EF14 area are discussed below for three components of removal: 1) tank excavation, 2) hose and reel pit, and 3) pipeline trench. All sample results shown in Table 1, except for P-1-4 collected in the hose and reel pit, represent the quality of soil remaining in the ground after excavation.

Tank Excavation. Four in-place soil samples (EEC-10, ENE-10, ENW-10, and ESW-10) were collected in the excavation side walls at a depth of approximately 10 feet below the ground surface following overexcavation activities (Figure 3). The invert of tank EF14 was 12 feet below the ground surface. The sampled soils consisted of sandy fill material. Laboratory analyses indicated that none of the samples contained detectable levels of diesel or BTXE. Table 1 contains a summary of the analytical results.

Hose and Reel Pit. The hose and reel pit and approximately 67 feet of pipeline associated with tank EF14 were removed on 11 September 1990. The hose and reel pit consisted of a concrete vault approximately 7 feet by 7 feet by 4 feet in depth and contained a pump and fuel dispensing equipment. A total of four soil samples were collected in the area of the former hose and reel pit (Figure 2). Sample P-1-4 was collected in the gravel immediately underlying the concrete floor (prior to removal of the vault). The sample contained 14,000 mg/kg diesel, 0.320 mg/kg xylenes, and 0.038 mg/kg ethylbenzene.³ The gravels were subsequently removed from the pit and stockpiles (see Soils Management).

Samples HP-1 and HP-3 were collected from the side walls and sample HP-2 was collected in-place from the bottom of the hose and reel pit after removal of the vault and completion of overexcavation. These samples contained residual diesel hydrocarbons ranging from 2.1 mg/kg to 200 mg/kg and residual xylenes ranging from 0.0073 to 0.01 mg/kg. Benzene, toluene, and ethylbenzene were not detected in these samples.

Pipeline Trench. Four soil samples (HP-4, HP-5, HP-6, and HP-7) were collected in the bottom of the trench at 20-foot intervals. The trench formerly contained the pipeline connecting tank EF14 to the hose and reel pit. The samples contained diesel hydrocarbons at concentrations ranging from 1.8 to 9.7 mg/kg and xylenes at concentrations ranging from 0.0052 to 0.01 mg/kg. Benzene, toluene, and ethylbenzene were not detected.

Excavated soils were placed in stockpiles on plastic for subsequent sampling to determine disposal or treatment options (see Soils Management). Final dimensions of the diesel tank (EF14) excavation were 21 feet by 38 feet by 12 feet deep. Final dimensions of the hose and reel pit excavation were 10 feet by 10 feet by 5 feet deep. The trench excavation was 65 feet by 5 feet by 3 feet deep.

 $^{^3}$ Sample P-1-4 was analyzed further to verify that the gravel was not hazardous waste according to California Code of Regulations (CCR) Title 26. The analytical results (Appendix C) indicated the presence of metals at levels below the CCR Title 26 TTLCs and below ten times the STLCs. Acetone and 2-butanone were detected in sample P-1-4 by EPA Method 8240 at concentrations of 0.13 and 0.065 mg/kg, respectively. The flash point of sample P-1-4 was 177° C. The pH was 11.8 standard units. A 96-hour static acute bioassay of sample P-1-4 yielded an LC₅₀ of greater than 750 mg/L.

Tanks EF11, EF12, and EF13 (M & R Building)

IT Corporation removed tanks EF11, EF12, and EF13 and associated pipelines on 5 September 1990. Two excavations were created to remove the tanks: tanks EF11 and EF12 were located in one excavation and tank EF13, in a second excavation (Figure 3). All tanks had been strapped down to concrete pads. Upon removal of the three tanks, BASELINE did not observe evidence of corrosion or holes in the tanks.

Gasoline odors were detected by the excavating contractor during excavation of tank EF11. Groundwater accumulated at a depth of 11.5 feet in the west end of the excavation (former location of 25,000 games to be a supplied of the excavation (former location of 25,000 games to be a supplied of tank EF11. A groundwater sample (GW6/GW7) was collected for laboratory analysis. The sample contained 5.8 mg/kg of diesel, 0.0009 mg/kg of toluene, 0.0008 mg/kg of xylenes; no detectable levels of benzene or ethylbenzene were identified. Groundwater was not encountered at the eastern portion of the excavation (former location of the 2.000 gatton gasoline to 1. EF11), which was excavated to a depth of only 10 feet.⁴

BASELINE collected two soil samples at each end of former tanks EF11 and EF12 (a total of four samples) to determine whether releases of product had occurred. Soil samples consisted of sandy fill material. The soil samples EF11-1 and EF11-2 were collected from the side walls of tank EF11 excavation area at a depth of 8 feet. The samples contained 8.3 and 1.7 mg/kg of gasoline, 0.024 and 0.036 mg/kg of benzene, 0.13 and 0.01 mg/kg of xylenes, and 0.096 and 0.07 mg/kg of ethylbenzene, respectively. Organic lead was not detected in either sample.

The soil samples EF12-3 and EF12-4 were collected from the side walls of the tank EF12 excavation area at a depth of 10 feet below the ground surface. The samples contained no detectable concentrations of petroleum hydrocarbons. The groundwater sample collected in the excavation (GW6/GW7) contained 5.8 mg/L diesel, 0.009 mg/L toluene, and 0.008 mg/L xylenes.

After removal of tank EF13, BASELINE collected one soil sample (EF13-5) in the excavation at a depth of approximately 1 foot below the former tank invert (7 feet). The soils at this depth appeared to be stained. Sample EF13-5 was analyzed in the laboratory as containing 94 mg/kg of oil and grease, no detectable volatile organics (EPA Method 8240), no detectable semi-volatile organics (EPA Method 8270), 0.6 mg/kg of cadmium, 15 mg/kg of chromium, no detectable levels of lead, and 28 mg/kg of zinc. No odors were detected in the excavation for tank EF13 and no groundwater was observed in the former tank area.

Based on groundwater sampling results for tank EF12 and on analytical results of soil sampling in the tank EF11 and EF13 excavations, the former tank areas were overexcavated to remove soils that could contain petroleum hydrocarbons. Versiant exceptions was finited by the presence of experts pade (Figure 3). Excavated soils were placed on plastic for subsequent sampling (see Soils Management).

Final dimensions of the excavation for tanks EF11 and EF12 were 55 feet by 19 feet; the depths in the areas of former tanks EF11 and EF12 were 12 feet and 10 feet, respectively. Final dimensions of the excavation for tank EF13 were 15 feet by 9 feet by 7 feet deep.

Unauthorized Release/Contamination Site Reports

Based on the soils and groundwater sampling results and on visual observations of tank failure (tank EF14), Underground Storage Tank Unauthorized Release/Contamination Site Reports were completed for tanks EF11, EF12, EF13, and EF14. The reports are included in Appendix D.

pit rechair

⁴The inverts of tanks EF11 and EF12 were located at depths of 10 and 12 feet, respectively, below the ground surface.

Soil Management

All excavated soils were stockpiled near the respective excavations. Soils potentially containing petroleum hydrocarbons were segregated and placed on plastic. The locations of the stockpiles generated by the excavation of tank EF14 (stockpiles A, B, C, D) and the hose and reel pit and pipeline excavation are shown in Figure 4. The stockpiles from the excavation of tanks EF11, EF12, and EF13 are shown in Figure 5.

Each stockpile was sampled to identify one of the following soil disposition methods: 1) use soils as backfill in the tank excavation (if no detectable levels of hydrocarbons), 2) transport soils to the PORT's soil treatment site at Langley and Doolittle streets in Oakland (if contaminated soils were not hazardous, as defined by CCR Title 26), or 3) transport soils to a Class I disposal site as hazardous waste. One soil sample was collected and analyzed for each 20 cubic yards of excavated soils to determine the appropriate disposal options for the soil. According to the RWQCB, soils may not be used as backfill unless sampling indicates that chemical constituents are not detected and the sampling frequency is one sample per 20 cubic yards.

All samples were collected by clearing six inches of soils from the sampling location in the stockpile and driving the hand sampler into the soil mass. After collection, samples were handled in the same manner as described above for sampling in the excavation areas. The stockpile analytical results indicated that the excavated soils did not contain petroleum hydrocarbons at levels that may render the soils hazardous. A small of approximately 332 cubic yards (cy) of soils containing petroleum hydrocarbons were transported to the PORT's site for treatment by Bay Area Tank and Marine of Pacheco, California. The remaining soils, those not containing petroleum hydrocarbons, were used as backfill on-site.

Soils transported to the Langley and Doolittle site were placed on plastic and covered with plastic. The site has been approved by the RWQCB for temporary bioremediation of non-hazardous waste soils. Soil treatment would be expected to require no more than three months and would be performed in accordance with a work plan and site safety plan that have been reviewed and approved by the RWQCB. Upon completion of soil treatment and verification sampling, soils would be used as fill on PORT property. The PORT would provide advance notification to the County and the RWQCB of all fill activities.

Specific stockpile sampling results and the disposition of the excavated soils are described below for the Wharf Area and M & R Building tanks.

Tank Vila (Wharf Area)

A total of 180 or of soils were transported to the Langley and Doolittle site from teals ECLL, and trench excavations combined. Analytical results for samples collected in the stockpiles of excavated soils are presented in Table 3; stockpile sampling locations are depicted in Figure 4. Based on the analytical results, stockpiles A, B, C, and portions of D (soils excavated from the former tank area) were transported to the PORT site at Langley and Doolittle streets for bioremediation. Two samples (SA-5 and SA-6), collected from stockpile A for further analyses, verified that these soils were not hazardous waste according to CCR Title 26. Sample HP-S1 collected from the hose and reel pit spoils was analyzed for volatile organics by EPA Method 8240 because organics had been detected in another sample, P-1-4, from the hose and reel pit. Volatile organics were not detected.

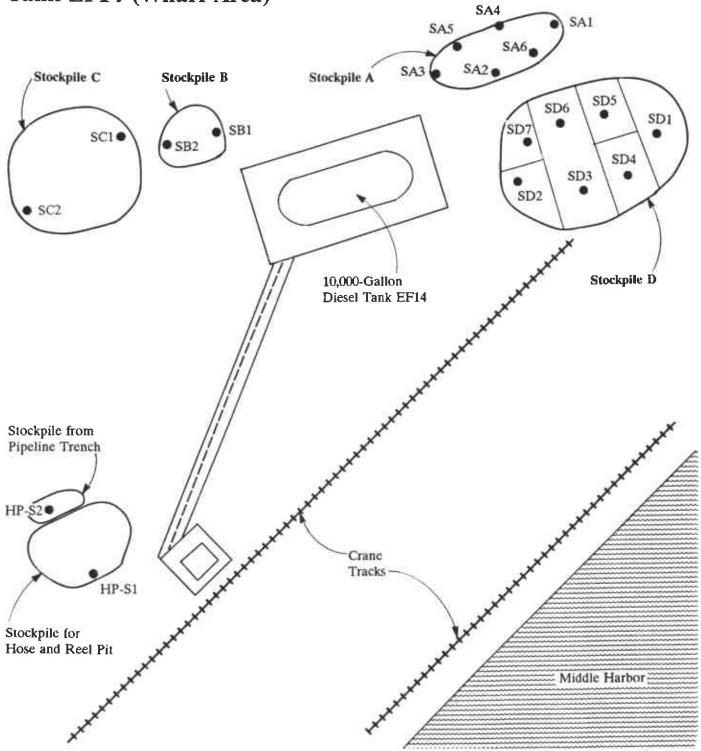
Stockpile D soils were used as backfill with the exception of soils in the vicinity of sampling location SD-6. Approximately 20 cubic yards from this sampling location were transported to the Langley and Doolittle site for bioremediation. Based on the analytical results, all soils and gravels excavated from the former hose and reel pit area and pipeline excavation were transported to the Langley and Doolittle site for bioremediation.

⁵Verification that the soils were not hazardous waste was performed to ensure compliance with the RWQCB conditions for approval of the Langley and Doolittle site as a soils treatment area.

STOCKPILED SOIL SAMPLING LOCATIONS

Figure 4

Tank EF14 (Wharf Area)

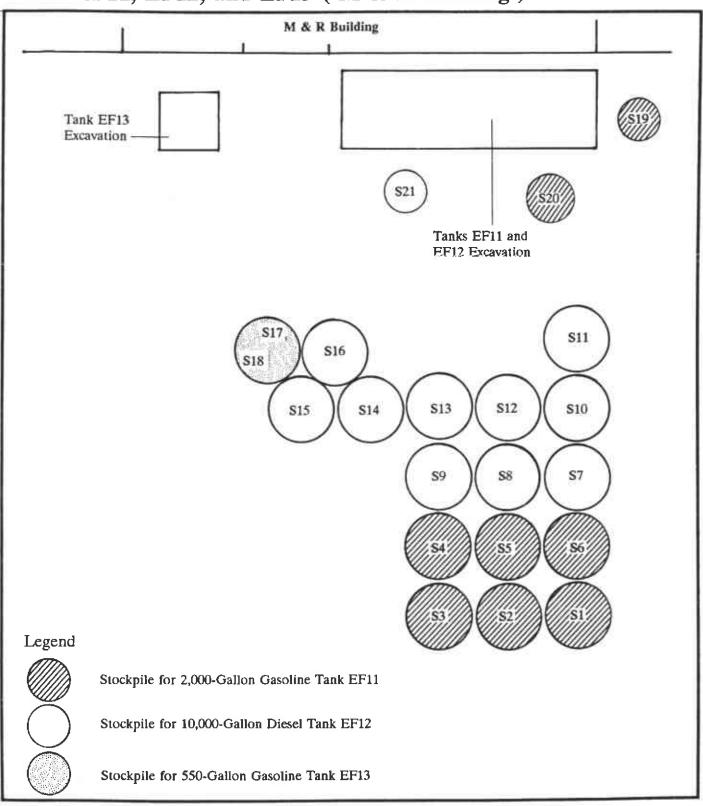


American President Companies ("APL") 1395 Middle Harbor Road Oakland, California



STOCKPILED SOIL SAMPLING LOCATIONS Tanks EF11, EF12, and EF13 ("M & R Building")

Figure 5



American President Companies ("APL") 1395 Middle Harbor Road Oakland, California



TABLE 3

ANALYTICAL RESULTS, STOCKPILED SOILS APL Container Yard Earthquake Repair 1395 Middle Harbor Road, Oakland Tank EF14 (Wharf Area)

(mg/kg)

Source of						1421144414
Soils and	Date	D			044/40/000	Ethyl-
Sample I.D. ¹	Sampled	Diesel	Benzene	Toluene	Xylenes	benzene
Tank EF14						
Stockpile A						
SA-1,2,3,4*	8/30/90	930	ND	ND	ND	ND
SA-5 ²	8/30/90	NA	NA	NA	NA	NA
SA-6 ²	8/30/90	NA	NA	NA	NA	NA
Stockpile B						
SB-1,2*	8/30/90	390	ND	ND	ND	ND
Stockpile C						
SC-1,2*	8/30/90	120	ND	ND	ND	ND
Stockpile D						
SD-1,2*	8/30/90	ND	ND	ND	ND	ND
SD-3	9/04/90	ND	ND	ND	ND	ND
SD-4	9/04/90	ND	ND	ND	ND	ND
SD-5	9/04/90	ND	ND	ND	ND	ND
SD-6	9/04/90	1	ND	ND	ND	ND
SD-7	9/04/90	ND	ND	ND	ND	ND
Hose and Reel Pit S	tockpile					
HP-S1	9/11/90	32	ND	ND	0.010	ND
Pipeline Stockpile						
HP-S2 ⁴	9/11/90	ND	ND	ND	0.0065	ND
EPA Metho	d:	8015M	5030/8020	5030/8020	5030/8020	5030/8020
Detection L	imit (mg/kg):	10.0	0.005	0.005	0.005	0.005

Locations shown in Figure 4; laboratory results are in Appendix C.

Notes: * = Composited samples.

ND = None detected.

NA = Not analyzed.

Samples SA-5 and SA-6 were collected from stockpile A to verify that these soils were not hazardous waste according to CCR Title 26. Sample SA-5 was analyzed for Title 26 metals. None were detected at levels greater than Title 26 STLCs or TTLCs.

Sample SA-6 was analyzed by Kennedy/Jenks/Chilton Laboratory for aquatic toxicity by a 96-hour static acute bioassay. The LC₅₀ exceeded 750 mg/L.

Sample HP-S1 was also analyzed for volatile organics by EPA Method 8240 because a previous sample, P-1-4, collected in the hose and reel pit contained acetone and 2-butanone. Volatile organics were not detected in sample HP-S1.

TABLE 4

ANALYTICAL RESULTS, STOCKPILED SOILS

APL Container Yard Earthquake Repair 1395 Middle Harbor Road, Oakland¹ Tanks EF11, EF12, EF13 (M & R Building²⁾ (mg/kg)

Tank Excavation (stockpile source)	Stockpile	Sample Depth (feet)	Diesel	Gasoline	Oil and Grease	Benzene	Toluene	Xylenes	Ethyl- benzene	Cadmium	Chromium	Lead	Zinc	Volatile Organics	Semi- Volatile Organics
Tank EF11	S 1	EF11	NA	ND	NA	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
(2,000-	S2	EF11	NA	ND	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
gallon	S3	EF11	NA	ND	NA	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
gasoline)	S4	EF11	NA	ND	NA	0.0078	ND	ND	ND	NA	NA	NA	NA	NA	NA
,	S5	EF11	NA	1.5	NA	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	S6	EF11	NA	ND	NA	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
Tank EF12	S 7	EF12	ND	NA	NA	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
(10,000-	S8	EF12	ND	NA	NA	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
gallon	S9	EF12	ND	NA	NA	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
diesel)	S10	EF12	ND	NA	NA	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
•	S11	EF12	ND	NA	NA	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	S12	EF12	41	NA	NA	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	S13	EF12	50	NA	NA	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	S14	EF12	ND	NA	NA	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	S15	EF12	63	NA	NA	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	S16	EF12	ND	NA	NA	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
Tank EF13	S17	EF13	NA	NA	ND	NA	NA	NA	NA	1.3	15	23	37	ND	ND
(550-gallon waste oil)	S18	EF13	NA	NA	ND	NA	NA	NA	NA	0.9	13	12	26	ND	ND
EPA Met			8015M	8015M	503E	5030/8020			,	6010		5030/7420	3550/8270	8240	8270
Detection	Limit (mg/kg	g):	10.0	10.0	50	0.005	0.005	0.005	0.005	0.5	0.5	2.5	0.5	Rept.	Rept.

Notes: NA = Not analyzed.

ND = None detected.

Sampling locations depicted in Figure 5; laboratory reports are included as Appendix C.

Samples collected on 5 September 1990.

Rept. = See laboratory report in Appendix C.

Stockpiles S19, S20, and S21 (see Figure 5) were not sampled. Stockpiles S19, S20, and S21 were not sampled because the soils would be transported to the Langley and Doolittle site for treatment. Combustible vapor readings were elevated for stockpiles S19 and S20; stockpile S21 was assumed to contain diesel hydrocarbons in the same range as stockpiles S12 and S15.

Tanks EF11, EF12, and EF13 (M & R Building)

Soils excavated from these tank areas were stockpiled on plastic in piles of approximately 20 cubic yards or less and a sample collected from each stockpile. Analytical results for samples collected in the stockpiles of excavated soils are presented in Table 4; samples are identified by the number of the stockpile from which the sample was collected. Stockpile sampling locations are shown in Figure 5. A total of 145 cy were transported from the M & R Building tank removal excavations to the Langley and Doolittle site for soil treatment. Based on the analytical results, soils from stockpiles \$4, \$5, \$19, and \$20 were transported to the Langley and Doolittle site for acration treatment, stockpiles \$1, \$2, \$3, and \$6 were used as backfill.

Samples S7 through S16 were collected in the stockpiled soils excavated from former tank EF12 (10,000-gallon diesel tank) area. The analytical results indicated the presence of diesel hydrocarbons at 41 mg/kg (S12), 50 mg/kg (S13), and 63 mg/kg (S15). Benzene, toluene, xylenes, and ethylbenzene were not detected in any of the samples. Stockpile S21 was not sampled because the soils would be transported to the Langley and Doolittle site for bioremediation. Stockpiles S12, S13, S15, and S21 were transported to the Langley and Doolittle site for bioremediation treatment. The remaining stockpiles (S7 through S11, S14, and S16) were used as backfill.

Samples S17 and S18 were collected in the stockpiled soils excavated from the former tank EF13 (550-gallon waste oil tank) area. Although the analytical results for these samples indicated that there were no detectable levels of oil and grease, volatile or semi-volatile organics, and that metals were present at low levels, the soils were transported to the Langley and Doolittle site for bioremediation treatment. The stockpiles contained soils excavated from beneath tank; and a sample (EF13-5) collected in the former tank area before overexcavation activities contained 94 mg/kg of oil and grease (described in Tank Removal).

CONCLUSIONS AND RECOMMENDATIONS

Based on field observations and the analytical results from soil and groundwater sampling, the following conclusions can be drawn:

- Soil samples collected during and after tank removal activities indicate that unauthorized releases of hydrocarbons to soils underlying the site have occurred through operation of the four former underground storage tanks.
- The major sources of potential groundwater contamination posed by the four underground tanks have been removed.
- No obvious punctures, holes, or corrosion were observed on the walls of tanks EF11 (2,000-gallon gasoline), EF12 (10,000-gallon diesel), and EF13 (550-gallon waste oil). These tanks were located at the M & R Building.
- The results of analytical testing of *in situ* soils at the former tank EF11 area indicate that there are residual levels of gasoline hydrocarbons ranging from 1.7 to 8.3 mg/kg remain in the ground.

⁶Stockpiles S19 and S20 were not sampled because combustible vapor readings in the stockpiles indicated elevated levels (less than 100 ppm). Since the soils would require treatment to reduce hydrocarbon levels, sampling to ascertain whether the soils could be used as backfill was not necessary.

- The results of analytical testing of *in situ* soils at the former tank EF12 area indicate that there are no detectable residual levels of diesel hydrocarbons.
- All soils in the former tank EF13 area that were located between the underlying concrete and the tank invert have been removed.
- Observed cracks in tank EF14 (10,000-gallon diesel) at the wharf indicated that releases occurred as a result of tank failure; analytical results of samples collected in the former hose and reel pit and pipeline area indicate that releases occurred as a result of spillage. The results of analytical testing of in-situ soils at the former tank EF14 area indicate that there are: 1) no detectable residual levels of hydrocarbons in the former tank area; 2) residual levels of diesel hydrocarbons ranging from 2.1 to 200 mg/kg in the former hose and reel pit; and 3) residual levels of hydrocarbons in the former pipeline area ranging from 1.8 to 9.7 mg/kg.

No further actions are recommended for this site at the current time. The analytical results obtained as part of site activities will be part of a data base being developed by the Port of Oakland in cooperation with Alameda County Department of Environmental Health and the Regional Water Quality Control Board, San Francisco Bay Region. The purpose of the data base is to develop and design a regional monitoring program for the Port Area, including the project site, by the end of 1990.

LIMITATIONS

The conclusions presented in this report are professional opinions based on the indicated data described in this report. They are intended only for the purpose, site, and project indicated. Opinions and recommendations presented herein apply to site conditions existing at the time of our study. Changes in the conditions of the subject property can occur with time, because of natural processes or the works of man, on the subject sites or on adjacent properties. Changes in applicable standards can also occur as the result of legislation or from the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond our control.

APPENDIX A

UNDERGROUND STORAGE TANK CLOSURE PERMITS AND NOTIFICATION OF BAY AREA AIR QUALITY MANAGEMENT DISTRICT

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

UNDERGROUND TANK CLOSURE/MODIFICATION PLANS

1.	Business Name	Eagle Marine Services, Ltd.
	Business Owner	American President Companies
2.	Site Address	1579 Middle Harbor (APL Middle Harbor Rd. Terminal)
	City	Oakland 2ip 94607 Phone 272-2040
з.	Mailing Address _	1395 Middle Harbor Road
		Oakland Zip 94607 Phone 272-1178
4.	Land Owner	P + 05 0 1 1 1
		530 Water Street City, State Oakland, CA Zip 94607
5.		CAC00030113
€.	Contractor	IT Corporation (O.C. Jones and Sons - Gen'l. Contractor)
	Address	/575 Dock D - 1
		Martinez Phone 372-9100
		A,C33, C34, C61, C57 D38. B. Haz.Sub.Rem.ID# 137422 (IT Corporation)
7.	Consultant	Certificate Baseline Environmental Consulting
	Address	5900 Hollis Street, Suite D
	City	Emeryville, CA Phone 420-8686

17. Chemical Methods to be used for Analyzing Samples

Contaminant Sought	EPA, DHS, or Other Sample Preparation Method Number	EPA, DHS, or Other Analysis Number
TVH (gasoline) TEH (diesel)	5030 3550	8015 Mod. 8015 Mod.
Oil & Grease Chlorinated HC Cd, Cr, Pb, Zn	5030 3550 5030 3050/3010	8020/602 SMWW 503E 8240/624 ICP
TP+1-6 BTX+1		60 FIR 5030 8020 - 7240
ME fif PNA, Crescite		8270

- 18. Submit Site Safety Plan
- 19. Workman's Compensation: Yes [X] No []

 Copy of Certificate enclosed? Yes [X] No []

 Name of Insurer National Union Fire Insurance Company (Insured: IT Corp.)
- 20. Plot Plan submitted? Yes [X] No []
- 21. Deposit enclosed? Yes [X] No []
- 22. Please forward to this office the following information within 60 days after receipt of sample results.
 - a) Chain of Custody Sheets
 - b) Original Signed Laboratory Reports
 - c) TSD to Generator copies of wastes shipped and received
 - d) Attachment A summarizing laboratory results

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 Saftey and Health Administration) requirements concerning personnel and safety.

I will notify the Department of Environmental Health at least two (2) working days (48 hours) after approval of this closure plan in advance to schedule any required inspections. 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.

Signature of Contractor

Signature	atrel in to	wiff-		عدے کے
Date July 16	1990	7/		
	·			
Signature of Site O	wner or Operator			
Name (please type)	Michele Heffes, Port o	f Oakland		_
Signature Muck	ule Alla	for	Fort of Va	ble
Date 7/12/90	<i>V</i>	7	,	

Name (please type) PATRICK M. Ignoffo - Francer - O.C. Jone.

- 5 -

IT CORPORATION

STANDARD PROCEDURE

SUBJECT:

UNDERGROUND STORAGE TANK REMOVAL

AND CLOSURE

PROCEDURE NO. ITC PRO 9532.7A

DATE February 23, 1987

SUPERSEDES 9532.7 (02/17/83)

APPROVED David R. Smith

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BASELINE

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- IV. DISCUSSION
- V. DEFINITIONS FOR THE PURPOSE OF THIS DIRECTIVE
- VI. MEDICAL EXAMINATIONS
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- VIII. PROCEDURE UNDERGROUND STORAGE TANK REMOVAL AND CLOSURE REQUIREMENTS
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 - 2. Preparation for Underground Storage Tank Closure
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 - 2. Excavation Safety
 - 3. Heavy Equipment Operation
 - 4. Fire Safety
 - 5. Underground Storage Tank Decontamination
 - 6. Air Monitoring
 - 7. Confined Space Entry
 - 8. General Site Safety Requirements

place or removal). As of 1985, states have designated state or local agencies that are responsible for implementing and enforcing underground tank regulations, including closures.

Steps involved in tank removal and closure include agency notification, permitting, excavation, hazardous substance removal, tank cleaning, tank removal, groundwater and/or soil testing for chemical contamination, backfilling, and post-closure notification (tank delisting).

The protection of IT employees, subcontractors, and the public is a major concern during tank closure project design and implementation. Several health and safety concerns require evaluation and include excavation/trenching hazards; confined space hazards; toxic, flammable and/or oxygen deficient atmospheres; hot work and cold cutting operations; tank removal; physical hazards; and others.

All underground storage tank closure projects shall be reviewed by the Regional Health and Safety Office in accordance with ITC PRO 9021.1A (Review of New Jobs, New Projects, New Construction and Proposals).

V. DEFINITIONS - FOR THE PURPOSE OF THIS DIRECTIVE

A. <u>Cold Cutting</u>

Methods of material cutting that utilize a nonelectric or nonflammable gas system, such as pneumatic chisels or drills, or a high pressure water device.

B. Confined Space

Normally considered to be enclosures having limited means for entry and exit, by reason of location, size, or number of openings; and unfavorable natural ventilation which could contain or produce dangerous air contaminants, flammable or explosive atmospheres, and/or oxygen deficiency. Confined spaces may include storage tanks, excavations, or trenches.

C. Competent Person - Excavation and Trenching

A person, such as a supervisor or engineer, who is capable of identifying existing and predictable hazards in the excavation/trenching work area and who has the authority to take prompt corrective measures to eliminate them.

D. <u>Excavation</u>

Any manmade cavity or depression in the earth's surface, including its sides, walls or faces, formed by earth removal and producing unsupported earth conditions by reasons of the excavation.

E. Hot Work

Any work involving burning, welding, riveting, or similar fireproducing operations, as well as work which produces a source of ignition, such as drilling, grinding, abrasive blasting, etc. exposure to toxic substances, confined space entry procedures, and in the use of atmospheric testing instruments is required. These training requirements can be satisfied through the successful completion of IT's Excavation Safety and the Hazards and Protection/Confined Space training courses.

2. Qualified Person - Excavation and Trenching

A person, such as an engineer, who by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience has successfully demonstrated his/her ability to design shoring, sloping/benching, or alternate systems that meet accepted regulatory and engineering requirements.

M. <u>Trench</u>

An excavation made below the surface of the ground. In general, the depth is greater than the width at the bottom, but the width of a trench at the bottom is not greater than 15 feet.

N. Underground Storage Tank

By regulatory definition, a tank with ten percent or more of its volume below ground. Included in the volume is all piping attached to the tank (RCRA, Subtitle I, Section 9001(1)).

VI. MEDICAL EXAMINATION

- A. All IT Corporation personnel on-site shall have successfully completed a preplacement or periodic/update physical examination in accordance with ITC PRO 9410.1.
- B. All subcontractor personnel who, because of their job assignments, may incur exposures to the hazardous materials present at the jobsite, must have successfully completed a physical examination similar to the IT Corporation preplacement physical exam required by ITC PRO 2010.1 (Contractor/Subcontractor Relationships and Documentation) unless otherwise indicated by the Regional Health and Safety Office.

VII. EMPLOYEE TRAINING AND INDOCTRINATION

- A. All IT personnel assigned to underground storage tank closure projects shall have completed, at a minimum, the appropriate formal training courses designated in ITC PRO 9030.1A (Employee and Contractor Training Requirements).
- B. All subcontractor personnel shall have completed minimum training requirements as specified in ITC PRO 2010.1A (Contractor/ Subcontractor Relationships and Documentation).

- c. Trees, boulders, poles and other surface encumbrances located at the work site shall be made safe or removed prior to initiation of the tank closure project.
- d. Assure that construction equipment (not in transit) and personnel do not come closer than 15 feet to any energized overhead high voltage conductor such as electric utility lines.

B. Operating Requirements

1. Hazard Assessment

At the beginning of the project, each work shift, and as often as necessary to ensure safety, a competent person shall conduct an area survey to locate work place hazards and determine appropriate safety control measures.

2. Excavation Safety

- a. All work involving excavation or trenching shall be subject to the requirements of ITC PRO 9532.9 (Excavation and Trenching).
- b. Personnel entry into any excavation or trench that is more than five feet deep shall only be permitted if the excavation or trench is properly shored or sloped and safe for entry as determined by a qualified person.
- c. Daily inspections of an excavation shall be made by a competent person. If there is evidence of possible cave-ins or slides, all work in the excavation shall cease until the necessary safeguards have been taken.
- d. Trenches more than four feet deep shall have ladders or steps located so as to require no more than 25 feet of lateral travel between means of egress. Ladders shall be placed at an angle not more than 30 degrees from vertical and secured as necessary. Ladder side rails shall extend at least three feet above the original ground surface.
- e. All spoil shall be located at least two feet from the edge of the excavation to prevent spoil from falling back into the excavation. No method that disturbs the soil in place (such as driving stakes) shall be used to contain spoil material.

4. Fire Safety

- a. Hot work shall not be conducted unless all requirements of ITC PRO 9571.1 (Welding, Cutting, and Other Hot Work in Hazardous Locations) have been met.
- b. Cold cutting of underground storage tanks to facilitate cleaning shall only be performed under direct supervision of a qualified person.
- c. Equipment on-site shall be bonded and grounded, spark-proof, and explosion resistent, as appropriate. Particular attention to bonding/grounding shall be made during transfer of flammable/combustible liquids into vacuum trucks and when ventilation equipment is utilized.
- d. A fire extinguisher with a minimum rating of 10B:C shall be strategically located in the area of active work.
- e. No smoking shall be allowed in the work area.

5. Underground Storage Tank Decontamination

Underground storage tanks that have been removed, but not cleaned, are considered hazardous waste. These tanks must be transported in accordance with Department of Transportation hazardous material packaging and shipping requirements, including manifesting, and taken to a permitted hazardous waste disposal site.

Minimum decontamination procedures that shall be performed to allow transportation of removed tanks under a bill of lading, disposal at a non-hazardous waste facility, or tank demolition for scrap include:

- a. Removal of all residual liquid material, followed by triple rinsing with an appropriate cleaning solution to remove remaining sludge and/or scale from the interior surfaces of the tank.
- b. Routine tank testing to determine the effectiveness of the cleansing, flushing and rinsing procedure. Residual liquid in tanks shall not be less than a pH of 3, nor greater than 11. Tanks that have contained flammable or combustible liquids shall be checked with a combustible gas indicator. Readings above 0% LEL shall require additional tank cleansing.
- c. A physical examination of the tank interior to confirm that the rinsing process has removed all residual material. When triple rinsing is not sufficient to remove all sludge or scale, tanks shall be entered (once the tank space has been evaluated by a qualified person - industrial confined space) through available manways or cold cut open so that personnel can

Regional Health and Safety Office. All tests shall be repeated as often as necessary to assure safety since changing conditions may result in varying atmospheric contaminant concentrations.

- c. All work activity is prohibited in atmospheres where tests indicate that the concentration of flammable vapors is greater than 10% of the lower explosive limit (LEL), or the concentration of oxygen is less than 20% or greater than 25%. Positive steps, such as ventilation, shall be taken to establish acceptable atmosphere conditions prior to resumption of operations.
- d. Tests indicating the presence of toxic contaminants in concentrations at or above the threshold limit value (TLV) mandate that work in such an atmosphere proceed only when personal protective equipment appropriate for the specific contaminants is provided to all affected employees, based on recommendations of the Regional Health and Safety Office.
- e. Proper maintenance and operation of air monitoring equipment is an essential component of underground storage tank closure operations. Use of combustible gas/oxygen indicators is subject to the following precautions:
 - (1) Combustible gas indicators must be routinely and properly calibrated based on known mixtures of gas (i.e., pentane, methane) in air. Other combustible gases or vapors will read aproximately correctly in terms of explosivity, but for maximum accuracy, a calibration curve for the specific substance or mixture of concern should be consulted.
 - (2) The presence of certain materials in the sample atmosphere may seriously impair the meter response of a combustible gas indicator. These include tetraethyl lead (TEL), used in leaded gasoline, and silicon compounds, in the form of silanes, silicones and silicates, often found in hydraulic fluids. Certain manufacturers supply inhibitor filaments designed to nullify the effects of TEL on meter response.
 - (3) Ambient oxygen concentrations of less than 10% will cause an inaccurately low reading on the combustible gas meter scale.

ITC PRO 9532.7A February 23, 1987

- d. Food articles or smoking materials will not be allowed in the work area.
- e. All IT procedures applicable to each specific job are to be followed in addition to these noted underground storage tank closure work practices and conditions.
- f. Adequate provisions shall be made for:
 - (1) Washing of hands and face prior to eating, drinking, or consuming tobacco products.
 - (2) Providing drinking water to site personnel. During the summer months particularly, electrolyte replacement fluids, such as Gatorade, should be made available.

9532-7/PLP

CERTIFICATE OF INSURANCE

PATE WW. SC.YY

PRODUCER

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

COMPANIES AFFORDING COVERAGE

CODE

SUB-CODE

INSURED international Technology Corporation; IT Corporation; IT Transportation Corp.; McGill Environmental Systems, Inc.; IT Environmental Services, Inc.; PEI Assoc., Inc.; Underground Resources Management; IT Italia, Inc.; IT Engineering of New York, P.C.: IT McGill International, Ltd.; IT Espans; IT Deutschland, Inc. 23456 Hawthorne Blvd.,

COMPANY A NATIONAL UNION FIRE INSURANCE COMPANY COMPANY B LETTER

BIRMINGHAM FIRE

COMPANY C LANDMARK

COMPANY D LETTER

COMPANY E

COVERAGES

CO

Torrance, California 90505

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

LTI	A	type of insurance	POLICY NUMBER	POLICY BEFECTIVE DATE (MM/DO/YY)	POLICY EXPIRATION DATE (MM,DD/YY)	<u> SCHARUCHT MI</u> STIMIL
A	×	COMMERCIAL GENERAL LIABILITY X CLAIMS MADE DOGUR. OWNER'S & CONTRACTOR'S PROT.	RMGLA2498049	4/1/90	DATE (MM.CO/YY) 4/1/91	GENERAL AGGREGATE \$ 1,000, PRODUCTS-COMPIOPS AGGREGATE \$ PERSONAL & ADVERTISING INJURY \$ EACH OCCURRENCE \$ 1,000, FIRE DAMAGE (Any DAS 1/16) \$ MEDICAL EXPENSE (Any one person) \$
Ā	X	ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS GARAGE LIABILITY	RMBA5529114 (A/O) RMBATX562115 (Texas)	4/1/90	4/1/91	COMBINED SINGLE
A B C	OTHE	OTHER THAN UMBRELLA FORM WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY R	RMWC112-7611 (CA) RMWC112-8772 (A/O) RMWC112-8773 (MD) RMWC112-8774 (LA)	4/1/90	4/1/91 .	STATUTORY STATUTORY STATUTORY STATUTORY CEACH ACCIDENTS 1,000, (DISEASE—POLICY LIMIT) T1,000, (DISEASE—EACH EMPLOYE

description of operations/locations/vehicles/restrictions/special items

CERTIFICATE HOLDER

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO 30) DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

ACORD 25-8 (1/98)

CACORD CORPORATION 1988

CITY OF OAKLAND FIRE MARSHAL'S OFFICE ROOM 201, CITY HALL OAKLAND, CALIFORNIA 94612 273-3851

Permit No	
Copies to	
Date Issued	·· ·

APPLICATION for PERMIT to INSTALL, REMOVE or REPAIR TANKS

IN THE CITY OF OAKLAND

		July 1990
Application is hereby made for permit	remove gasoline tank and excavate, come repair	mencing four feet inside the curb line inside the property line
American President Line	Middle Harbor R. Terminal, 1579	Middle Harbor Road StAve.
House No.	StreetAvenue Present storage_	
	Address 530 Water Street	Phone 272-1178 ·
Applicant O. C. Jones and Sons	Address 1520 Fourth Street	
Remarks Will be removed i Sidewalk surface to be disturbed		10,000 r Capacity 2,000 Gallons each 10,000 550
N L	Signature / Add	and the state of the
W	,	
S		\$36-67 (8/67) 93



REGU. FION 8, RULE 40 Aeration of Contaminanted Soil and Removal of Underground Storage Tanks

NOTIFICATION FORM

Removal or Replacement of Tanks Excavation of Contaminated Soil

	TIE INFORMATION
SITE ADDRESS American President Line (Eag	gle Marine Services), 1579 Middle Harbor Road
CITY, STATE, ZIP Oakland, CA 94607	7, 37 1 12 02 0 1.0.7 20 1.0.7
OWNER NAME Port of Oakland	
SPECIFIC LOCATION OF PROJECT Port Tank ID	EF14 (10,000-gal. diesel) - Phase A
TANK REMOVAL	CONTAMINATED SOIL EXCAVATION
SCHEDULED STARTUP DATE August 9, 1990	SCHEDULED STARTUP DATE August 9, 1990
VAPORS REMOVED BY:	STOCKPILES WILL BE COVERED? YES NO
[] WATER WASH	ALTERNATIVE METHOD OF AERATION (DESCRIBE BELOW):
[] VAPOR FREEING (CO ²) [] VENTILATION	/www.nearway
[] vermounds	(MAY REQUIRE PERMIT)
CONTR	ACTOR INFORMATION
AME_ IT Corporation	CONTACT Larry Hutson
DDRESS4575 Pacheco Boulevard	PHONE (415) 372-9100
Martinez, CA	
. CONSU	LTANT INFORMATION (IF APPLICABLE)
MME_ Baseline Environmental Consulting	CONTACT Yane Nordhav or Irene Kan
DDRESS 5900 Hollis Street, Suite D	PHONE (415 420-8686
TY, STATE, ZIP_Emeryville, CA 94608	
R OFFICE USE ONLY	
TE RECEIVED	BY
: INSPECTOR NO. DATE	
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APPENDIX B

HAZARDOUS WASTE MANIFESTS AND CERTIFICATES OF DISPOSAL

PΓ	islifornia—Health and Welfare Agency 10ved OMB No. 2050—0039 (Expires 9-30-91) 1/4 2 2 4 0 int or type. (Form designed for use on elite (12-pitch typewriter).							artment of Health Services ubstances Control Divisio Secremento, Californi
	LINUT ODS A MAZADDOUSC 1. Generator's US EPA ID No.	Manifest cument No.	1	Page of [is /	not re	equired	he shaded areas by Federal law.
3.	Generator's Name and Mailing Address PORT of OAKLAND		A. Si	late Ma	90			88
	Generator's Phone () SAKLANO, CA 94607		1		nerator's	iD:		1518131_1
_	. Transporter 1 Company Name 6. US EPA ID Number		C. S	tate Tr	naporter	'a 10	10	2070
	Refinery Sewices (CIAIDIORIS) 161. Transporter 2 Company Name 8. US EPA 10 Number	61712:18			ter's Pho			-874-4444
7	. Transporter 2 Company Name 8. US EPA ID Number	+ 1 1	L		ter's Pho			
9	Designated Facility Name and Site Address 10 US EPA ID Number		G. S	tate Fa	cility's IC)		
	Refinency ServicES P.O. Box 1171		H. Fo	 acility's	Phone	1_		
	Patkasu CA 95363 1CIAIDIOI8BILIBI	الالكا 17م	<u> </u>	<i>8</i> 00	<u> </u>	7 <u>4</u>	-45	144
•	US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12, Cont No.		1	3. Total Quantit	ty	14. Unit W1/Vol	Waste No.
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	NON READ HAZARDOUS WASTE LIQUID		بيسيا	1	.12.	<u> </u>	G	EPA/Other
_	NON READ HAZARDOUS WASTE Liquid (# 2 Diesel, pil, water)	OIOIT	 11	1901	4/15	ПÜ	2	State Now RCA
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7	Additional Descriptions for Materials Listed Above			landling	Codes	for W	eates t	isted Above
	# Z Diese L 8090		1					ii.
	Lubeoil 5%		€.				d.	
	WATER 1570							
1	5. Special Handling Instructions and Additional Information INCASE of SPILL DILLE AND CONTAIN. Notify	ITE	Enen	iga	cy Re.	090	م در 3 - 3	4t 12-4100
1	IB. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment is and are classified, packed, marked, and labeled, and are in all respects in proper condition national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volution be economically practicable and that I have selected the practicable method of treatment present and future threat to human health and the environment; QR, II I am a small quantity generation and select the best waste management method that is available to me and that	me and toxici	ty of w	aste pe	meraled	to th	e degre	e i have determined which minimizes the
٠ ۲	Printed/Typed Name KELVIN Z DAVIS. Signature KELVIN Z DAVIS.	34	frage	سنر				101812171810
	7. Transporter 1 Acknowledgement of Receipt of Materials			_				Month Day Year
	JERUME R. VOSS SIgnature	nick	40	se				1018171910
_	18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Signature						<u> </u>	Month Day Year
	- Initial Types Name							
	19. Discrepancy Indication Space							
l								
	20. Society Commerce Confederation of receipt of herentous materials covered by this t	nanifeat exce	pt as n	oled in	Nom 19.	•		<u> </u>
_	20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this r Printed/Typed Name Signature	nanifeat exce	pt as n	oted in	Nem 19.	·		Month Day Year

FRANCIS Y, MORIGUCUI	Fran 4.M	note.	101813101916
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Printed /Typed Name	RECEIVEN	0.7 . 3 4798	Month Day Year
19. Discrepancy Indication Space	1 4 0 6 1995	A/P-MTZ	igt.

3/22 20. Facility Owner or Operator Certification of receipt of hazardous materials cover

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Department of Health Services on and Welfare Agency oo. 2050—0039 (Expires 9-30-91) 142240 Toxic Substances Control Division Secremento California (Form designed for use on elite (12-pitch typewriter) 1. Generator's US EPA ID No. NIFORM HAZARDOUS CA CIDIO 1903 101 113 6 K 18 18 17 is not required by Federal Isw. WASTE MANIFEST PORT OF DAKLAND 3. Generator's Name and Mailing Address P.O. Box 2064 DAKLAND CA 94607 HY403602581231 Generator's Phone (C State Transporter's ID 0013 00 US EPA ID Notes 1 5 Transporter 1 Company Name D Transporter's Phone #45-372-4400 CIAID 10 10 10 10 BB 11 12 11 LA, OLOW ENVIRONMENTAL E State Transporter's ID 7 Transporter 2 Company Name Transporter's Phone G. State Facility's ID US EPA ID Number 9 Designated Facility Name and Site Address Relinary Services PU. BOX 1171 800-814-4444 FADIO831/16/6171218 Pattersu CA 95363 13 Total Waste No. 11 US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) Z2 NON-ACAA HAZARDOUS WASTELIGUID NWKCRA (DIESEL MO WATER BIBITI asigno 6 EPA/Other EPA/Other FPA/Other K. Handling Codes for Wastes Listed Above J. Additional Descriptions for Materials Listed Above Diesel Z90 WATER 9840

15 Special Handling Instructions and Additional Information

IN (A) & OF SPILL DIKE AND CONTAIN, Notify IT EMERGENLY RESPONSE At

10 (A) & OF SPILL DIKE AND CONTAIN, Notify IT EMERGENLY RESPONSE AT

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 quentity 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 KELVIN Z DAVIZ	Signature Cavis	10/8/3/0/9/0
0.00	17 Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Walter L. Tucker	Signature walt L Juck	Month Day Year 108301910
	18 Transporter 2 Acknowledgement of Receipt of Materials Printed / Typed Name	Signature	Month Day Year
	19 Discrepancy Indication Space		

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

Printed/Typed Name Signah

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WASTE MANIFEST	CACIOIO	EPA ID No.	100	ront of i		Page 1	Infor	mation i	Substances Secren
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1. T. Corp

CERTIFICATE

Certifled Services Company 255 Parr Boulevard Richmond, California 94801 Day or Night Telephone (415) 235-1393

15) 235-1393 **9-**5

For:Frickson, IncTan Test Method:Visual Gastech/1314 SMPT		Location: Richmond 2:00 p.m. Last Product: DICSE Time:
This is to certify that I have personally determined the are in accordance with the American Petroleum Institute of each to be in accordance with its assigned design.	ite and have found the condition	on conditions existing at the time the inspection herein set forth was completed and is issued subject to compliance with all qualifications and instructions.
Tank(s)		Condition
	Safe for Fire	Oxy 20.9%
Remarks:	Heating the gas free condition of	undersigned. This permit is valid for 24 hours if no physical or atmospher
In the event of any physical or atmospheric changes a the above tanks, or if in any doubt immediately sto	op all hot work and contact the	changes occur.
Standard Safety Designation: Sale for Men: Means that in the compartment or specontent of the atmosphere is at least 19.5 percent materials in the atmosphere are within permissable judgment of the inspector, the residues are not captunder existing atmospheric conditions while maintain certificate.	e concentrations; and (c) in the able of producing toxic meterials	Safe for Fire: Means that in the compartment so designated (a) The concentration of flammable materials in the atmosphere is below 10 percent of the lower explosion limit; and that (b) In the judgment of the Inspector, the residues are not capable producing a higher concentration than permitted under existing atmospheric condition in the presence of fire and while maintained as directed on the inspector's certificat and further, (c) All adjacent spaces have either been cleaned sufficiently to prevent the spread of fire, are satisfactorily inerted, or in the case of fuel tanks, have been treated deemed necessary by the inspector.
The undersigned representative acknowledge	owledges receipt of this certificate	and understand the conditions and limitations order which it was issued.

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ORIGINAL - NOT NECOTIABLE

Shipper's No.

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Remit C.O.I	D. to:				COD	Amt		1	C.O.D. FEE: Prepaid Collect \$
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EMERGENCY STELEPHONE N	RESPONSE)		MA OF	ergency response	information o	who has a	ocess to a	9-BLS-A

SUC

ENUIRO

Nº 4379-12154 I.T. CORP.

CERTIFICATE

Certifled Services Company 255 Parr Boulevard Richmond, California 94801 Day or Night Telephone (415) 235-1393

For: Erickson, Inc. Tan	k No.(s.)	Location: Date: Time: Time:
Test Method: Visual Gastech/1314 SMP		Last Product: Desel
This is to certify that I have personally determined the are in accordance with the American Petroleum Institute of each to be in accordance with its assigned designed.	ite and have found the condition	on conditions existing at the time the inspection therein set forth was completed and is issued subject to compliance with all qualifications and instructions
Tank(s)		Condition
1- /0,000 Gal. Tank	Safe for Fire	Oxy 20.9%
		LEL- Less than 0.1%
Remarks:		
In the event of any physical or atmospheric changes at the above tanks, or if in any doubt immediately sto	lecting the gas-free condition of p all hot work and contact the	undersigned. This permit is valid for 24 hours if no physical or atmospheric changes occur.
Stendard Safety Designation: Safe for Men: Means that in the compartment or space content of the atmosphere is at least 19.5 percent materials in the atmosphere are within permissable judgment of the inspector, the residues are not capat under existing atmospheric conditions while maintaine certificate. The undersigned representative acknowledges the second secon	by volume; and that (b) Toxic concentrations; and (c) in the ple of producing toxic materials and as directed on the inspector's	Safe for Fire: Means that in the compartment so designated (a) The concentration of flammable materials in the atmosphere is below 10 percent of the lower explosive limit; and that (b) In the judgment of the Inspector, the residues are not capable of producing a higher concentration than permitted under existing atmospheric conditions in the presence of fire and while maintained as directed on the inspector's certificate, and further, (c) All adjacent spaces have either been cleaned sufficiently to prevent the spread of fire, are satisfactorily inerted, or in the case of fuel tanks, have been treated as deemed necessary by the Inspector. Indicate: Inspector.
0	ine	Inspector

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Nº 4380 -72754 I.T. CORP

CERTIFICATE

Certified Services Company 255 Parr Boulevard Richmond, California 94801

Day or Night Telephone (415) 235-1393

For:Erickson, IncTan	k No.(s.) 4380	Location:	Richmond	Date:	9-7-90	Time	2:00 p.m.
Test Method: Visual Gastech/1314 SMP	N	Last Product:	Gasolma				
This is to certify that I have personally determined that are in accordance with the American Petroleum Institutof each to be in accordance with its assigned design	ite and have found the condition	on conditions issued subjec	existing at the time the it to compliance with all o	nspection qualificat	n herein set fo tions and instr	orth was cructions.	ompleted and i
Tank(s)			Condition				
1_ 2/000 Gal. Tank	Safe for Fire			Oxy	y 20.9%		
				LELZ	- Less tha	n 0.1%	
			J. 415				
Remarks:							
In the event of any physical or atmospheric changes aff the above tanks, or if in any doubt immediately stop	fecting the gas-free condition of p all hot work and contact the	undersigned, changes occur	This permit is valid f	ior 24 hc	ours if no pl	nysical o	r atmospheric
Standard Safety Designation: Safe for Men: Means that in the compartment or space content of the atmosphere is at least 19.5 percent i materials in the atmosphere are within permissable judgment of the inspector, the residues are not capablunder existing atmospheric conditions while maintaine certificate.	by volume; and that (b) Toxic concentrations; and (c) in the ple of producing toxic materials	of frammable in limit; and that producing a hig in the presence and further, (c) spread of fire, a	the many that in the composition in the atmosphericals in the atmosphericals in the atmospherical for the judgment of gher concentration than period of fire and while maintained. All adjacent spaces have a satisfactorily inerted, sary by the inspector.	here is be the inspe- permitted ained as o re either b	elow 10 percer ector, the resi under existing directed on the een cleaned s	nt of the l dues are atmosph e inspect ufficienti	ower explosive not capable of teric conditions for's certificate, y to prevent the
L. The undersigned representative acknow	wledges receipt of this certificate a	nd understands t	he conditions and limitat	tions and	er which il w	s issued.	
Representative	Title	Inspector	-1-001	1.2			

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Shipper's No.
CAC Carrier's No. 019
Erickson, Inc. 255 Parr Blvd. Richmond, Ca. 94801
Zip Vehicle
Number 36765A)
Number (subject in BATE (ABELS REQUIRED OUS, GAS PRINTED OUS, GAS PRINTED
JUS, GAS FREE
N/A N/A N/A NONE
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RIER: JACK PARKER TEUCHING
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or prior has access to a person with that knowledge
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TICKET# 17408
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N. 4081 /2/57 I.T. CORP

CERTIFICATE

Certified Services Company 255 Parr Boulevard Richmond, California 94801

Day or Night Telephone (415) 235-1393

For:Tan	k No.(s.) 4381	Location;	Richmond	9-7-90	11:00 a.m.
Test Method:Visual_Castech/1314_SMPI	N	Last Product: _	waste on		¥
This is to certify that I have personally determined the are in accordance with the American Petroleum Institute of each to be in accordance with its assigned design	ute and have found the condition	on conditions issued subject	existing at the time the inspe to compliance with all quali	ction herein set forth fications and instructi	was completed and i
Tank(s)			Condition		
1- 550 Gal. Tank	Safe for Fire			Оху 20.9%	
				EL Less than ().1%
Remarks:					
•					
In the event of any physical or atmospheric changes af the above tanks, or If in any doubt Immediately sto	fecting the gas-free condition of p all hot work and contact the	undersigned. changes occur	This permit is valid for 2	4 hours if no physi	ical or atmospheric
Standard Salety Designation: Safe for Men: Means that in the compartment or space content of the atmosphere is at least 19.5 percent materials in the atmosphere are within permissable judgment of the inspector, the residues are not capat under existing atmospheric conditions while maintains certificate.	by volume; and that (b) Toxic concentrations; and (c) In the ple of producing toxic materials and as directed on the Inspector's	of flammable in limit; and that producing a hig in the presence and further, (c) spread of lire, a deemed necess	Means that in the compartmenterials in the atmosphere (b) in the judgment of the liner concentration than permit of fire and while maintained All adjacent spaces have either satisfactorily inerted, or in sary by the inspector.	s below 10 percent on inspector, the residue the under existing at it as directed on the in her been cleaned suffi- the case of fuel lanks,	of the lower explosive es are not capable of mospheric conditions aspector's certificate, iciently to prevent the have been treated as
. The undersigned representative acknowled	wledges receipt of this certificate a	and understands th	e conditions and limitations	under which it was is	ssued.
Representative	Title	Inspector	0		

		1000000	, in lok, in indelible retained by the Ag	3/6/7		Shipper	s No. 🖘	
CARRIER:	Erickson, Tru	cking Inc.		SCAC		Carrier	s No	019
TO: Consignee Street Destination	600 S. 4th St Richmond, Ca.		1	FROM: Eric Shipper 255 Street Rich Origin	kson, Ir Parr Blv mond, Ca	rd.	Date	Zip
26\$(IIIa(IOI)		Zip		Origin		Vel	nicle	Zip
Route:				-	200	Nu	mber	
Ma Sepping HM (1) Units	Kind of Packages De F HAZARDOUS MATERIALS NON-DOOR NOTERIALS	- PAUPER SHIPPING N		elass Elass Maridous, (Number e//S DREE	weight judgest to correction	RATE	LABELS REQUIRE
UNE	FRGROUND STORAG	TANKS FOR S	CRAP.					
7	2754/438	1-	N	NE	N/A	N/A	N/A	NONE
7	1275d/43	372-437	3-		-	-		
Remit C.O.D. Address: City:	to: State:	374 /		COD	Amt	•		C.O.D. FEE
OTE — Where the rat is the agreed or declar hereby specifically st	to its dependent on value, shipper red value of the property. The agra arted by the shipper to be not exce to the classifications and territory time it	ed or declared value of the p	ifically in write property		7	Độ-		FREIGHT CHARG
March 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Erickson, Inc. Sharman Lowry		PLACARDS REQUIRED	CARRIER:	sı		PRIVIN SIÇINLI	
DATE: EMERGENCY RES	9-7-90 SPONSE	-		DATE:	9-7	-90	4	hazards of the materia
S TO CERTIFY that th		FOR HELP IN CHEM	MICAL EMERGEN CALL TOLL-FREE	CIES INVOLVING 5: 1-800-424-9300 (SPILL LEAK, DAY OR NIGHT	or who has accurate the end retain this	Sispery Order	rson with that knowled and med sign the Original Sid 9-8 (Rev.
	ne following described commodity is Section 12700) of Division 5 of the	California Business and Son	fitseione Code, admi-	ester whose signature restered by the Division	as on this central of Measuremen	carbe who is a neo it Stamperda of the	ognized auth California D	erity of accuracy as presci
A								1
DIVISION OF SIMSME	ALTECUTAL SECURAL	MATI.	10201-1	11510			TI	CKET# 17349
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APPENDIX C

LABORATORY REPORTS AND CHAIN-OF-CUSTODY FORMS



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

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

DATE RECEIVED: 08/30/90 DATE REPORTED: 08/31/90

LAB NUMBER: 101527

for put EFIN CLIENT: BASELINE ENVIRONMENTAL

REPORT ON: 5 SOIL SAMPLES

1 WATER SAMPLE

4 SOIL COMPOSITES:

COMPOSITE 1 = SC-1/SC-2

COMPOSITE 2 = SD-1/SD-2

COMPOSITE 3 = SA-1/SA-2/SA-3/SA-4

COMPOSITE 4 = SB - 1/SB - 2

PROJECT #: S9-134.40

LOCATION:

RESULTS: SEE ATTACHED

OA/OC Approval

Berkeley

Wilmington

Los Angeles



CLIENT: BASELINE ENVIRONMENTAL

JOB #: S9-134,40

LOCATION: APL-UST EF 14

DATE RECEIVED: 08/30/90

DATE EXTRACTED: 08/30/90

DATE ANALYZED: 08/31/90

DATE REPORTED: 08/31/90

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

LAB ID	CLIENT ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT (mg/Kg)
101527-5 101527-6 101527-7 101527-8 101527-9 101527-17 101527-18 101527-19	EEC-10 ENE-10 ENW-10 ESW-10 P-1-4 COMPOSITE 1 COMPOSITE 2 COMPOSITE 3 COMPOSITE 4	ND ND ND ND ND ND ND ND	ND ND ND 14,000 120 ND 150 390	10 10 10 10 10 100 10

ND = Not Detected at or above reporting limit.

QA/QC SUMMARY

	:=====================================
RPD, %	1
RECOVERY, %	83
=======================================	:=====================================



CLIENT: BASELINE ENVIRONMENTAL

JOB NUMBER: S9-134.40

JOB LOCATION: APL-UST EF 14

DATE RECEIVED: 08/30/90

DATE ANALYZED: 08/30/90

DATE REPORTED: 08/31/90

Benzene, Toluene, Ethyl Benzene, Xylenes by EPA 8020 Extraction by EPA 5030 Purge and Trap

LAB ID C	CLIENT ID	BENZENE	TOLUENE	TOTAL XYLENES	ETHYL BENZENE	REPORTING LIMIT *
		(u g / k g)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
101527-5	EEC - 10	ND	ND	ND	ND	5.0
101527-6	ENE - 10	ND	ND	ND	ND	5.0
101527-7	ENW-10	ND	ND	ND	ND	5.0
101527-8	ESW-10	ND	ND	ND	ND	5.0
101527-9	P - 1 - 4	ND	ND	320	38	2.5
101527-17	COMPOSITE	1sch)2 ND	ND	ND	ND	5.0
101527-18	COMPOSITE	250-1,2 ND	ND	ND	ND	5.0
101527-19	COMPOSITE		ND	ND	ND	5.0
101527-20	COMPOSITE	4 ND	ND	ND	ND	5.0

ND = Not detected at or above reporting limit.

\mathbf{QA}	'QC	St	UMMA	RY

^{*} Reporting limit applies to all analytes.



CLIENT: BASELINE ENVIRONMENTAL

JOB NUMBER: S9-134.40

JOB LOCATION: APL-UST EF 14

DATE RECEIVED: 08/30/90 DATE ANALYZED: 08/31/90

DATE REPORTED: 08/31/90

Benzene, Toluene, Ethyl Benzene, Xylenes by EPA 8020 Extraction by EPA 5030 Purge and Trap

LAB ID	CLIENT ID	BENZENE	TOLUENE	TOTAL XYLENES	ETHYL BENZENE	REPORTING
	• • • • • • • • • • • • • • • • • • • •	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
101527-10	GW-1-10	ND	ND	ND	ND	5.0

ND = Not detected at or above reporting limit.

^{*} Reporting Limit applies to all analytes.

QA/QC SUMMARY	QA	/QC	SUMMARY
---------------	----	-----	---------

 101 Il Street, Suite L Potaluma, CA 94952 (707) 762-5233

10152-

CHAIN OF CUSTODY RECORD

Turn-Around Time 24 HPS

Lab Curtis Tompkins

Contact Person JACK LEE

Project No. 99-134	.40	AF	ct Name ar			4			Analy	rsis	7	7/	7		7	7	///	
Samplers: (Si	mature)	8			<u> </u>				/		//	//	//	//	//	//		
No. Station	Date		Media	Depth	Compo- sites	No. of Con- tainers	Station Locat	ion		∨ /		//		/	/		Remarks	Detection Limits
SC -1	30		ડહેતી	_) x	1	Stock Pile	×	X	(,			Composite in lab St.1	
SC-2			Soil		}	1						(8	PVC	7			and sc2	
SD-			Soil	-7	X	1	Stock pile	Х	X				.,	1			Composite in 1ab 5D1 and	1
SD-2			Soil	-~-		1						C	•	4			SDZ	
EEC-10		150c	Soul	10	,			×	T_{λ}	,								
ENE-10		1510	Soil	10		J		Х	T_{χ}									
ENW-10		1515	Lod	10		1)	()	(
EBW-10		1520	 	10		1		Х	\mathbf{x}	(
P-1-4	Ã ₁₂		sou	4/		1	Pump	S	1									
Relinquished by	f: (Signal		8/30/q	ate / Time	68		y: (Signature)	Relinquished	i by: (:	Signati	ure)			Date	/ Time		Received by: (Sign	nature)
Relinguished by	· · · · · · · · · · · · · · · · · · ·		D	ate / Time		Received (oy: (Signature)	Relinquished	by: ((Signal	lure)	 		Date	/Time		Received by: (Sign	nature)
Relinquished by	r: (Signa	ture)	D	ate / Time		Received ((Signature)	or Laboratory by:	Da	ic/Ti	me		Ken	narks:	ы			PORT OF OAL	CLAND

RV2FTINE A STEP OF A STEP TO THE PROPERTY OF THE PROPER 101 H Street, Suite L Turn-Around Time Petaluma, CA 94952 CHAIN OF CUSTODY RECORD Lab Curtis-Tomokius (707) 762-5233 Contact Person JACK LEE Project No. Project Name and Location 59-134.40 APL - UST EFIA **Analysis** Samplers: (Signature) No. Compo-No. Station Date of Detection Time Media Depth sites Station Location Con-Remarks Limits tainers ス空 Bleet End 501 8# Bast End -X--lχ West end (Q) GW-1-10 Normal Turn-around 104 H20 Groundwater ll v | SA-1 401 Stockpile A Composite in 66 SA 1,512 SA 3, \$ SA4 5011 Soil 40il 401 Composite in Stockpile B Х 16 SB-2 4011 Relinquished by: (Signature) Date / Time Received by: (Signature) Relinquished by: (Signature) Date / Time Received by: (Signature) Jack marie 1630 ndluk Manall Relinquished by: (Signature) Date / Time Received by: (Signature) Relinquished by: (Signature) Date / Time Received by: (Signature) Relinquished by: (Signature) Date / Time Received for Laboratory by: Date / Time Remarks: BILL てい PORT OF VAKLAMO (Signature) P.O. 井 C2840



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

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

RECEIVED

SEP 17 1990

RACEINE

DATE RECEIVED: 08/30/90

DATE REPORTED: 09/13/90

LAB NUMBER: 101534

CLIENT: BASELINE ENVIRONMENTAL

REPORT ON: 2 SOIL SAMPLES

PROJECT #: S9-134.40 LOCATION: APL-UST EF14

RESULTS: SEE ATTACHED

Los Angeles

Berkeley

Wilmington



LABORATORY NUMBER: 101534-1 CLIENT: BASELINE ENVIRONMENTAL

PROJECT #: \$9-134.40

SAMPLE ID: SA-5

DATE RECEIVED: 08/30/90 DATE ANALYZED: 09/04/90 DATE REPORTED: 09/06/90

Title 26 Metals in Soils & Wastes Digestion Method: EPA 3050

METAL	RESULT	REPORTING LIMIT	METHOD
	mg /Kg	mg/Kg	
Antimony	ND	5	EPA 6010
Arsenic	ND	2.5	EPA 7060
Barium	16	0.5	EPA 6010
Beryllium	ND	0.5	EPA 6010
Cadmium	0.7	0.5	EPA 6010
Chromium (total)	. 18	0.5	EPA 6010
Cobalt	5.0	0.5	EPA 6010
Copper	8	1	EPA 6010
Lead	2.5	2.5	EPA 7420
Mercury	ND	0.1	EPA 7471
Molybdenum	ND	0,5	EPA 6010
Nickel	21	0.5	EPA 6010
Selenium	3.3	2.5	EPA 7740
Silver	ND	1	EPA 6010
Thallium	ND	5	EPA 7841
Vanad i um	9	1	EPA 6010
Zinc	20	0.5	EPA 6010

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

========	======		==== ============ ====================	-=====	=======
	RPD,%	RECOVERY, %		RPD.%	RECOVERY,%
Antimony	<1	97	Mercury	<1	,
Arsenic	<1	99	Molybdenum	<1	
Barium	2	97	Nickel	<1	
Beryllium	1	95	Selenium	<1	
Cadmium	3	94	Silver	<1	
Chromium	<1	97	Thallium	<1	
Cobalt	1	97	Vanadium	<1	
Copper	2	96	Zinc	<1	
Lead	4	90	-	-	
=========	======	=========			



CLIENT: BASELINE ENVIRONMENTAL

PROJECT #: S9-134.40 LOACTION: APL-UST EF14 DATE RECEIVED: 08/30/90

DATE REPORTED: 09/13/90

ANALYSIS: BIOASSAY

ANALYSIS REFERENCE: "GUIDELINES FOR PERFORMING STATIC ACUTE BIOASSAYS IN MUNICIPAL AND INDUSTRIAL WASTEWATERS", JULY 1979 AND CAC TITLE 22,

DIV. 4, CHAPTER 30.

LAB ID SAMPLE ID RESULT UNITS

101534-2 SA-6 >750 mg/L

STATIC ACUTE BIOASSAY

Kennedy/Jenks/Chilton, Laboratory Division 303 Second Street, Tenth Floor North San Francisco, CA 94107

415-362-6065

08/31/90

Received Reported 09/12/90

For:

Curtis & Tomkins

Attention:

Nancy Pattern

Address:

2323 Fifth Street

Berkekey, CA 94710

Lab.SampleNo.:

905669

Sample Description:

Soil- #101534-2

Sampling Procedure:

Date Sampled: 08/30/90 Time Sampled: --Sampled by: Curtis & Tompkins Test Begun: 09/04/90 End: 09/8/90 TIME INITIAL 24 HOURS **48 HOURS** 72 HOURS 96 HOURS Test рH D.O. Temp T.Alk. T.Hard. No. DΗ D.O. Temp No. pН D.O. Templ No. pΗ ID.O. Temp No. рΗ ID.O. Temp Unit img/L Conc. ° C ma/L mg/L Dead Unit ° C mg/L Dead Unit ° C mg/L Dead Unit ma/L °C Dead Unit mo/L ° C Control 7.7 8.8 20 31 41 0 7.2 8.0 20 Ð 7.4 8.1 20 0 7.3 8.3 20 0 7.5 8.5 20 750 ma/L 7.8 9.0 20 30 42 0 7.5 8.6 20 0 7.6 8.6 20 0 7.5 8.5 20 Ò 7.6 8.3 20 7.5 500 mg/L 9.0 20 30 41 7.4 0 8.5 20 0 7.6 8.3 20 0 7.4 8.5 20 0 7.5 8.1 20 250 mg/L 7.6 8.9 20 30 41 7.4 8.4 20 Ω 7.5 8.3 20 7.4 8.4 20 7.4 8.5 20

Test Species:

Fathead Minnow, Pirnephales promelas

Source of test species: Thomas Fish Co., Anderson, CA

Avg. Length: 2.9 cm

Aeration:

0.24 qm

Max. Length Max. Wt.:

3.2 cm 0.38 gm

Min. Length:

Min. Wt.;

3.2 cm 0.13 gm

Organisms/Conc.:

10 **Dilution Water:** Reconstituted Freshwater (Very Hard) 12.6 cm

Dead in Acclimation Tank:

Test Solution Volume: Accl. Tank Water:

Dechlorinated tap water

Acclimation Period:

Avg. Wt.:

Compressed Air

° C

96 hour LC50

7 days

Acclimation Temp.:

17

>750

mg/L

95 % Confidence Limits for LC50

10 Liters

Comments:

Depth:

Analyst

Polly Cheung

Manager

Reference: "Guidilines for Performing Static Acute Bioassays in Municipal and Industrial Wastewaters", July 1979, SWRCB and DFG;: and " California Administrative Code Title 22, Div. 4. Chapter 30. Minimum Standards for Management of Hazardous and Extremely Hazardous Wastes. Paragraph 06096*, 1985.

This report applies only to the sample investigated and is not necessarily indicative of the quality of apparently identical or similar samples. The liability of the faboratory is limited to the amount paid for the report by the issues. The issues assumes all liability for the further distribution of this report or its content and by making such distribution agrees to hold the laboratory harmless against all claims of persons so informed of the

Chain of Custody Form Curtis & Tompkins, Ltd ANALYSIS REQUESTED Berkeley, California 94107 (415) 486-0900 Samplers _____ Job Description____ Job Number 10/534 Client Contact Nancy Pattern Recorder _____ Method Matrix Sample Number Preserved Sampling Date SAMPLE NOTES Water Soil Waste Yr Mo Dy Time 151(# 905669 -2900830 **Laboratory Notes:** Chain of Custody Record Relinquished by: (signature_) Date/Hr // Received by (signature) Relinquished by: (signature) Date/Hr Received by (signature) Relinquished by: (signature) Date/Hr Received by (signature)

Relinguished by: (signature) Date/Hr Received by (signature) Dispatched by: (signature) Date/Hr Received for Lab by (signature) RUSELINE

101 H Street, Suite L Petaluma, CA 94952 (707) 762-5233

CHAIN OF CUSTODY RECORD

101534 Turn-Around Time_NOP_NAC_

Lab CURTIS - TOMPKINS

Contact Person JACK LEG

Project No.	•	Project	Name ar	nd Locati	on		· · · · · · · · · · · · · · · · · · ·								,	, ,		, ,	7 7	
39-134		A ₹°1	U:	5T	Ę <u>:</u> F	= 14			Aı	alysi	s /		4						//	
Samplers: (Si	gnature)	JAC	נ נפ	Č							/			//	/	//	//			
No. Station	Date	Time	Media	Depth	Compo- sites	No. of Con- tainers	Station Local	ion	Ä				//	/	/	/	/	//	Remarks	Detection Limits
SA-5	30 Aug 90	1535	જાદ			1	STOCKPILE	Д		X										
SA-60	30 AUG, 90	1540	SOIL				ιt		X					<u>.</u>			-		·	
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Relinquished b	y: (Signatur	re)	Da	ate / Time		Received ((Signature)	or Laboratory by:			/Tim		·		arks:		0	POR.	7 o=	OAKL	AND
										<u> </u>			1					in		17



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

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

RECEIVED

SEP 7 1990

DATE RECEIVED: 08/30/90 DATE REPORTED: 09/05/90

RACCINE

LAB NUMBER: 101544

CLIENT: BASELINE ENVIRONMENTAL

REPORT ON: 2 SOIL SAMPLES

PROJECT #: S9-134.40 LOCATION: APL-UST EF 14

RESULTS: SEE ATTACHED

QA/QC Approval

Final Approval



CLIENT: BASELINE ENVIRONMENTAL

JOB #: S9-134.40

LOCATION: APL-UST EF14

DATE RECEIVED: 08/30/90

DATE REQUESTED: 09/04/90

DATE EXTRACTED: 09/04/90

DATE ANALYZED: 09/05/90

DATE REPORTED: 09/05/90

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

LAB ID	CLIENT ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT (mg/Kg)
101544-1	SD - 1	ND	ND	10
101544-2	SD - 2	ND	ND	10

ND = Not Detected at or above reporting limit.

QA/QC SUMMARY



CLIENT: BASELINE ENVIRONMENTAL

JOB NUMBER: S9-134.40

JOB LOCATION: APL-UST EF14

DATE RECEIVED: 08/30/90
DATE REQUESTED: 09/04/90

DATE ANALYZED: 09/04/90

DATE REPORTED: 09/05/90

Benzene, Toluene, Ethyl Benzene, Xylenes by EPA 8020 Extraction by EPA 5030 Purge and Trap

LAB ID	CLIENT	ID	BENZENE	TOLUENE	TOTAL XYLENES	ETHYL BENZENE	REPORTING LIMIT *
•••••	· • • • • • • •		(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
101544-1 101544-2	SD - SD -	-	ND ND	ND ND	ND ND	ND ND	5.0 5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %
RECOVERY, %
TELEMENT TO THE TELEMENT TO

^{*} Reporting Limit applies to all analytes.

Project No. 91-134-40 APL - UST EF 14 Samplers: (Signature)											Contact Person TACK LEE Analysis										
Samplers: (Sig	mature)	£_							/	/ 2/	//					//,					
No. Station	Date	Time	Media	Depth	Compo- sites	No. of Con- tainers	Station Locati	ion	/ J					//		//,	Remarks	Detec Limi			
SC -1	डेठ निष्ठ		Soil	``	X	1	Stock Pila	Х	X	7	1	:	1		1	Con	nposite 16 St.1	+			
SC-2			Soil	_	5					1		(\$	M	+		oud	SC 2	-			
SD-	*		Soil	7	X	1	Stock pile	X	X	-	2 f &		317.	-	-	Com	positos m				
	*		Soil	~		1				-	€	CO	*	2	\dashv	SD	posites in 5D and 2	-			
EEC-10		1500	Soil	10	•			×	X				_ -	_		}		 			
ENE-10		1510	Soil	10				X	X			* /	· Lu	4	. No	e (b. 1	+4D	-			
ENW-10		1515	Lod	10		1		Х	X				d	ite	110	L. L	TEH	10			
EBW-10	4	1520	Soil	10		1		Х	X						1"	B	TXE 4	SUC			
P-1-4	A TO		ક્લ્પ	4/		1	Pump	A	×					+	\top			 			
			1	- 1	Received b	ceived by: (Signature) Relinquished by: (Signature)						D	ate / Ti	Rece	Received by: (Signature)						
Relinquished by: (Signature)					4			shed by: (Signature)				D	ate / Ti	ime	Rese	Reserved by: (Signature)					

Daniel L



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

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

DATE RECEIVED: 08/30/90 DATE REPORTED: 09/05/90

LAB NUMBER: 101556

CLIENT: BASELINE ENVIRONMENTAL

REPORT ON: 1 SOIL SAMPLE

PROJECT #: S9-134.40 LOCATION: APL-UST EF14

RESULTS: SEE ATTACHED

QA/QC Approval

Final Anni A

Berkeley

Wilmington

Los Angeles



CLIENT: BASELINE ENVIRONMENTAL

PROJECT #: S9-134.40 LOCATION: APL-UST EF14 DATE RECEIVED: 08/30/90 DATE REQUESTED: 09/06/90

DATE REPORTED: 09/12/90

ANALYSIS: BIOASSAY

ANALYSIS REFERENCE: "GUIDELINES FOR PERFORMING STATIC ACUTE BIOASSAYS IN MUNICIPAL AND INDUSTRIAL WASTEWATERS", JULY 1979 AND CAC TITLE 22,

DIV. 4, CHAPTER 30.

LAB ID

SAMPLE ID

RESULT

UNITS

101556-1

P - 1 - 4

>750

mg/L

STATIC ACUTE BIOASSAY

Kennedy/Jenks/Chilton, Laboratory Division 303 Second Street. Tenth Floor North San Francisco, CA 94107 415-362-6065

For:

Curtis & Tompkins, Ltd

Attention:

Nancy Patten

Address:

2323 Fifth Street

Berkeley, CA 94710

Received 09/07/90 Reported 09/12/90

Lab.SampleNo.:

908829

Sample Description:

Soil - #101527-9

Sampling Procedure:

Date Sampled:

Time Sampled: --

Sampled by: Curtis & Tompkins

Test Begun: 09/07/90

End: 09/11/90

Dute Camp						p.cc.			Cump	ou by.	Ourtio	. O. 1 O.1	pkiiio		1001	20gui 1.	00,07	,00	L.110.	00/11/	, 50		
TIME	INITIAL					24 HOURS				48 HOURS					72 HOURS				96 HOURS				
Test	рΗ	D.O.	Temp	T.Alk.	T.Hard.	No.	рН	D.O.	Temp	No.	pН	D.O.	Temp	No.	рН	D.O.	Temp	No.	рН	D.O.	Temp		
Conc.	Unit	mg/L	°C	mg/L	mg/L	Dead	Unit	mg/L	°C	Dead	Unit	mg/L	° C	Dead	Unit	mg/L	°C	Dead	Unit	mg/L	° C		
Control	7.2	8.7	20	31	44	0	7.2	8.6	20	0				0	7.2	8.0	20	0	7.1	8.0	20		
750 mg/L	7.2	8.7	20	26	79	0	8.4	8.4	20	0				0	7.8	8.4	20	1	7.2	7.6	20		
500 mg/L	7.4	8.7	20	30	67	0	8.0	8.4	20	0				0	7.7	8.2	20	0	7.3	7.8	20		
250 mg/L pH adj.	7.1	8.7	20	25	60	0	7.6	8.7	20	0				0	7.5	8.1	20	0	7.3	8.1	20		
Control	7.3	8.7	20	32	50	0	7.3	8.6	20	0				0	7.4	8.2	20	0	7.1	8.0	20		

Test Species:

Fathead Minnow, Pimephales promelas

Avg. Length: 2.9 cm

Max. Length

Max. Wt.:

0.27 gm

3.2 cm 0.33 gm

Min. Length: Min. Wt.:

2.6 cm 0.21 gm

Source of test species: Thomas Fish Co., Anderson, CA Organisms/Conc.:

Dilution Water:

Reconstituted Freshwater (Very Hard)

Test Solution Volume: Accl. Tank Water:

10 Liters Dechlorinated tap water

Depth: 12.6 cm Aeration:

Compressed Air

Dead in Acclimation Tank:

mg/L

Acclimation Period:

Avg. Wt.:

7 days

Acclimation Temp.:

17 ° C

96 hour LC50

>750

95 % Confidence Limits for LC50

Comments:

Analyst

Polly Cheung

Manager

Guidlines for Performing Static Acute Bioassays in Municipal and Industrial Wastewaters, July 1979, SWRCB and DFG,: and * California Administrative Code Title 22, Div. 4, Chapter 30. Minimum Reference: Standards for Management of Hazardous and Extremely Hazardous Wastes. Paragraph 66696", 1985.

This report applies only to the sample investigated and is not necessarily indicative of the quality of apparently identical or similar samples. The liability of the laboratory is limited to the amount paid for the report by the issuee. The issuee assumes all liability for the further distribution of this report or its content and by making such distribution agrees to hold the laboratory harmless against all claims of persons so informed of the contents hereof.

Chain of Custody Form Curtis & Tompkins, Ltd 2323 Fifth Street ANALYSIS REQUESTED Berkeley, California 94107 (415) 486-0900 Samplers _____ Job Description EPA 601/8010
EPA 602/8020
EPA 624/8240
EPA 625/8270
Title 22 Metals (#)
TPH MethodBenzene-Toluene-Xylene(s)
Oil and Grease
EPA 608/8080 Pesticides & IVH-EPA 8105
TCAL Lead
Organic Lead Job Number 01556 Cllent Contact_____ Recorder ____ Method Matrix Preserved Sample Number Sampling Date #Contai H2SO4 HNOT ICE None SAMPLE NOTES Soil Waste Yr Mo Dy Tlme Laboratory Notes: please call | fax 1514 55 nesults to above address Chain of Custody Record Refinguished by: (signature) Date/lir Received by (signature) Relinquished by: (signature) Date/lir Received by (signature) Fax: 4960532 Relinquished by: (signature) Date/lir Received by (signature) phone: 4860900 Hth: Nancy Pattern Relinquished by: (signature) Date/lir Received by (signature)

Dispatched by: (signature) Date/lir

Received for Lab by (signature



CLIENT: BASELINE ENVIRONMENTAL

PROJECT #: S9-134.40 LOCATION: APL-UST EF14 DATE RECEIVED: 08/30/90
DATE REQUESTED: 09/06/90
DATE ANALYZED: 09/10/90
DATE REPORTED: 09/10/90

ANALYSIS: pH

ANALYSIS METHOD: EPA 9045

LAB ID SAMPLE ID RESULT UNITS

101556-1 P-1-4 11.8 S.U.

QA/QC SUMMARY

RPD, % <1



CLIENT: BASELINE ENVIRONMENTAL

PROJECT #: S9-134.40 LOCATION: APL-UST EF 14 DATE RECEIVED: 08/30/90 DATE REQUESTED: 09/04/90 DATE ANALYZED: 09/05/90

DATE REPORTED: 09/05/90

ANALYSIS: FLASH POINT

ANALYSIS METHOD: ASTM D93

LAB ID

SAMPLE ID RESULT

UNITS

101556-1

P-1-4

177

DEGREES C



LABORATORY NUMBER: 101556-1 CLIENT: BASELINE ENVIRONMENTAL

PROJECT #: S9-134.40

SAMPLE ID: P-1-4

DATE RECEIVED: 08/30/90 DATE REQUESTED: 09/04/90 DATE ANALYZED: 09/05/90 DATE REPORTED: 09/05/90

Title 26 Metals in Soils & Wastes Digestion Method: EPA 3050

METAL	RESULT	REPORTING LIMIT	METHOD
	mg/Kg	mg / Kg	
Antimony	ND	5	EPA 6010
Arsenic	ND	2.5	EPA 6010
Barium	73	0.5	EPA 6010
Beryllium	ND	0.5	EPA 6010
Cadmium	2.6	0.5	EPA 6010
Chromium (total)	31	0.5	EPA 6010
Cobalt	5.8	0.5	EPA 6010
Copper	49 /	1	EPA 6010
Lead	33 ~	2.5	EPA 7420
Mercury	ND	0.1	EPA 7471
Molybdenum	ND	0.5	EPA 6010
Nickel	27 🗸	0.5	EPA 6010
Selenium	ND	2.5	EPA 7740
Silver	ND	1	EPA 6010
Thallium	ND	5	EPA 6010
Vanadium	14	1	EPA 6010
Zinc	610	0.5	EPA 6010

ND = Not detected at or above reporting limit.

	======		#######################################		
	RPD,%	RECOVERY, %		RPD,%	RECOVERY, %
Antimony	2	103	Mercury	<1	96
Arsenic	3	102	Molybdenum	<1	112
Barium	1	97	Nickel	4	100
Beryllium	1	98	Selenium	1	104
Cadmium	1	94	Silver	2	88
Chromium	1	101	Thallium	4	98
Cobalt	<1	99	Vanad i um	1	97
Copper	<1	96	Zinç	1	102
Lead	4	112			
======= :	======	==========	=======================================	======	



LABORATORY NUMBER: 101556-1 CLIENT: BASELINE ENVIRONMENTAL

JOB #: S9-134,40 SAMPLE ID: P-1-4

DATE RECEIVED: 08/30/90 DATE REQUESTED: 09/04/90 DATE ANALYZED: 09/04/90 DATE REPORTED: 09/05/90

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result	Reporting
	ug/kg	Limit (ug/kg)
chloromethane	ND	100
bromome t han e	ND	100
vinyl chloride	ND	100
chloroethane	ND	100
methylene chloride	ND	50
acetone	130	100
carbon disulfide	ND	50
trichlorofluoromethane	ND	50
1,1-dichloroethene	ND	50
1,1-dichloroethane	ND	50
1,2-dichloroethene (total)	ND	50
chloroform	ND	50
freon 113	ND	50
1,2-dichloroethane	ND	50
2 - butanone	DETECTED(65)	100
1,1,1-trichloroethane	ND	50
carbon tetrachloride	ND	50
vinyl acetate	ND	100
bromodichloromethane	ND	50
1,2-dichloropropane	ND	50
cis-1,3-dichloropropene	ND	5 0
trichloroethylene	ND	5 0
dibromochloromethane	ND	5 0
1,1,2-trichloroethane	ND	50
b e n z e n e	ND	50
trans-1,3-dichloropropene	ND	50
2-chloroethylvinyl ether	ND	100
bromoform	ND	50
2 - h e x a n o n e	ND	100
4-methyl-2-pentanone	ND	100
1,1,2,2-tetrachloroethane	ND	50
tetrachloroethylene	ND	50
toluene	ND	50
chlorobenzene	ND	50
ethyl benzene	DETECTED(35)	50
styrene	ND	50
total xylenes	310	50
	210	JU

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4 103% Toluene-d8

Bromof luorobenzene

107%

95%



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

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

SEP 1 1 1990

RACTIME

DATE RECEIVED: 09/04/90 DATE REPORTED: 09/05/90

LAB NUMBER: 101554

CLIENT: BASELINE ENVIRONMENTAL

REPORT ON: 5 SOIL SAMPLES

PROJECT #: S9-134.40

LOCATION: APL

RESULTS: SEE ATTACHED

QA/QC Approval

Final App



CLIENT: BASELINE ENVIRONMENTAL

JOB #: S9-134.40 LOCATION: APL DATE RECEIVED: 09/04/90
DATE EXTRACTED: 09/04/90
DATE ANALYZED: 09/05/90
DATE REPORTED: 09/05/90

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

LAB ID	CLIENT ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT (mg/Kg)
101554-1	SD - 3	N.D.		
	-	ND	ND	10
101554-2	SD - 4	ND	ND	10
101554-3	SD - 5	ND	ND	10
101554-4	SD - 6	ND	420	10
101554-5	SD - 7	ND	ND	10

ND = Not Detected at or above reporting limit.

QA/QC SUMMARY	
RPD, %	4
RECOVERY, %	8.3
#=====================================	



CLIENT: BASELINE ENVIRONMENTAL

JOB NUMBER: S9-134.40

JOB LOCATION: APL

DATE RECEIVED: 09/04/90

DATE ANALYZED: 09/04/90

DATE REPORTED: 09/05/90

Benzene, Toluene, Ethyl Benzene, Xylenes by EPA 8020 Extraction by EPA 5030 Purge and Trap

LAB ID	CLIENT ID	BENZENE	TOLUENE	TOTAL XYLENES	ETHYL BENZENE	REPORTING LIMIT *
		(u g / k g)	(u g / k g)	(u g / k g)	(ug/kg)	(u g / k g)
101554-1	SD - 3	ND	ND	ND	ND	5.0
101554-2	SD - 4	ND	ND	ND	ND	5.0
101554-3	SD - 5	ND	ND	ND	ND	5.0
101554-4	SD - 6	ND	ND	ND	ND	5.0
101554-5	SD - 7	ND	ND	ND	ND	5.0

ND = Not detected at or above reporting limit.

* Reporting Limit applies to all analytes.

RPD, %	3				
RECOVERY, %	97				

101 H Street, Suite L Petaluma, CA 94952 (707) 762-5233

CHAIN OF CUSTODY RECORD

101554

Turn-Around Time 24 hrs.

Lab Curtis . To mpkins

Contact Person

Project No.	40	Project AP	Name a	nd Locati	on				A	nalys	is /	7	7/	7/	//			////	
Samplers: (S	ignature)	Jack.	Lu							/.		//	//	//	/./	//	//		
No. Station	Date	Time	Media	Depth	Compo- sites	No. of Containers	Station Loc	ation				y 	/	/	/	/	/	Remarks	Detection Limits
SD-3	5 Sapat-	1245	Soil	1,		ľ	Stockpile	D	\	V		1							
SD-4	5 Sapt-	1245	~				~		V			12	-	-					
SD·5	Ssept 90	1245	ν			/	·V			/		, r*		7# <u>K</u>					
SD-6	5 Sopt	12.50	1	-		,			<u>∨</u> ∨))	-	4		 		-			
SD-7	5 Sapt 10	1250	7				ν	· · · · · · · · · · · · · · · · · · ·	✓	1								<i>)s</i> i	
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D.C. A. A.											•								
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Relinquished by	: (Signature	e)	Da	te / Time		Received b	y: (Signature)	Relinqui	thed t	y: (Si	gnatu	re)	-		Date	/ Time		Received by: (Sig	mature)
Relinquished by	: (Signatur	2)	Da	te / Time	16	(Signature)	or Laboratory by:	9/4/9	Date O	!	o p	m	Ker B	marks:	Per	+ of: 52	000	kland	



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

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

SEP 12 1990

RACEINE

DATE RECEIVED: 09/05/90 DATE REPORTED: 09/07/90

LAB NUMBER: 101572

CLIENT: BASELINE ENVIRONMENTAL

REPORT ON: 5 SOIL SAMPLES

PROJECT #: S9-134.40

LOCATION: APL:UST EF-11, EF-12, EF-13

RESULTS: SEE ATTACHED

Final App

Berkeley

Wilmington

Los Angeles



CLIENT: BASELINE ENVIRONMENTAL

JOB NUMBER: S9-134.40

JOB LOCATION: APL:UST EF-11,12,13

DATE RECEIVED: 09/05/90 DATE ANALYZED: 09/06/90

DATE REPORTED: 09/06/90

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

LAB ID	CLIENT	ID	TVH AS GASOLINE	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES
	- -		(mg/Kg)	(ug/Kg)	(ug/Kg)	· — — - · —	(ug/Kg)
101572-1 101572-2	EF11 -	_	8.3 1.7	2 4 3 6	ND(10) ND(5.0)	9 6 7 0	130 10

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

QA/QC SUMMARY



CLIENT: BASELINE ENVIRONMENTAL

PROJECT #: S9-134.40

LOCATION: APL:UST EF-11, EF-12, EF-13

DATE RECEIVED: 09/05/90 DATE ANALYZED: 09/07/90

DATE REPORTED: 09/07/90

ANALYSIS: ORGANIC LEAD ANALYSIS METHOD: EPA 7420

METHOD: CA DHS METHOD, LUFT MANUAL OCT 1989

LAB ID	CLIENT ID	RESULT	UNITS	REPORTING LIMIT
101572-1	EF11-1	ND	mg / Kg	0.5
101572-2	EF11-2	ND	mg / Kg	0.5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %
RECOVERY, %
108



CLIENT: BASELINE ENVIRONMENTAL

JOB #: S9-134.40

LOCATION: APL:UST EF-11,12,13

DATE RECEIVED: 09/05/90

DATE EXTRACTED: 09/05/90

DATE ANALYZED: 09/06/90

DATE REPORTED: 09/06/90

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

LAB ID	CLIENT ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT (mg/Kg)
101572-3	EF12-3	ND	ND	10
101572-4	EF12-4	ND	ND	10

ND = Not Detected at or above reporting limit.

	=======================================
RPD, %	1
RECOVERY, %	83
	=======================================



CLIENT: BASELINE ENVIRONMENTAL

JOB NUMBER: S9-134.40

JOB LOCATION: APL: UST EF-11, EF-12, EF-13

DATE RECEIVED: 09/05/90 DATE ANALYZED: 09/05/90 DATE REPORTED: 09/07/90

Benzene, Toluene, Ethyl Benzene, Xylenes by EPA 8020 Extraction by EPA 5030 Purge and Trap

LAB ID	CLIENT ID	BENZENE	TOLUENE	TOTAL XYLENES	ETHYL BENZENE	REPORTING LIMIT *
		(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(u g / k g)
101572-3 101572-4	EF12-3 EF12-4	ND ND	ND ND	ND ND	ND ND	5.0 5.0

ND = Not detected at or above reporting limit.

^{*} Reporting Limit applies to all analytes.

OA/OC	SUMMARY
X X	O OLIZIA SEE E



LAB NUMBER: 101572

CLIENT: BASELINE ENVIRONMENTAL

PROJECT # : S9-134.40

LOCATION: APL:UST EF 11,12,13

DATE RECEIVED: 09/05/90

DATE ANALYZED: 09/07/90

DATE REPORTED: 09/07/90

ANALYSIS: HYDROCARBON OIL AND GREASE

METHOD: SMWW 17:5520F (503E)

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
101572-5	EF13-5	94	mg / Kg	5 0

QA/QC SUMMARY

EDELLE ED



LABORATORY NUMBER: 101572-5 CLIENT: BASELINE ENVIRONMENTAL

JOB #: S9-134.40 SAMPLE ID: EF13-5 DATE RECEIVED: 09/05/90 DATE ANALYZED: 09/07/90 DATE REPORTED: 09/07/90

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result	Reporting
	ug/kg	Limit (ug/kg)
chloromethane	ND	10
bromome than e	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
acetone	ND	10
carbon disulfide	ND	5 .0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
2 - butanone	ND	10
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
vinyl acetate	ND	10
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
dibromochloromethane	ND	5.0
1,1,2-trichloroethane	ND	5.0
benzene	ND	5.0
trans-1,3-dichloropropene	ND	5.0
2-chloroethylvinyl ether	ND	10
bromo form	ND	5.0
2 - hexanone	ND	1 0
4-methyl-2-pentanone	ND	10
1,1,2,2-tetrachloroethane	ND	5.0
tetrachloroethylene	ND	5.0
toluene	ND	5.0
chlorobenzene	ND	5.0
ethyl benzene	ND	5.0
styrene	ND	5.0
total xylenes	ND	5.0

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1, 2-Dichloroethane-d4 108%

Toluene-d8 100% Bromofluorobenzene 100%



LABORATORY NUMBER: 101572-5 CLIENT: BASELINE ENVIRONMENTAL

JOB #: S9-134.40 SAMPLE ID: EF13-5 DATE RECEIVED: 09/05/90
DATE EXTRACTED: 09/05/90
DATE ANALYZED: 09/06/90
DATE REPORTED: 09/06/90

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

ACID COMPANY	RESULT	REPORTING
ACID COMPOUNDS	ug/kg	LIMIT
Phenol		ug/kg
2-Chlorophenol	ND	330
Benzyl Alcohol	ND	330
2-Methylphenol	ND	330
4-Methylphenol	ND	330
2-Nitrophenol	ND	330
2,4-Dimethylphenol	ND	1650
Benzoic Acid	ND	330
	ND	1650
2,4-Dichlorophenol	ND	330
4-Chioro-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
Pentachiorophenol	ND	1650
BASE/NEUTRAL COMPOUNDS		
N-Nitrosod imethy lamine	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 ND	330
Hexachlorocyclopentadiene	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1650
	- 1,2	2000



LABORATORY NUMBER: 101572-5

SAMPLE ID: EF13-5

EPA 8270

BASE/NEUTRAL COMPOUNDS	RESULT	REPORTING
	ug/kg	LIMIT
Di-air and an		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
Butylbenzyiphthalate	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
	- · -	220

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

2-Fluorophenol	8 5%	Nitrobenzene-d5	7 5%						
Phenol-d5	102%	2-Fluorobiphenyl	77%						
2,4,6-Tribromophenol	9 9%	Terphenyl-d14	5 5%						
=======================================									



LABORATORY NUMBER: 101572-5

CLIENT: BASELINE ENVIRONMENTAL

PROJECT #: S9-134.40 SAMPLE ID: EF13-5 DATE RECEIVED: 09/05/90 DATE ANALYZED: 09/07/90 DATE REPORTED: 09/07/90

PARAMETER Cadmium Chromium Lead	RESULT	UNITS	REPORTING LIMIT	METHOD			
	0.6	mg/Kg	0.5	EPA 6010			
	15 ND 28	mg / Kg mg / Kg mg / Kg	0.5 2.5 0.5	EPA 6010 EPA 7420 EPA 6010			

ND = Not detected at or above reporting limit.

	···		
	RPD	%RECOVERY	
Cadmi um	2	99	
Chromium	<1	102	
Lead	7	9 2	
Zinc	<1	110	

101 H	Street, Suite 1	Ĺ
Petalu	ma, CA 9495;	2
(707)	7 6 2 - 5 2 3	3

CHAIN OF CUSTODY RECORD

Turn-Around Time	
Lab Curtis-Toupl	CIMS
Contact Bessen Asel	

Pro	oject No.		Droine	None	- J. T												<u>~</u>	70-	e lee			
S	\$9-134.40 APL: UST EF-11 ((2,600 UST) (10,000 UST) .550 UST)			Ап	alysi	5/			r/		/2		1 / w				
					_								ا أنو		//	~/		/0/ 12/	l Ni			
No	o. Station	Date	Time	Media	Depth	Compo- sites	No. of Con- tainers	Station Locat	ion					X W O	/ ş }		"	3/2	%-\ \``-\	Remarks	1	tectio mits
ЕF	11- (9/5/90		Soil	81		1			7		- 1. J	,*\J	:: \ \ \					24 h	·, Τ Ą		FT
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ef1	12-4	_			10						J		**			-			V	√		
EF	13-5			,	7'		1					4/			_	./	1	1	~	√		
EF	12-GDP		_	Water	11.5	~	3				1		~			-		Ť	Normal			
EFI	12-GW7	+		+	16.51	-	3				,/		J									_
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										7										<u></u>		
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Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

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

RECEIVED

SEP 24 1990

DATE RECEIVED: 09/05/90 DATE REPORTED: 09/17/90

PACCINE

LAB NUMBER: 101573

CLIENT: BASELINE ENVIRONMENTAL

REPORT ON: 2 WATER SAMPLES

PROJECT #: S9-134.40

LOCATION: APL:UST EF-11, EF-12, EF-13

RESULTS: SEE ATTACHED

OA/OC Approva

Final Approvi



CLIENT: BASELINE ENVIRONMENTAL

JOB #: S9-134.40

LOCATION: APL:UST EF-11, EF-12, EF-13

DATE RECEIVED: 09/05/90

DATE EXTRACTED: 09/12/90 DATE ANALYZED: 09/17/90

DATE REPORTED: 09/17/90

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

LAB ID	CLIENT ID	KEROSENE RANGE (mg/L)	DIESEL RANGE (mg/L)	REPORTING LIMIT (mg/L)
101573-2	EF12-GW7	ND	5.8	0.5

ND = Not Detected at or above reporting limit.



CLIENT: BASELINE ENVIRONMENTAL

JOB NUMBER: \$9-134.40

JOB LOCATION: APL:UST EF-11, EF-12, EF-13

DATE ANALYZED: 09/05/90

DATE ANALYZED: 09/12/90 DATE REPORTED: 09/17/90

Benzene, Toluene, Ethyl Benzene, Xylenes by EPA 8020 Extraction by EPA 5030 Purge and Trap

LAB ID CL	IENT ID	BENZENE	TOLUENE	TOTAL XYLENES	ETHYL BENZENE	REPORTING
******		(u g / L)	(ug/L)	(ug/L)	(ug/L)	LIMIT * (ug/L)
101573-1 EF	1 2 - GW6	ND	0.9	0.8	ND	0.5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

^{*} Reporting Limit applies to all analytes.

В

101 H Street, Suite L Petaluma, CA 94952 (707) 762-5233

CHAIN OF CUSTODY RECORD

Turn-Around Time

Lab Curtis - Tompkins

Contact Person Sale Lee

	Project No. 99-134- Samplers: (Signature)		Project API	Name an ⊥ \ US	Τ΄ Ε	デーリ (に- (ス)	(2,000 (10,000 550	0 UST) 0 UST) UST)		Ar	nalysi				*//	•	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	01.25	8/3/			
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KELLIVED

SEP 1 2 1990

DATE RECEIVED: 09/05/90 DATE REPORTED: 09/07/90

RACEINE

LAB NUMBER: 101569

CLIENT: BASELINE ENVIRONMENTAL

REPORT ON: 18 SOIL SAMPLES

PROJECT #: S9-134.40

LOCATION: APL: EF11, EF12, EF13

RESULTS: SEE ATTACHED

QA/QC Approval

Berkeley

Wilmington

Los Angeles



CLIENT: BASELINE ENVIRONMENTAL

JOB NUMBER: S9-134.40

JOB LOCATION: APL: EF11, 12, 13

DATE RECEIVED: 09/05/90
DATE ANALYZED: 09/06/90

DATE REPORTED: 09/06/90

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

LAB ID	CLIENT ID	TVH AS GASOLINE (mg/Kg)	BENZENE (ug/Kg)	TOLUENE (ug/Kg)	ETHYL BENZENE (ug/Kg)	TOTAL XYLENES (ug/Kg)
101569-1 101569-2 101569-3 101569-4 101569-5	EF11-S1 EF11-S2 EF11-S3 EF11-S4 EF11-S5 EF11-S6	ND(1.0) ND(1.0) ND(1.0) ND(1.0) 1.5 ND(1.0)	ND(5.0) ND(5.0) ND(5.0) 7.8 ND(5.0) ND(5.0)	ND(5.0) ND(5.0) ND(5.0) ND(5.0) ND(5.0) ND(5.0)	ND(5.0) ND(5.0) ND(5.0) ND(5.0) ND(5.0) ND(5.0)	ND(5.0) ND(5.0) ND(5.0) ND(5.0) ND(5.0) ND(5.0)

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

QA/QC SUMMARY



CLIENT: BASELINE ENVIRONMENTAL

JOB #: S9-134.40

LOCATION: APL: EF11, EF12, EF13

DATE RECEIVED: 09/05/90

DATE EXTRACTED: 09/05/90

DATE ANALYZED: 09/07/90

DATE REPORTED: 09/07/90

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

LAB ID	CLIENT ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT (mg/Kg)
	EF12-S11 EF12-S12 EF12-S13 EF12-S14 EF12-S15	ND N	ND ND ND ND ND 41 50 ND 63 ND	10 10 10 10 10 10 10

ND = Not Detected at or above reporting limit.

RPD. %	
RPD, %	1
RECOVERY. %	1
RECOVERY, %	g 3
	8.5



CLIENT: BASELINE ENVIRONMENTAL

JOB NUMBER: S9-134.40

JOB LOCATION: APL: EF11, EF12, EF13

DATE RECEIVED: 09/05/90
DATE ANALYZED: 09/07/90
DATE REPORTED: 09/08/90

Benzene, Toluene, Ethyl Benzene, Xylenes by EPA 8020 Extraction by EPA 5030 Purge and Trap

LAB ID C	CLIENT ID	BENZENE	TOLUENE	TOTAL XYLENES	ETHYL BENZENE	REPORTING LIMIT *
		(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
101569-7	EF12-S7	ND	ND	ND	ND	5.0
101569-8	EF12-S8	ND	ND	ND	ND	5.0
101569-9	EF12-S9	ND	ND	ND	ND	5.0
101569-10	EF12-S10	ND	ND	ND	ND	5.0
101569-11	EF12-S11	ND	ND	ND	ND	5.0
101569-12	EF12-S12	ND	ND	ND	ND	5.0
101569-13	EF12-S13	ND	ND	ND	ND	5.0
101569-14	EF12-S14	ND	ND	ND	ND	5.0
101569-15	EF12-S15	ND	ND	ND	ND	5.0
101569-16	EF12-S16	ND	ND	ND	ND	5.0

ND = Not detected at or above reporting limit.

RPD	6
RECOVERY, %	96

^{*} Reporting Limit applies to all analytes.



LAB NUMBER: 101569

CLIENT: BASELINE ENVIRONMENTAL

PROJECT # : S9-134.40

LOCATION: APL:EF 11,12,13

DATE RECEIVED: 09/05/90 DATE ANALYZED: 09/07/90

DATE REPORTED: 09/07/90

ANALYSIS: HYDROCARBON OIL AND GREASE

METHOD: SMWW 17:5520F (503E)

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
101569-17		ND	mg / Kg	5 0
101569-18		ND	mg / Kg	5 0

ND = Not detected at or above reporting limit

QA/QC SUMMARY

RPD, %
RECOVERY, %
85



LABORATORY NUMBER: 101569-17 CLIENT: BASELINE ENVIRONMENTAL

JOB #: S9-134.40 SAMPLE ID: EF13-S17 DATE RECEIVED: 09/05/90 DATE ANALYZED: 09/07/90 DATE REPORTED: 09/07/90

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result	Reporting
	ug/kg	Limit (ug/kg)
chloromethane	ND	10
bromome than e	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
acetone	ND	10
carbon disulfide	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
2 - butanone	ND	10
1,1,1-trichioroethane	ND	5.0
carbon tetrachloride	ND	5.0
vinyl acetate	ND	10
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
dibromochloromethane	ND	5.0
1,1,2-trichloroethane	ND	5.0
b e n z e n e	ND	5.0
trans-1,3-dichloropropene	ND	5.0
2-chloroethylvinyl ether	ND	10
bromo form	ND	5.0
2 - h e x a n o n e	ND	10
4-methyl-2-pentanone	ND	10
1,1,2,2-tetrachloroethane	ND	5.0
tetrachloroethylene	ND	5.0
toluene	ND	5.0
chlorobenzene	ND	5.0
ethyl benzene	ND	5.0
styrene	ND	5.0
total xylenes	ND	5.0

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

=======================================						
1,2-Dichloroethane-d4	107%					
Toluene-d8	108%					
Bromofluorobenzene	9 4%					



LABORATORY NUMBER: 101569-17 CLIENT: BASELINE ENVIRONMENTAL

JOB #: S9-134.40 SAMPLE ID: EF13-S17 DATE RECEIVED: 09/05/90
DATE EXTRACTED: 09/05/90
DATE ANALYZED: 09/06/90
DATE REPORTED: 09/06/90

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

ACID COMPOUNDS	RESULT ug/kg	REPORTING LIMIT
Phenol).Tro	ug/kg
2-Chlorophenol	ND	330
Benzyl Alcohol	ND ND	330
2-Methylphenol	ND ND	330
4-Methylphenol	ND ND	330
2-Nitrophenol	ND ND	330
2, 4-Dimethylphenol	ND ND	1650
Benzoic Acid	ND ND	330
2,4-Dichlorophenol	ND ND	1650
4-Chloro-3-methylphenol	ND ND	330
2, 4, 6-Trichlorophenol	ND ND	330
2,4,5-Trichlorophenol	ND ND	330
2,4-Dinitrophenol	ND ND	1650
4-Nitrophenol	ND ND	1650
4,6-Dinitro-2-methylphenol	ND ND	1650
Pentachlorophenol	ND ND	1650
	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-Chioroaniline	ND	330
Hexachlorobutadiene	ND	330
2 - Methy Inaphthalene	ND	330
Hexachlorocyclopentadiene	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1650



LABORATORY NUMBER: 101569-17

SAMPLE ID: EF13-S17

EPA 8270

BASE/NEUTRAL COMPOUNDS	RESULT	REPORTING
	ug/kg	LIMIT
	6 6	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	68%	Nitrobenzene-d5	49%
Phenol-d5	67%	2-Fluorobiphenyl	67%
2,4,6-Tribromophenol	5 0%	Terphenyl-d14	45%



LABORATORY NUMBER: 101569-17 CLIENT: BASELINE ENVIRONMENTAL

PROJECT #: S9-134.40 SAMPLE ID: EF13-S17 DATE RECEIVED: 09/05/90 DATE ANALYZED: 09/07/90 DATE REPORTED: 09/07/90

PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
Cadmium	1.3	mg/Kg	0.5	EPA 6010
Chromium	15	mg/Kg	0.5	EPA 6010
Lead	23	mg/Kg	2.5	EPA 7420
Zinc	37	mg/Kg	0.5	EPA 6010

	RPD	%RECOVERY			
Cadmium	2	99			
Chromium	<1	102			
Lead	7	92			
Zinc	<1	110			



LABORATORY NUMBER: 101569-18
CLIENT: BASELINE ENVIRONMENTAL

JOB #: S9-134.40 SAMPLE ID: EF13-S18 DATE RECEIVED: 09/05/90
DATE ANALYZED: 09/07/90
DATE REPORTED: 09/07/90

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result	Reporting
	ug/kg	Limit (ug/kg)
chloromethane	ND	10
bromome than e	ND	10
vinyl chloride	ND	1 0
chloroethane	ND	10
methylene chloride	ND	5.0
acetone	ND	10
carbon disulfide	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
2-butanone	ND	10
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
vinyl acetate	ND	10
bromodich loromethan e	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
dibromochloromethane	ND	5.0
1,1,2-trichloroethane	ND	5.0
benzene	ND	5,0
trans-1,3-dichloropropene	ND	5.0
2-chloroethylvinyl ether	ND	1 0
bromoform	ND	5.0
2 - hexanone	ND	10
4-methyl-2-pentanone	ND	1 0
1,1,2,2-tetrachloroethane	ND	5.0
tetrachloroethylene	ND	5.0
toluene	ND	5.0
chlorobenzene	ND	5.0
ethyl benzene	ND	5.0
styrene	ND	5.0
total xylenes	ND	5.0

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

	MECO, ERIED
1,2-Dichloroethane-d4	106%

Toluene-d8 91% Bromofluorobenzene 103%



LABORATORY NUMBER: 101569-18 CLIENT: BASELINE ENVIRONMENTAL

JOB #: S9-134.40 SAMPLE ID: EF13-S18 DATE RECEIVED: 09/05/90
DATE EXTRACTED: 09/05/90
DATE ANALYZED: 09/06/90
DATE REPORTED: 09/06/90

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

	RESULT	REPORTING
ACID COMPOUNDS	ug/kg	LIMIT
nı .		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	330
4-Chloro-3-methylphenol	NĐ	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-Nitrosod imethy lamine	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 ³ , 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: 101569-18

SAMPLE ID: EF13-S18

EPA 8270

BASE/NEUTRAL COMPOUNDS	RESULT	REPORTING
	ug/kg	LIMIT
Dimakhala lahala		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	NĐ	330
Azobenzene	ND	330
4-Bromophenyi-phenylether	ND	330
Hexachlorobenzene	ND	330
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	NĐ	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
- · · · · · · · · · · · · · · · · · · ·	- 1	

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

**=====================================				
2-Fluorophenol	69%	Nitrobenzene-d5	5 0%	
Phenol-d5	7 0%	2-Fluorobiphenyl	69%	
2,4,6-Tribromophenol	56%	Terphenyl-d14	51%	
=======================================	======================================			



LABORATORY NUMBER: 101569-18 CLIENT: BASELINE ENVIRONMENTAL

PROJECT #: S9-134.40 SAMPLE ID: EF13-S18 DATE RECEIVED: 09/05/90 DATE ANALYZED: 09/07/90 DATE REPORTED: 09/07/90

PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
Cadmium	0.9	mg / Kg	0.5	EPA 6010
Chromium	13	mg / Kg	0.5	EPA 6010
Lead	12	mg / Kg	2.5	EPA 7420
Zinc	26	mg / Kg	0.5	EPA 6010

	RPD	%RECOVERY			
Cadmium	2	99			
Chromium	<1	102			
Lead	7	9 2			
Zinc	<1	110			
Lead	7	92			

RASELINE	
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5900 Hollis Street . Suite D Emeryville, CA 94608 (415) 420-8686

CHAIN OF CUSTODY RECORD

24 hrs. Turn-Around Time Lab Curtis - Towpkins Contact Person Jack

Project No.		Project	Name an	d Locati	Dri	· · · · · · · · · · · · · · · · · · ·					7		,	× .			के ।।	1		
_		Project Name and Location APL: EF 11, EF 12, EF 13						Α	Analysis Analysis Analysis Analysis Analysis Analysis Analysis Analysis Analysis Remarks Detection Limits											
Samplers: (Signature)										/ ĵ/			/5 3 7/0	7 3/3			(.//			
No. Station	Date	Time	Media	Depth	Compo- sites	No. of Con- tainers	Station Location			X To	/ /4	7	X/12/12	/ d/- j/-			Remarks		ectio nits	
10 EF12-510	9 40		Soil			1	EF 12	✓	V										0. CA 4.175	
l1 EF双- S11						1		V	J										1	
12 EF12-512			1	<u> </u>		1		V	1											
13 EF 12 - 513						(v	J											
14 EF12-514						1		V	ľ											
EF12-515						,		1	V											
			1			1		V	V					<u> </u>						
EF12-516 13 17 EF萬-517						1	EF 13				V	✓	V	1						
13 18 EFR-518	+	1	4			1	→				4	V	V	J	i				V	
Relinquished by: (Signatur		1 S 90 10 40				Received Du	Dat	Date / Time				Condition of Samples upon Arrival at Laboratory: Bill to Port of Oakland								

Due Relinquished by: (Signature) Date / Time Received by: (Signature) Date / Time Received for Laboratory by: (Signature) Relinquished by: (Signature) Date / Time Date / Time

Remarks DIL & GREASE ANACYSIS BY SMWW SOZE

TPH(D) = TPH - DIESEL

P.O. \$ 52840

BASELINE

5900 Hollis Street , Suite D Emeryville, CA 94608 (415) 420-8686

CHAIN OF CUSTODY RECORD 101569

Turn-Around Time 24 hrs. Lab Curtis Tompkins

Project No.									Contact Person Jack Lee											
89-134.		APL	: EF	- 11, EF	=12, E	F 13			Anal	ysis	Γ	1	7		7	7	7	77	T	
Samplers: (Si	-	e. Z.									/,	//	//	/,	//	/,				
No. Station	Date	Time	Media	Depth	Composites	No. of Con- tainers	Station Loca	tion	n Pemarks										ectior nits	
EF 11- 31	9/5/90		Soil			1	EF II	V	1	1									RW	RCL
EF11-92						1		V	1	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	-	-						<u> </u>	Lti	4175 1
EFII - 53						1		J	-	1	+-	-							-	<u> </u>
F11 - 844	1		+-			1		V	 	V	 						·-·-			
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F12-87			-		-	1	EF 12		V	J						1				
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F12 - 59							<u></u>		V	V						7			1	,
Total Signature) Date / Time 9 5 9 10 40 elinquished by: (Signature) Date / Time				Received by: (Signature) Signature			Date / Time			Condition of Samples upon Arrival at Laboratory: Bill to Port of Oaldand										
quisited by: (oignature)		Date	/Time	R	eceived by	/: (Signature)	Date	! /Tim	c			7.0.	# 5	284	_C O				
elinquished by: (Signature)			Date	/Time	Re (Si	eceived for	Date	Date / Time												



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

2323 Fifth Street, Berkeley, CA 9471O, Phone (415) 486-0900

RECEIVED

SEP 14 1990

RASSIME

DATE RECEIVED: 09/11/90

DATE REPORTED: 09/12/90

LAB NUMBER: 101625

CLIENT: BASELINE ENVIRONMENTAL

REPORT ON: 2 SOIL SAMPLES

PROJECT #: \$9-134.40

LOCATION: APL UST EF:HP-S

RESULTS: SEE ATTACHED

Final Approx



CLIENT: BASELINE ENVIRONMENTAL

JOB #: S9-134.40

LOCATION: APL UST EF-14:HP-S

DATE RECEIVED: 09/11/90

DATE EXTRACTED: 09/11/90

DATE ANALYZED: 09/12/90

DATE REPORTED: 09/12/90

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

LAB ID	CLIENT ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT (mg/Kg)
101625-1	HP - S 1	ND	3 2	10
101625-2	HP - S 2	ND	ND	10

ND = Not Detected at or above reporting limit.

QA/QC SUMMARY

RPD, %

RECOVERY, %

83



CLIENT: BASELINE ENVIRONMENTAL

JOB NUMBER: S9-134.40

JOB LOCATION: APL UST EF-14:HP-S

DATE RECEIVED: 09/11/90 DATE ANALYZED: 09/11/90

DATE REPORTED: 09/12/90

Benzene, Toluene, Ethyl Benzene, Xylenes by EPA 8020 Extraction by EPA 5030 Purge and Trap

LAB ID	CLIENT ID	BENZENE (ug/kg)	TOLUENE (ug/kg)	TOTAL XYLENES (ug/kg)	ETHYL BENZENE (ug/kg)	REPORTING LIMIT * (ug/kg)
101625-1	HP - S1	ND	ND	10	ND	5.0
101625-2	HP - S2	ND	ND	6.5	ND	

ND = Not detected at or above reporting limit.

* Reporting Limit applies to all analytes.

QA/QC SUMMARY



LABORATORY NUMBER: 101625-1

CLIENT: BASELINE ENVIRONMENTAL

JOB #: S9-134.40 SAMPLE ID: HP-S1 DATE RECEIVED: 09/11/90
DATE ANALYZED: 09/12/90
DATE REPORTED: 09/12/90

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result	Reporting
	ug/kg	Limit (ug/kg)
chloromethane	ND	10
bromome than e	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
acetone	ND	10
carbon disulfide	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
2 - butanone	ND	10
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
vinyl acetate	ND	10
bromodich loromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
d i bromo ch l o rome than e	ND	5.0
1,1,2-trichloroethane	ND	5.0
benzene	ND	5.0
trans-1,3-dichloropropene	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
2 · hexanone	ND	10
4-methyl-2-pentanone	ND	10
1,1,2,2-tetrachloroethane	ND	5.0
tetrachloroethylene	ND	5.0
toluene	ND	5.0
chlorobenzene	ND	5.0
ethyl benzene	ND	5.0
styrene	ND	5.0
total xylenes	ND	5.0
	_ 1	

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	102%
Toluene-d8	107%
Bromofluorobenzene	92%

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1,	C	t a	Ιu	ma,	CA	9	495	2
(7	0	7)	7	62	. 5	2 3	3

10/625 CHAIN OF CUSTODY RECORD

Turn-Around Time 121 hrs.

Lab Curlis - Tompkins

Project No.		Projec	t Name a	nd I nace				·					Co	ontact	Pers	on_	امرا	che	
왜~13	4.40	API	L US	ST 1	=F -12	ት : ዘF)-5		A	nalys	is /			1	W/W	WY		777	
Samplers: (Si	gnature)	k L	U								//			and a second					
No. Station	Date	Time	Media	Depth	Compo- sites	No. of Con- tainers	Station L	ocation	100	[0] 				Y /]		//	Remarks	Detection Limits
UP-51	9/10/10		Soil				Random .	l HP	L	1				\Box		\leftarrow	\leftarrow		
HP-52	9/11/20		Sie				Pipelines Randon.		1	<u> </u>	_	-						THIC. TA	
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your of) ee		9/11/90	te / Time 9// 952	1/90	Received b	y: (Signature)	Relinqui	shed by	y: (Sig	natur	e)		i	Jale 7	Time	-	Received by: (Sign	alure)
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Relinquished by	(Signature	,	Da	te / Time		Received fo (Signature)	* Laboratory by:		Date	Time			Rem	arks:		171A	10	Port of Da	
7							:	1			_				Po	. #	528	1004 of Cal	ciaud ,



CLIENT: BASELINE ENVIRONMENTAL

JOB #: \$9.134,40

LOCATION: APL: UST EF14-HP

DATE RECEIVED: 09/11/90 DATE EXTRACTED: 09/17/90

DATE ANALYZED: 09/18/90

DATE REPORTED: 09/18/90

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

LAB ID	CLIENT ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT (mg/Kg)
101626-1 101626-2 101626-3 101626-4 101626-5 101626-6 101626-7	HP - 1 HP - 2 HP - 3 HP - 4 HP - 5 HP - 6 HP - 7	ND ND ND ND ND ND	2.1 200 2.7 1.8 5.3 9.7 2.3	1.0 10 1.0 1.0 1.0 1.0

ND = Not Detected at or above reporting limit.

QA/QC SUMMARY	
中华三河区中海中海建筑市市区内建筑市市区区区市区内建筑市内建筑市市海洋市海洋市海洋市市区区域市内建筑市内建筑市内建筑市内建筑市内建筑市内建筑市内建筑市内建设、中华区内区内内内,	- 可此 - 可以 - 可比 - 可仁 - 可比 - 可比
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CLIENT: BASELINE ENVIRONMENTAL

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JOB NUMBER: \$9-134.40

JOB LOCATION: APL:UST EF14-HP

DATE RECEIVED: 09/11/90

DATE ANALYZED: 09/14/90

DATE REPORTED: 09/18/90

Benzene, Toluene, Ethyl Benzene, Xylenes by EPA 8020 Extraction by EPA 5030 Purge and Trap

LAB ID	CLIENT ID	BENZENE	TOLUENE	TOTAL XYLENES	ETHYL BENZENE	REPORTING LIMIT *
		(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
					**	
101626-1	HP - 1	ND	מא	10	ND	5.0
101626-2	HP - 2	ND	ND	9.1	ND	5.0
101626-3	HP - 3	ND	ND	7.3	ND	5.0
101626-4	HP - 4	ND	ND	6.1	ND	5.0
101626-5	HP - 5	ND	ND	7.3	ND	
101626-6	HP - 6	ND	ND			5.0
101626-7	HP - 7	ND	מא	10 5.2	ND ND	5 .0 5 .0

ND = Not detected at or above reporting limit.

* Reporting Limit applies to all analytes.

QA/QC SUMMARY

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RFD, %	6
RECOVERY, %	8 3
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101 H Street, Suite L Petaluma, CA 94952 (707) 762-5233

CHAIN OF CUSTODY RECORD

Lab Curtis - Tompkins

Contact Rever Val P

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Project No. S9 - 134	40	Project APL	Name ar _ : UST	nd Locati	on -14	- HP	•		Аг	alysi	s /	$\overline{}$		7	7	7	7	7	77	
Samplers: (SI	gnature)					<u>,.</u>								//	//	//	//			1
No. Station	Date	Time	Media	Depth	Compo- sites	No. of Con- tainers	Station Locati	on						/	//	/	/	//	Remarks	Detectio.
HP-1	9/10/40		Soil	51		1			V	J								<u> </u>		
HP-2	9/11/10		Sia	5'		1			v	V										
HP-3	9/14/90		Soil	4 ′		,	·		V	J	_			- -						
HP-4	1/11/40		Soil	3'	. 500	٠,١ .			V	V					 				<u> </u>	
HP-5	9/11/10		Soil	2'8"		1			~	/										
47-6	9/11/90		Soil	ス'8"		1			7	/										
HP. 7.	9/11/90	ļ	Soil	26"		1			V	J										
			ļ	——																
																			·	
Relinquished to	y: (Signatu	re)	9/10/0	ate / Time	1/90	Received Mall	by: (Signature)	Relinquis	hed t	y: (Si	gnatu	re)			Date	/ Time		R	eceived by: (Sig	nature)
Relanguished by: (Signature) Date / Time			Received	by: (Signature)	Relinquis	elinquished by: (Signature)				+		Date	/Tim	c	R	eceived by: (Sig	nature)			
Relinquished by: (Signature) Date / Time		Received for Laboratory by: (Signature)			Date / Time			Remarks: Charge to Part of Oakland- P.O. * 52840							and-					

APPENDIX D

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

		UNDERGROUND STORAGE TANK UNAUTHOR	RIZE	D RELEASE ((LEAK) / CON	TAMINATIO	N SITE REPORT	
		HAS STATE OFFICE OF EMERGENCY SERVICES YES X NO REPORT BEEN FILED? YES X NO	s	FOR LOCAL AGENCY USE ONLY 1 HEREBY CERTIFY THAT I AM A DESIGNATED GOVERNMENT EMPLOYEE AND THAT I HAVE REPORTED THIS INFORMATION TO LOCAL OFFICIALS PURSUANT TO SECTION 25180.7 OF THE HEALTH AND SAFTY CODE.				
ļ		CASE#						
Ì	Y	NAME OF INDIVIDUAL CALL CALL	PHONE	SIGNED	SIGNATURE		DATE	
	¥	T1_ T		7 762-5233	Sa	ck Le	عد الما	
	1TED	REPRESENTING X OWNER/OPERATOR REGIONAL BOA		COMPANY OR AGE	NCY NAME			
	REPORTED BY	LOCAL AGENCY OTHER		Baseline I	Environmen	tal Consu	lting	
	_	101 H Street, Suite L Petaluma California 94952						
	<u>-</u>	NAME STREET	1	CONTACT PERSON			STATE ZIP PHONE	
1	F T	Port of Oakland unknown	WN	Neil Werne	er		(415)272-1176	
	PARIY	ADDRESS 530 Water Street		0.11				
	_	FACILITY NAME (IF APPLICABLE)		Oakland cry	Cal	lifornia	94607	
	ا ج	American President Lines		OPERATOR		-	PHONE	
		ADDRESS 1395 Middle Harbor Road		Same Oakland		Alame	(415)272-2040 da	
	SITE LOCAT	STREET		crry				
	≅	CROSS STREET TYPE OF AREA	COMME	RCIAL X INDUST		TYPE OF BUSINE	SS RETAIL FUEL STATION	
c	-	LOCAL AGENCY AGENCY NAME	on			FARM X	OTHER shipping	
N I	AGENCIES	Alameda County Environmental Health	- 1	CONTACT PERSON Dennis Byr	.		PHONE (4.15.) OZI 4.000	
PLEM	AGE.	REGIONAL BOARD	\dashv	Dennis Dyl	ne		(415)271-4320 PHONE	
2	4	San Francisco				:	()	
CES	a	Diesel NAME				0	LIANTITY LOST (GALLONS)	
BSTAN	INVOLVED	(2)		-			X UNKNOWN	
-	-						UNKNOWN	
DV.ADATEMENT				ORY CONTROL		MONITORING	NUISANCE CONDITIONS	
		DATE DISCHARGE BEGAN		METHOD USED TO ST	OTHER	ECK ALL TUAT ADS	* W	
		M M D D Y Y X UNKNOWN		REMOVE CO		REPLACE TANK	X CLOSE TANK	
Diegovic	1	HAS DISCHARGE BEEN STOPPED ?	7	REPAIR TANK	. —	REPAIR PIPING	CHANGE PROCEDURE	
-	+	YES NO FYES, DATE O M 9M O D 5 D 9 V (SOURCE OF DISCHARGE TANKS ONLY CAPACITY			ank remov	ed		
SOURCEACALISE		TANK LEAK X UNKNOWN 10,000 GAL		IATERIAL FIBERGLASS	i	CAUSE(S) OVERFILL		
ğ		PIPING LEAK AGE YRS		X STEEL		CORROSK		
8		OTHER UNKNOWN		OTHER_		SPILL [OTHER	
13	<u>₹</u> `	CHECK ONE ONLY UNDETERMINED X SOU ONLY GROUP THAT TO DEPART TO THE TOTAL THAT THE TOTAL THE THE THE THAT THE THE TOTAL THAT THE TOTAL THE THE THE THE THE T						
\vdash	CHECK ONLY F WATER WELLS HAVE ACTUALLY BEEN AFFE							
CURRENT	3	SITE INVESTIGATION IN PROGRESS (DEFINING EXTENT OF PROBLEM)		CLEANUP IN PROGR	RESS SIGNET	OFF (CLEANUP C	OMPLETED OR UNNECESSARY)	
13.	-	NO ACTION TAKEN POST CLEANUP MONITORING IN PROGRES	ss [NO FUNDS AVAI	LABLE TO PROCEE		TING CLEANUP ALTERNATIVES	
₹:		CAP SITE (CD) SEE BACK FOR DETAILS) EXCAPATE & DISPOSS FOR						
REMEDIAL	2	CONTAINMENT BARRIER (CB) EXCAVATE & DISPOSE (ED) EXCAVATE & TREAT (ET)	0)		REE PRODUCT (FP)		HANCED BIO DEGRADATION (IT)	
L		TREATMENT AT HOOKUP (HU) NO ACTION REQUIRED (NU	A)	OTHER (OI	REAT GROUNDWATE	ER (GT) REF	PLACE SUPPLY (RS)	
6 01		Port Tanks I.D EF12, &fn, &f13	-		•			
COMMENTS		==== 2.12, === 3					·	
8				•				
<u> </u>	1					<u> </u>	HBC 05 (487)	

	UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK) / CONTAMINATION SIT					
		HAS STATE OFFICE OF EMERGENCY SERVICES REPORT BEEN FILED? YES X NO ORT DATE CASE #	FOR LOCAL AGENCY USE ONLY I HEREBY CERTIFY THAT I AM A DESIGNATED GOVERNMENT EMPLOYEE AND THAT I HAVE REPORTED THIS INFORMATION TO LOCAL OFFICIALS PURSUANT TO SECTION 25180.7 OF THE HEALTH AND SAFTY CODE.			
	0	w 9w 0 d 4d 9 v 0 v	SIGNED DATE			
		NAME OF INDIVIDUAL FLING REPORT PH	FONE SIGNATURE			
	<u></u>		707) 762-5233 Jeck Lee SK			
	ğ l	REPRESENTING X OWNEROPERATOR REGIONAL BOAR	RO COMPANY OR AGENCY NAME			
	REPORTED BY	LOCAL AGENCY OTHER	Baseline Environmental Consulting			
` [`		ADDRESS 101 H Street, Suite L STREET	Petaluma California 94952			
918		NAME Port of Oakland	CONTACT PERSON PHONE			
SNO	ЯΤΥ	Port of Oakland UNKNOW	Neil Werner (415) 272-1176			
RESP	PARTY	ADDRESS 530 Water Street	Oakland California 94607			
Η.		FACILITY NAME (FAPPLICABLE)	OPERATOR PHONE			
1	\$	American President Lines	same (415) 272-2040			
Ę	SITE LOCATION	1395 Middle Harbor Road	Oakland Alameda 94607			
<u> </u>	<u> </u>	STREET STREET	CITY COUNTY ZIP			
		RESIDENTIAL T	OMMERCIAL X INDUSTRIAL RURAL TYPE OF BUSINESS RETAIL FUEL STATION OTHER TOTHER Shipping			
ğ	\dashv	LOCAL AGENCY AGENCY NAME	CONTACT PERSON PHONE			
MPLEMENTING	CIES	Alameda County Environmental Health	Dennis Byrne (415)271-4320			
LEM	GEN EN	REGIONAL BOARD	Definis byrne			
\$		San Francisco Regional Water Quality Co				
'	\neg	(1) NAME	QUANTITY LOST (GALLONS)			
TANC	AVED -	Diesel	INKNOWN			
SUBSTANCES	+	(5)	UNKNOWN			
Į Į	<u>i</u>		NVENTORY CONTROL SUBSURFACE MONITORING NUISANCE CONDITIONS			
2Y/ABATEMENT	<u>.</u>	$0 \times 8_M \times 3_D \times 0_D \times 9_V \times 0_V$ TANK TEST \mathbf{x} TANK	ANK REMOVAL OTHER			
¥.8	Į	•	METHOD USED TO STOP DISCHARGE (CHECK ALL THAT APPLY)			
		M M D D Y Y Y WINNOWN HAS DISCHARGE BEEN STOPPED ?	REMOVE CONTENTS REPLACE TANK X CLOSE TANK			
JACC SIG	3	VE COMPANY	REPAIR TANK REPAIR PPING CHANGE PROCEDURE O T OTHER tank removed			
	-	SOURCE OF DISCHARGE TANKS ONLY CAPACITY	O T TANK TEMOVED MATERIAL CAUSE(S)			
ह	<u>;</u>	TANK LEAK UNKNOWN 10,000 GAL				
SOURCEACALISE	الج	PIPING LEAK AGE YRS				
. ह	<u> </u>	OTHER UNKNOWN	OTHER SPILL X OTHER trank seams			
CASE	w /	CHECK ONE ONLY				
-		UNDETERMINED X SOIL ONLY GROUNDWATER	DRINKING WATER - (CHECK ONLY IF WATER WELLS HAVE ACTUALLY BEEN AFFECTED)			
	<u>s</u> '	CHECK ONE ONLY				
CURRENT	TAIL	SITE INVESTIGATION IN PROGRESS (DEFINING EXTENT OF PROBLEM)	CLEANUP IN PROGRESS SIGNED OFF (CLEANUP COMPLETED OR UNNECESSARY)			
۴		NO ACTION TAKEN POST CLEANUP MONITORING IN PROGRESS NO FUNDS AVAILABLE TO PROCEED EVALUATING CLEANUP ALTERNATIVES CHECK APPROPRIATE ACTION(S) (SEE BACK FOR DETAILS)				
₹	Z	CAP SITE (CD) EXCAVATE & DISPOSE (ED)	D) REMOVE FREE PRODUCT (FP) ENHANCED BIO DEGRADATION (IT)			
PEMEDIAL	2 2	CONTAINMENT BARRIER (CB) EXCAVATE & TREAT (ET)				
. *	*	TREATMENT AT HOOKUP (HJ) NO ACTION REQUIRED (NA	_			
	+	Port Tank I.d EF14	, , , , , , , , , , , , , , , , , , , ,			
11	- 1	PARK York I di DULA				
' <u>E</u>	3	TOTE TAIK 1.U EF14				
COMMENTS	0 141	TOTE TAIR 1.U EF14				