

**Port of Oakland Building C-401,  
2277 7th Street, Oakland**

**Report of Underground  
Storage Tank Removals**

*and workplan (Appendix G)*

February 23, 1994

*Prepared by*

Uribe & Associates  
2930 Lakeshore Avenue, Suite 200  
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*Prepared for*

Port of Oakland  
530 Water Street  
Oakland, California 94607

ALCO  
HAZMAT  
94 MAR -4 PM 2:19



# PORT OF OAKLAND

March 1, 1994

ALCO  
HAZMAT  
94 MAR -14 PM 2:20

Ms. Jennifer Eberle  
Hazardous Materials Specialist  
Hazardous Materials Division  
Alameda County Health Care  
Services Agency  
80 Swan Way, Rm. 200  
Oakland, CA 94621

**Subject: Underground Storage Tank Removal and Soil Excavation Report, Port of Oakland Building C-401, 2277 7th Street, Oakland, California**

Dear Ms. Eberle:

Enclosed, you will find the Underground Storage Tank Removal and Soil Excavation Report, Port of Oakland Building C-401, 2277 7th Street, Oakland, California I have also enclosed the Underground Storage Tank Unauthorized Release (Leak)/Contamination Site Report.

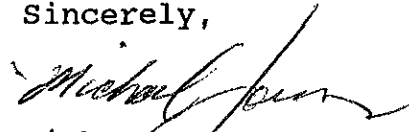
On November 1, 1993, the Port of Oakland Environmental Department submitted an Underground Storage Tank Unauthorized Release form to ACHCSA for four tanks at Shipper's Imperial Building C-401, 2777 7th Street. There is a correction in the report for the name and the address given to the site. The site will no longer be named Shipper's Imperial and the address is not 2777 7th Street.

The report documents the correct name, address, and removal of four tanks. The tank are adjacent to Port of Oakland Building C-401, located at 2277 7th Street, Oakland, California. The four excavated UST's were steel-walled and included two 10,000-gallon gasoline tanks, one 300-gallon waste oil tank, and one 500-gallon fresh motor product tank.

The report also documents all tank removal and soil testing conducted for this project and it includes the Work Plan for Site Characterization Activities. The work plan includes monitoring and well installation for the site.

If you have any questions or comments, please call me. I can be reached at 272-1178.

Sincerely,



Michael James

Michael James  
Jr. Port Scientist

cc: Rich Hiett, San Francisco Regional Water Quality Control Board, 2101 Webster Street, Suite 500 Oakland CA, 94612.

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## 1. Introduction

This report documents the removal of four Port of Oakland-owned underground storage tanks (USTs) from adjacent to Port of Oakland Building C-401, located at 2277 7th Street, Oakland, California (Figure 1). (Note: In some prior documents, this site has been referred to as the "Shippers Imperial" site, a name that is no longer applicable.) Uribe & Associates (U&A) supervised the tank removal and subsequent soil excavation in September and October, 1993. PTS Environmental of Loomis, California performed the tank removal and soil excavation activities. The four excavated USTs were steel-walled and included two 10,000-gallon gasoline tanks, one 300-gallon waste oil tank, and one 500-gallon fresh motor oil product tank (Figure 2). U&A personnel collected soil samples from the pit bottoms and sidewalls of each UST excavation, as well as two groundwater samples from the excavation bottom. Samples were analyzed by Curtis & Tompkins Laboratories, Berkeley, California.

## 2. Site Description

### 2.1 Location

Dongary Investments leases land from the Port of Oakland (Port) which they in turn sublease to three companies; Sealand Services (Sealand), ANR Freight (ANR), and NW Transport Services (RAMCON, 1993). Building C-401 is located on the Sealand sublease, along with one other building and a railroad spur. The USTs removed from the adjacent to Building C-401 were owned by the Port of Oakland. Figure 2 shows the former tank location, the sublease areas, and the former locations of nine other nearby underground tanks excavated by Dongary Investments.

### 2.2 Geology

The soils in the area of Building C-401 are predominantly sandy fill. Bay Mud was encountered at depths of eight to ten feet below ground surface (bgs). The tank removal excavation also uncovered vertically positioned wood beams, possibly old dock or pier pilings left in place during the installation of fill materials.

Additional hydrogeologic information is available from soil and groundwater investigation activities conducted by Dongary Investments after they removed their USTs from the neighboring ANR sublease (see Section 2.4). The investigation report (RAMCON, 1993) described a mixed sand, gravel, and clay layer from the ground surface to approximately four feet bgs underlain by six feet of well sorted sands to ten

feet bgs. The RAMCON report noted that in borings BH6, BH10, and BH12 (the closest borings to the Building C-401 UST excavation) a poorly sorted clayey sand interval existed from four feet to ten feet, dominated by blue green clayey sand. Underlying the sand layers, a green and black clay was found to 15 feet bgs.

### 2.3 Hydrogeology

The groundwater flow direction in the area is assumed to be to the north-northwest based upon an unrelated study conducted at Southern Pacific, located across 7th Street from Building C-401. This flow direction is consistent with contaminant distribution data from the site characterization performed on the ANR and Sealand subleases (see Section 2.4) by Dongary Investments; RAMCON (A Dongary Investments contractor) reported a contamination plume apparently migrating northwestward from the former tank area on the ANR sublease (RAMCON, 1993). However, on January 15, 1993, the groundwater flow direction calculated by RAMCON using three monitoring wells installed during the investigation was westward. RAMCON indicated in their site characterization report that the groundwater flow direction may fluctuate seasonally depending on rainfall and may be tidally influenced from hour to hour.

At the time the Building C-401 USTs were removed, groundwater was observed at approximately 11 feet bgs. Groundwater levels appears to fluctuate seasonally, and may rise to less than five feet bgs during the winter as evidenced by (1) diesel contamination at five feet bgs in boring BH10 drilled by RAMCON (Figure 3) and (2) groundwater observed in the open ANR sublease UST excavation in February 1994.

### 2.4 Neighboring Facility

Prior to excavation of the USTs owned by the Port adjacent to Building C-401, nine other USTs were removed from southeast of Building C-401 by Dongary Investments. The former locations of these USTs are shown on Figure 2. The first of these tanks was removed from the ANR sublease in March 1990 after it failed a tank integrity test the previous year. The remaining seven tanks that had been located on the ANR sublease were excavated in July 1992. In August 1992 Dongary Investments removed their waste oil tank located on the Sealand sublease south of Building C-401 (Figure 2). During the tank excavations performed by Dongary Investments in 1992, free floating hydrocarbon contamination was observed on groundwater in the tank pits on both the ANR and Sealand subleases (RAMCON, 1992). Free floating hydrocarbons have persisted in these excavations and U&A staff noted dark black fluid floating on groundwater within



these excavations on September 23, 1993. To date, these excavations have not been backfilled. ✓

Subsequent to the 1992 tank removals, RAMCON conducted a site investigation to assess the extent of the diesel contaminant plume apparently originating from the former tank area on the ANR sublease. As part of this investigation soil borings were drilled and groundwater monitoring wells were installed on both the ANR and Sealand subleases. ✓ The locations of some of the borings drilled during the investigation are shown on Figure 3. ✓ The site characterization report prepared by RAMCON (RAMCON, 1993) identified considerable soil and groundwater contamination resulting from the Dongary USTs. ✓

Based on the site investigation results, RAMCON reported a contaminant plume flowing northwestward toward Building C-401 and the location of the four Port-owned USTs. Although there was no data delineating the northern boundary of the plume, RAMCON depicted the plume as ending before reaching the location of the Port-owned USTs (Figure 3). The northeastern edge of the plume was reportedly bounded by boring BH12 (Figure 3) because no detectable concentrations of diesel, gasoline, or benzene, toluene, ethylbenzene, or xylene (BTEX) were reported in samples from this location. Similarly, BH16 reportedly bounded the northwest portion of the plume because there were no detectable concentrations of diesel, gasoline, or BTEX in samples from that location. However, between these two locations, a soil sample from boring BH10 contained 1,800 milligrams/kilogram (mg/kg) diesel. ✓ Since this boring is apparently located immediately up-gradient of the former location of the Port-owned USTs, the USTs removed from the ANR sublease may have contributed to the diesel contamination detected in the tank pit when the Port-owned USTs were excavated.

Because the tanks removed from the ANR sublease had reportedly contained diesel or motor oil, limited analyses for TPH-gasoline or BTEX were performed during the site investigation conducted by RAMCON. However, as presented in Appendix A, there is evidence that these tanks had stored gasoline in the past. ✓ Consequently, these tanks may also be a source of gasoline and BTEX contamination detected during removal of the Port-owned USTs at Building C-401. To further assess this possibility, a soil sample was collected from the tank removal pit at the ANR sublease by U&A personnel on November 11, 1993. Laboratory analysis of this sample detected gasoline (18 mg/kg).

↑ very low level.

### 3. Tank Removal Activities

#### 3.1 Sampling of Tank Contents

On January 8, 1993, U&A personnel sampled the contents of three of the four USTs adjacent to Building C-401. The results were reported in the *Workplan for Tank Removal Activities at Shippers Imperial Facility*, prepared by U&A in June, 1993. Table 1 contains these results. The tank contents are summarized as follows:

1. The 10,000-gallon tank (CF-18) apparently contained 100 gallons of gasoline;
2. The 500-gallon tank (CF-19) apparently contained 400 gallons of fresh motor oil;
3. The 300-gallon tank (CF-20) apparently contained 285 gallons of waste diesel and waste oil;
4. The 10,000-gallon tank (CF-17) apparently contained 50 gallons of gasoline.

The contents of the two smaller tanks were verified by interviews with site employees. The fourth tank, which had a volume of 10,000 gallons (CF-17), was not sampled along with the other tanks because its location was not discovered until a ground-penetrating radar investigation was conducted at the site on February 8, 1993. No samples were collected from this tank, but the tank had a strong gasoline odor. PTS Environmental Services identified the tanks contents as gasoline on Manifest No. 92206522 dated September 23, 1993.

#### 3.2 Site Preparation

On September 17, 1993, PTS Environmental removed the concrete and asphalt from the projected excavation area (Figure 4). On September 18, the Port of Oakland Construction Department supervised the installation of sheet-pile shoring at the site. The shoring was designed to protect Building C-401 from earth failure during the excavation. The sheet pilings were driven approximately 12 feet into the ground in a line along the northern edge of the projected excavation and along three short sections on the southern edge of the projected excavation (Figure 4). Horizontal support beams were installed between the northern and southern piling shoring, across the projected excavation area, to enhance the stability of the excavation. On September 22, PTS Environmental personnel exposed the tops of the USTs. Approximately 100 cubic yards of soil from the excavation were stockpiled on-site.

I don't have this

**Table 1: Summary of Analyses of Tank Contents  
(Concentrations in mg/L)**

Analyte	Analytical Method	CF-18 (10,000-gal)	CF-19 (500 gal)	CF-20 (300-gal)
TPH-Diesel	EPA 8015	<400*	160,000	150,000
TPH-Gasoline	EPA 8020	620**	<10,000***	<20,000***
Benzene	EPA 8020	ND	2.7	5.0
Toluene	EPA 8020	0.4	37	42
Ethylbenzene	EPA 8020	ND	22	24
o-xylene	EPA 8020	2.1	41	83
p,m-xylenes	EPA 8020	1.9	83	90
Cadmium	EPA 6010	0.1	0.2	0.6
Lead	EPA 6010	2	7	160
Zinc	EPA 6010	10	120	340
Phenol	EPA 8270	0.06	ND	ND
4-methyl phenol	EPA 8270	0.24	ND	ND
Naphthalene	EPA 8270	7.9	500	400
2-methyl naphthalene	EPA 8270	4.3	1,100	800
Bis-(2-ethylhexyl)phthalate	EPA 8270	10	ND	ND
Fluorene	EPA 8270	ND	200	ND
Phenanthrene	EPA 8270	ND	500	300
Undecane	EPA 8270	ND	2,000	3,000
Decane	EPA 8270	ND	ND	4,000
Tridecane	EPA 8270	ND	2,000	2,000
Tetradecane	EPA 8270	ND	6,000	5,000
Dimethyl naphthalene	EPA 8270	1,000	ND	ND
C10-Alkane	EPA 8270	ND	2,000	4,000
C10-Cycloalkane	EPA 8270	ND	ND	4,000
C16-Alkane	EPA 8270	ND	3,000	ND
Pentadecane	EPA 8270	ND	8,000	8,000
Trimethyl naphthalene	EPA 8270	2,000	ND	ND
Heptadecane	EPA 8270	ND	11,000	10,000
Nonadecane	EPA 8270	ND	5,000	5,000
Eicosane	EPA 8270	ND	5,000	4,000

\* Laboratory Note: Detection limit increased due to presence of lighter hydrocarbons.

\*\* Laboratory Note: Sample appears to be weathered gasoline.

\*\*\* Laboratory Note: Detection limit increased due to presence of heavier hydrocarbons.

### 3.3 Removal of Underground Storage Tanks

The four USTs adjacent to Building C-401 were removed on September 23, 1993. Jennifer Eberle from the Alameda County Health Care Services Agency, Department of Environmental Health (ACDEH) arrived at the site at 10:00 AM. Ms. Eberle's inspection notes are reproduced in Appendix B. The Fire Department was contacted but did not send a representative to witness the excavations. The Fire Department delegated the responsibility for approving tank inertness to the ACDEH. PTS Environmental personnel inserted dry ice into the tanks between 9:30 AM and 10:00 AM. The County documented the following Lower Explosive Limit (LEL) readings before removal and transport:

- 10,000-gallon tank (CF-17, County designation "A"): 1.5 percent LEL, 8 percent O<sub>2</sub>
- 10,000-gallon tank (CF-18, County designation "B"): 3 percent LEL, 3 percent O<sub>2</sub>
- 300-gallon tank: 1 percent LEL, 0 percent O<sub>2</sub>
- 500-gallon tank: 0.5 percent LEL, 2 percent O<sub>2</sub>

The tanks were inspected after removal from the ground. No holes were observed. The 300-gallon tank (CF-20) was removed from the pit at 11:45 AM. The 500-gallon tank (CF-19) was removed at 12:00 PM. The 10,000-gallon UST designated CF-17 was removed by 1:00 PM. These three tanks were loaded onto a flat-bed truck and taken to Erickson, Inc. in Richmond, California for disposal under State Manifest Document Number 92206522. The second 10,000-gallon UST (CF-18) was removed at 3:00 PM and taken to Erickson, Inc. for disposal under State Manifest Document Number 92206523. Appendix C contains copies of the uniform hazardous waste manifests. Rinsate from tank removal operations was transported to Refinery Services in Patterson, California under State Manifest Document Number 92206525.

During the excavation, U&A personnel collected ambient air samples with a photoionization detector (PID) to measure hydrocarbon levels. The PID was left on all day in different locations with the "peak-save" feature turned on, so that the day's highest readings could be saved and recorded. The PID recorded a maximum of 64 part per million (ppm) in the ambient air during the excavation activities. As the tanks were removed, brown/black hydrocarbon product was observed floating on the groundwater. Appendix D contains photographs of the removed USTs and groundwater in the excavation pit.

## 4. Soil Sampling and Overexcavation

### 4.1 Summary of Samples Collected

U&A personnel collected the following soil samples:

- Two discrete soil samples from the bottom of each 10,000-gallon tank pit, labeled S-1 and S-2 (tank CF-17) and S-6 and S-8 (tank CF-18).
- One discrete soil sample from the bottom of each of the smaller tank pits, labeled S-4 (500-gallon tank) and S-5 (300-gallon tank).
- One discrete side sample from the north wall of the excavation for tank CF-17 labeled S-3 and another discrete side sample from the south wall of the excavation for CF-18 labeled S-7.
- Five discrete confirmation samples from the excavation sidewalls, labeled CON-1, CON-2, CON-3, CON-1-2.0, and CON-2-2.0.
- Ten samples from the stockpiled soils, labeled SPT-1 through SPT-10. These samples were composited at the laboratory into five samples for analysis.

All samples were analyzed by Curtis and Tompkins Laboratories.

### 4.2 Pit-Bottom Sampling

On September 23, 1993, U&A collected two discrete soil samples from the pit bottoms of each of the 10,000-gallon tanks. One sample was collected from the pit bottoms of each of the smaller tanks. The six soil samples were designated S-1, S-2, S-4, S-5, S-6, and S-8. Samples from the 10,000-gallon tank pits were analyzed for gasoline, diesel, BTEX, and lead (TTLC). The samples from beneath the two smaller tanks (CF-19 and CF-20) were analyzed for gasoline, diesel, motor oil, oil and grease, lead (TTLC), four additional metals (cadmium, chromium, zinc, and nickel), volatile organic compounds, and semi-volatile organic compounds. Results of these analyses are summarized in Table 2; ✓ laboratory data sheets are reproduced in Appendix E.

Samples from beneath the two smaller tanks (Samples S-4 and S-5) were non-detect for all constituents except for chromium, zinc, and nickel, which were detected within normal background concentrations. Therefore, there does not appear to be any soil contamination associated with these tanks (CF-19 and CF-20). *ok*

Samples from the pit bottom for 10,000-gallon tank CF-17 (samples S-1 and S-2) *Tank A* detected gasoline at a maximum concentration of 700 mg/kg and diesel at a maximum

Table 2: Summary of Soil Sampling Results

(Concentrations in mg/kg)

Sample ID	TPH Gasoline	TPH Diesel	Motor Oil	Grease	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Lead	Cd	Cr	Zn	Ni
<b>Pit-Bottom Samples</b>													
S-1	12	700 ✓ → 320 kerosene a ✓	--	--	6.7 ✓	2.6	9.2	25	<5 ✓	--	--	--	--
S-2	12.5	5 ✓	5,500 ✓	--	0.023 ✓	0.019	0.03	0.066	44 ✓	--	--	--	--
S-4*		<1 ✓	<1 ✓	<30 ✓	<50 ✓	-- ✓	--	--	<5 ✓	<0.3 ✓	28 ✓	22 ✓	36 ✓
S-5*		<1 ✓	<1 ✓	<30 ✓	<50 ✓	--	--	--	<5 ✓	<0.3 ✓	33 ✓	18 ✓	36 ✓
S-6	10	1,300 ✓ → 350 kerosene a ✓	--	--	0.29 ✓	8.5	11	51	<5 ✓	--	--	--	--
S-8	9.5	8 ✓	<1 ✓	--	<0.005 ✓	0.006	<0.005	0.023	<5 ✓	--	--	--	--
<b>Sidewall Samples</b>													
S-3	11'	1,700 ✓ → 490 kerosene a ✓	--	--	<0.5 ✓	2.0	13	52	6 ✓	--	--	--	--
S-7b	8.5'	190 ✓	1,200 ✓	--	0.051 ✓	0.025	0.41	4.2	<5 ✓	--	--	--	--

\*Both samples were below the detection limit for all halogenated volatile and semi-volatile organic compounds tested (EPA Method 8010 and EPA Method 8270)

a Laboratory Note: Diesel range not reported due to overlap of hydrocarbon ranges. All samples collected September 23, 1993.

b Excavation proceeded beyond this sample.

Samples S-1 and S-2 were collected at depths of approximately 11 to 12 feet from the pit bottom for 10,000-gallon tank CF-17.

Sample S-4 was collected at a depth of approximately 8 feet from the pit bottom for 500-gallon tank CF-19.

Sample S-5 was collected at a depth of approximately 9 feet from the pit bottom for 300-gallon tank CF-20.

Sample S-6 was collected at a depth of approximately 11 feet from the pit bottom for 10,000-gallon tank CF-18.

*tank removal*

CF-17  
gas USTA  
motor oil  
W.O.  
gas USTA  
CF-18

Tank A  
Tank B

concentration of 5,500 mg/kg, as well as BTEX in the low ppm range. Lead was also detected at a maximum concentration of 44 mg/kg.

On the eastern edge of the pit bottom for 10,000-gallon tank CF-18, gasoline was detected in sample S-8 at 8 mg/kg, toluene at 0.006 mg/kg, and total xylenes at 0.023 mg/kg. Diesel, benzene, ethylbenzene, and lead were all non-detect. However, on the west side of the excavation (sample S-6), gasoline was detected at 1,300 mg/kg along with moderate levels of BTEX. Diesel concentrations were not reported because of overlapping hydrocarbon ranges. On October 5, this area was overexcavated approximately five feet beyond the location of sample S-6, as shown in Figure 4.

### 4.3 Sidewall Sampling

On September 23, U&A collected two sidewall samples, one from the north wall of the excavation for tank CF-17 (sample S-3, depth of 12 feet) and another from the south wall of the excavation for (sample S-7, depth of 8.5 feet). Sample S-3 contained gasoline at 1,700 mg/kg and low to moderate levels of toluene, ethylbenzene, and xylenes. Lead was detected at 6 mg/kg. Because sample S-3 was adjacent to the shoring on the north wall of the pit, excavation could not proceed to the north (Figure 4). Sample S-7 contained diesel at 1,200 mg/kg, gasoline at 190 mg/kg, and low levels of BTEX. On October 5, this area was overexcavated approximately five feet beyond the location of sample S-7, as shown in Figure 4.

On October 5, U&A collected three confirmation samples (CON-1, CON-2, and CON-3) from the excavation sidewalls at depths of nine feet bgs. The samples were analyzed for diesel, gasoline, and BTEX. Both CON-1 and CON-2 contained diesel (maximum of 6,700 mg/kg), gasoline (maximum of 1,500 mg/kg), and moderate levels of BTEX. (up to 5.7 ppm benz)

Sample CON-3, collected at a depth of nine feet from the south wall of the excavation for tanks CF-19 and CF-20, was non-detect for all constituents, further confirming the lack of contamination from these two tanks.

On October 15, two additional confirmation samples (CON-1-2.0 and CON-2-2.0) were collected at the same locations as CON-1 and CON-2 but at depths of two feet bgs. These samples were also analyzed for diesel, gasoline, and BTEX. The purpose of collecting these shallower samples was to assess whether surface contamination (e.g., from fuel spills) could be responsible for the contamination detected at depths of nine feet. Diesel was measured at concentrations of 25 and 140 mg/kg, respectively; gasoline and BTEX were non-detect. Results of sidewall sample

analyses are summarized in Table 2. Results of the confirmation samples are included in Table 3. Laboratory data sheets are reproduced in Appendix E.

**Table 3: Summary of Confirmation Sample Results  
(Concentrations in mg/kg)**

Sample ID	Date Collected	TPH		Benzene	Toluene	Ethyl Benzene	Total Xylenes	TTL Lead
		Diesel	Gasoline					
CON-1	10/5/93 ✓	6,700 ✓	900 ✓	2.5 ✓	20	15	65	--
CON-2	10/5/93	1,600 ✓	1,500 ✓	5.7 ✓	36	22	82	--
CON-3	10/5/93	<2 ✓	<1 ✓	<0.005 ✓	<0.005	<0.005	<0.005	--
CON-1-2.0	10/15/93 ✓	25 ✓	<1 ✓	<0.005 ✓	<0.005	<0.005	<0.005	--
CON-2-2.0	10/15/93	140 ✓	<1 ✓	<0.005 ✓	<0.005	<0.005	<0.005	--

#### 4.4 ANR Sublease Soil Sample

On November 11, 1993, U&A collected a soil sample from black, stained soils approximately one foot above the groundwater in the neighboring ANR sublease UST excavation pit. Figure 3 shows the location of the sample (sample number ANR-S-1). The soil sample contained 18 mg/kg gasoline and no diesel above the detection limit. The chromatograms provided by the laboratory verified the presence of gasoline-range hydrocarbons only. These sample results are contained in Appendix E. Prior to the November 1993 sampling, gasoline contamination in the area of the Dongary/ANR sublease USTs had not been confirmed.

*any benzene?  
(not in App. E)*

#### 4.5 Stockpile Sampling and Disposal

U&A collected 10 discrete samples from the approximately 200 cubic yards of stockpiled soils on September 23, 1993. Results of these analyses are summarized in Table 4 (organic analytes) and Table 5 (inorganic analytes). Laboratory data sheets are reproduced in Appendix E. An additional 250 cubic yards of soil were generated by overexcavation activities on October 5. This soil was not sampled after stockpiling. The total of approximately 450 cubic yards of stockpiled soils were sent to Port Costa Materials in Martinez, California on November 22 and 23, 1993.

*document this*



**Table 4: Summary of Soil Stockpile Analyses, Organic Constituents  
(Concentrations in mg/kg)**

Sample ID	TPH Diesel	TPH Gasoline	Benzene	Toluene	Ethyl Benzene	Total Xylenes
SPT-1,2	a	49	0.1	0.3	0.1	5
SPT-3,4	1,200	160	<0.1	<0.1	0.1	6.9
SPT-7,8	1,200	260	<0.3	1.5	0.7	15
SPT-6,9	520	7	0.008	0.8	1.5	12
SPT-5,10	850	230	<0.3*	<0.3*	<0.3*	6*

a Laboratory Note: Diesel range not reported due to overlap of hydrocarbon ranges.

All samples collected September 23, 1993.

All BTEX results derived from EPA Method 8240 except \* derived from EPA Method 8020.

**Table 5: Summary of Soil Stockpile Analyses, Inorganic Constituents  
(Concentrations in mg/kg)**

	SPT-1,2	SPT-3,4	SPT-7,8	SPT-9,6	SPT-5,10
Toxicity	NA	NA	Pass	NA	NA
Ignitability	DNI	DNI	DNI	DNI	DNI
Corrosivity	ND	ND	ND	ND	ND
Reactivity	ND	ND	ND	ND	ND
pH	8.4	8.5	8.6	8.6	8.6
Antimony	<3	<3	<3	NA	<3
Arsenic	23	14	35	NA	14
Barium	79	64	82	NA	97
Beryllium	0.2	0.2	0.2	NA	0.2
Cadmium	0.3	0.3	0.6	0.94	<0.3
Chromium (total)	29	38	43	32	36
Cobalt	8.7	20	110	NA	12
Copper	33	29	22	NA	25
Lead	41	22	13	48	19
Mercury	<0.1	<0.1	<0.1	NA	<0.1
Molybdenum	1.0	0.9	0.9	NA	0.8
Nickel	31	45	47	34	41
Selenium	<3	<3	<3	NA	<3
Silver	<0.5	<0.5	<0.5	NA	<0.5
Thallium	<3	<3	<3	NA	<3
Vanadium	25	33	31	NA	29
Zinc	63	57	62	75	43

DNI = Does Not Ignite

ND = None Detected

NA = Not Analyzed

All samples collected September 23, 1993

#### 4.6 Groundwater Sampling

Two groundwater samples were collected on September 23, 1993 from each of the 10,000-gallon tank pits. Both samples were analyzed for BTEX; the results are summarized in Table 6. Both samples contained benzene (maximum of 180 milligrams per liter [mg/L]), ethylbenzene (maximum of 1,800 mg/L, and xylenes (maximum of 5,600 mg/L). Sample W-2 also contained toluene at a concentration of 330 mg/L. Chromatograms for these samples indicate the presence of both gasoline and diesel (Appendix F).

*why not  
ppm g + d?*

*High?*

**Table 6: Summary of Groundwater Sample Analyses**  
(Concentrations in mg/L)

Sample ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes
W-1	110 ✓	<200	1,400	3,100
W-2	180 ✓	330	1,800	5,600

#### 5. Backfilling of Excavation

U&A obtained approval from the ACDEH to backfill the tank excavation in a meeting between Port representatives and Jennifer Eberle on October 29, 1993. Before the excavation was backfilled, petroleum product observed floating on the groundwater was vacuumed off by Refinery Services and disposed of at their facility in Peterson, California. Approximately 1,650 gallons of fluid were vacuumed before backfilling. The excavation was backfilled with clean pea gravel to a depth of 10 feet bgs on November 22 and 23. Sandy fill material was used as backfill from 10 feet bgs to one foot bgs. None of the soil excavated from the tank pits was used for fill.

#### 6. Discussion

A dark brown/black petroleum fluid was observed floating on the exposed groundwater at a depth of approximately 11 feet bgs as the Building C-401 USTs were removed. Groundwater samples contained benzene at a maximum concentration of 180 mg/L (see Table 6). Chromatograms of the water samples indicate the presence of

*very high*

*ppm*

gasoline and diesel. Some or all of the diesel is assumed to have originated from the USTs formerly located on the ANR sublease for the following reasons:

- No records show that diesel was ever stored in the Building C-401 USTs.
- The USTs formerly on the ANR sublease are known to have leaked diesel.
- The former location of the USTs excavated by the Port at Building C-401 is approximately 300 feet away from the former UST location on the ANR sublease in a presumed down-gradient direction and diesel was detected between the two areas.
- The RAMCON site investigation did not fully characterize the down-gradient margin of the hydrocarbon plume originating on the ANR sublease.

The extent of gasoline contamination in the area is poorly characterized. The RAMCON study showing diesel contamination did not analyze many samples for gasoline. However, gasoline contamination on the ANR sublease is indicated by a soil sample (ANR-S-1) collected from the ANR sublease UST excavation pit in November 1993. This sample contained gasoline (18 mg/kg). Appendix A contains information indicating that the tanks removed from the ANR sublease had contained gasoline. Therefore the ANR sublease is a potential source of the gasoline found during the Building C-401 UST excavation. Building C-401 is apparently down-gradient from the ANR site according to neighboring studies (RAMCON, 1993), although no site-specific gradient information is available. (The former Building C-401 USTs are a potential source of the gasoline although no holes were observed when these USTs were excavated.)

Groundwater in the area is shallow and groundwater elevation appears to fluctuate seasonally. As the groundwater level rises in the winter, the floating product may contaminate shallower soils. Gasoline and diesel found in the soils during the Building C-401 UST removal may be the result of the fluctuating groundwater levels. This action may have occurred in the area over many years.

ERM-West has prepared a work plan for in-situ bioremediation at the neighboring ANR sublease. The work plan involves a system of injection wells surrounded by a ring of recovery wells. The system is designed to circulate nutrients through the contaminated soils. The purpose of the added nutrients would be to enhance the biodegradation of the existing petroleum hydrocarbons in the soils. It appears that the contamination plume from the ANR sublease may extend up to and beyond the UST excavation adjacent to Building C-401. However, the current configuration of the bioremediation

system does not incorporate that area of the Sealand sublease where the Port-owned USTs were located.

## **7 Recommendations**

The extent of contaminants originating from the ANR sublease and possibly from the former UST location adjacent to Building C-401 will require additional characterization before remediation efforts in these areas can be completed. A Work Plan to conduct additional site characterization activities around Building C-401 is included as Appendix G.

Future remediation of contaminated soils and groundwater in both areas should be coordinated. The in-situ bioremediation already recommended and designed by ERM-West could potentially be expanded to incorporate the entire plume after additional characterization has been performed.

## **8 References**

RAMCON, October 12, 1992. Tank Removal Work Summary: Dongary Investments.

RAMCON, March 18, 1993. Soil and Groundwater Site Assessment: Dongary Investments - Oakland.

Figures

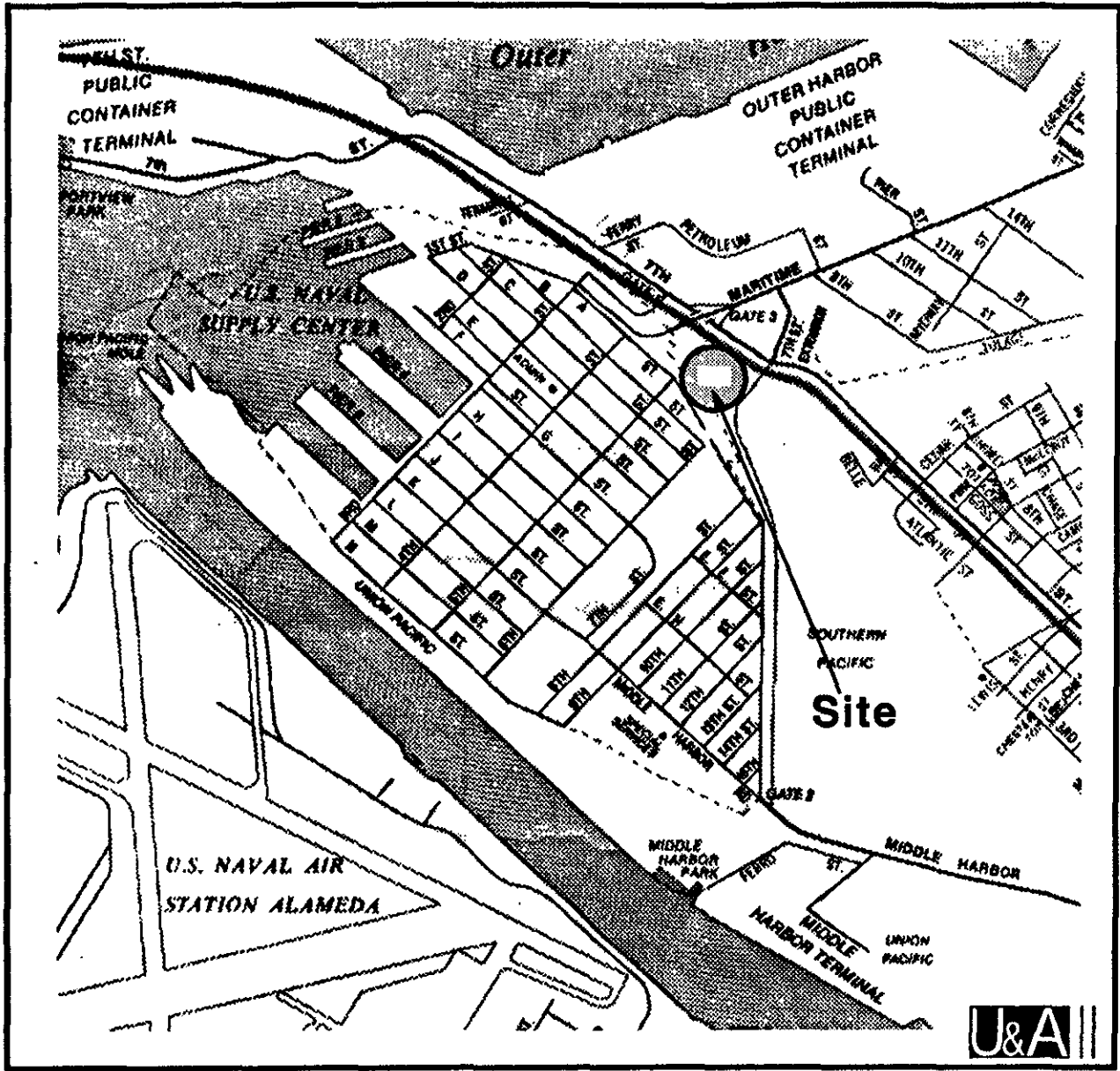


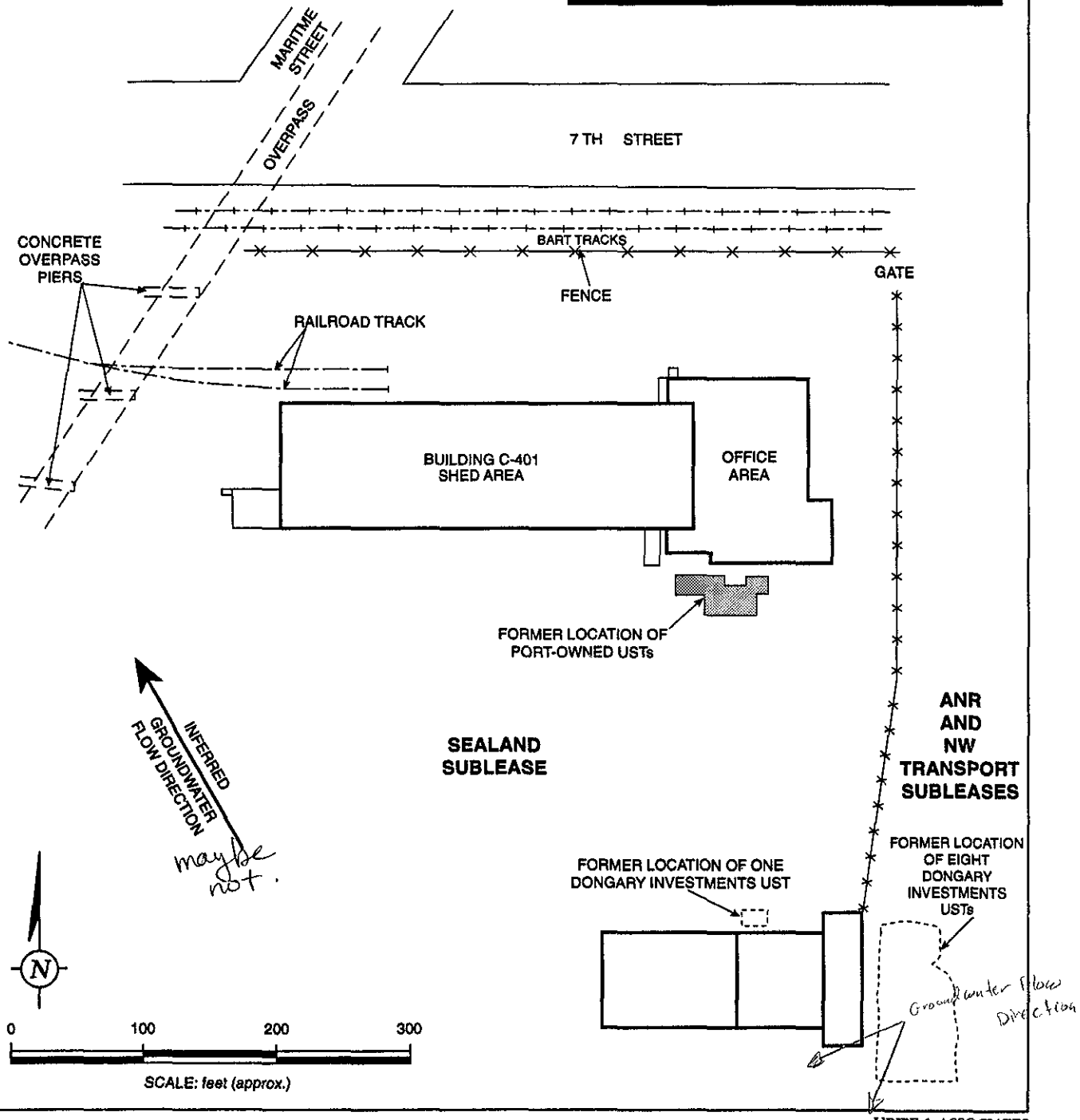
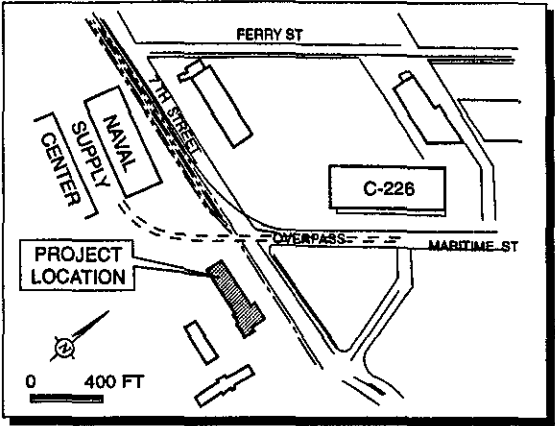


Figure 1: Site Location Map

**LEGEND**

-  Open UST Excavation
-  Backfilled Former UST Excavation



96-209.FH92-14-94

Figure 2: Plot Plan



Where is BH16?

BLDG. C-401

BH12: (ND)

CF-17

CF-18

CF-19

CF-20

Ground Water Flow  
Direction as Determined  
by Southern Pacific Site Study

**LEGEND**

BH10; 5' Borehole 10, sample from 5' depth in RAMCON site assessment

ND = Not detected

Detection Limit = 10 mg/kg TPH-diesel

BH10; 5' (1,800 mg/kg TPH-diesel)  
(not analyzed for gasoline or BTEX)

BH11; 4' (free product)  
(not analyzed)

BH9; 6' (ND diesel, 53 mg/kg motor oil)

Waste Oil Pit

BH8 (free product)  
(not analyzed)

ANR-S-1

Estimated Limit of Free Product  
As Determined by RAMCON Study

Vacant Shop

SEALAND  
Auto Loader

Vacant Car Wash

Diesel Tank Pit

ANR FREIGHT

Loading Docks

NW TRANSPORT

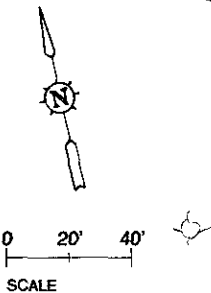
Loading Docks

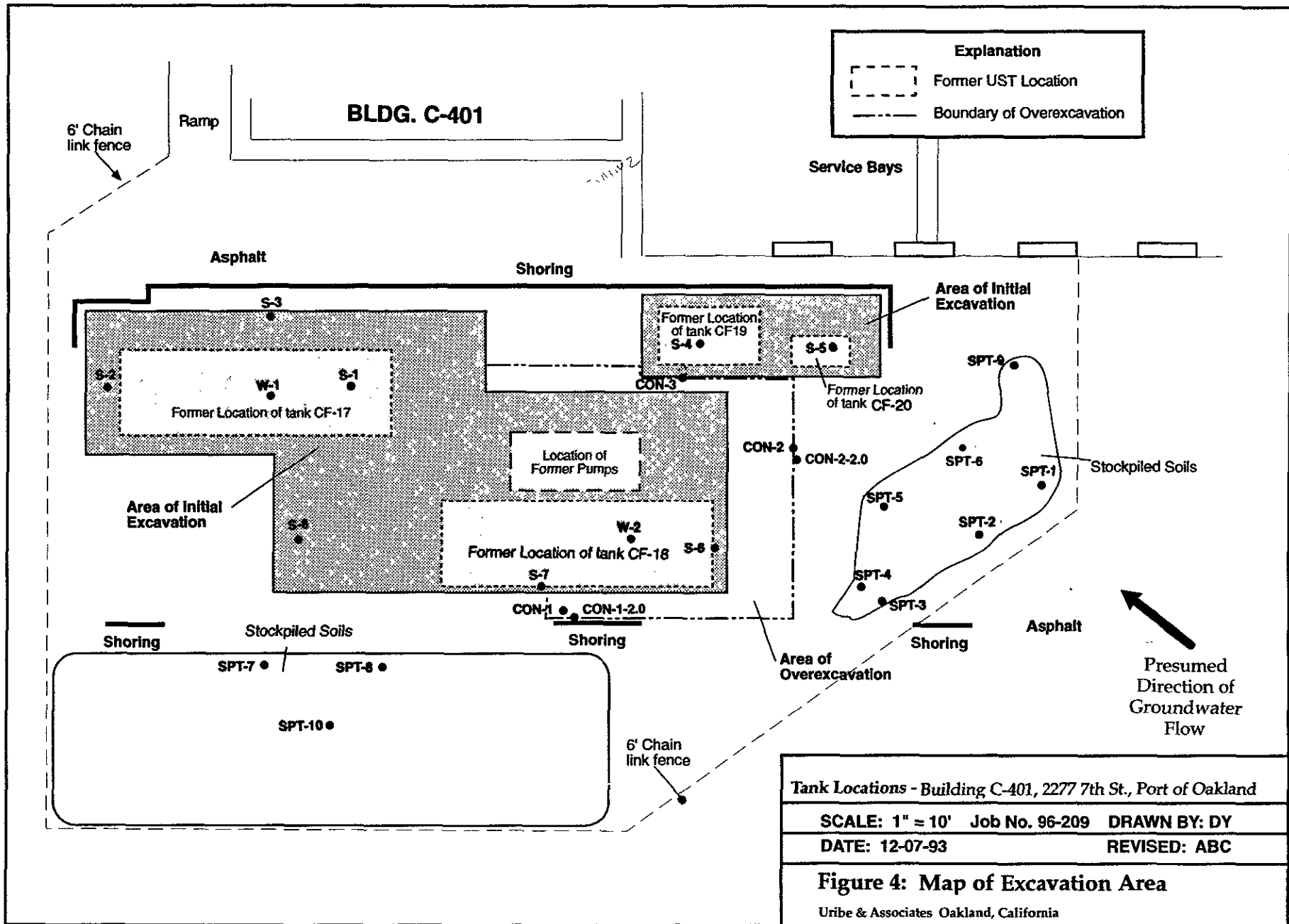
RAMCON.

SCALE: GRAPHIC Job No. 96-209 DRAWN BY: PO

DATE: 7-2-93 REVISED: A.W.

Figure 3: Map of Plume from ANR / Dongary Investments Site





**Tank Locations - Building C-401, 2277 7th St., Port of Oakland**

SCALE: 1" = 10' Job No. 96-209 DRAWN BY: DY

DATE: 12-07-93 REVISED: ABC

**Figure 4: Map of Excavation Area**

Uribe & Associates Oakland, California

**Appendix A**

**Information Indicating the Storage of Gasoline in  
Underground Storage Tanks at the ANR Facility**

BRUCE A. BULLOCK  
VICE PRESIDENT  
GENERAL COUNSEL  
SECRETARY

December 4, 1989

Dept. of Environmental Health  
Hazardous Materials Program  
80 Swan Way, Suite 200  
Oakland, California 94621

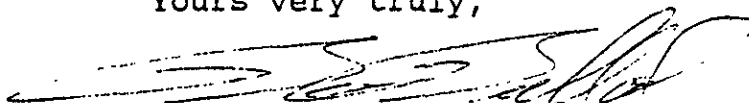
Re: ANR Freight System, Inc.  
2225 7th Street, Oakland, California

Ladies/Gentlemen:

Enclosed herewith you will find State of California Forms A and B, completed to register the nine (9) underground storage tanks at the referenced property location.

I trust you will find the enclosed in order; however, should you have any questions or require any additional information, please contact me at the post office box address mentioned below or at (303) 273-4498.

Yours very truly,



Bruce A. Bullock

/mg  
Enclosures

cc: E. Yeutter/Att.  
Port of Oakland/Att.



FORM 'B':  
TANK

UN. URGROUND STORAGE TANK PROGRAM  
TANK PERMIT APPLICATION INFORMATION  
COMPLETE A SEPARATE FORM WITH THE FOLLOWING INFORMATION FOR EACH TANK.

MARK ONLY ONE ITEM	<input checked="" type="checkbox"/> 1 NEW PERMIT	<input type="checkbox"/> 3 RENEWAL PERMIT	<input type="checkbox"/> 5 CHANGE OF INFORMATION	<input type="checkbox"/> 7 PERMANENTLY CLOSED TANK
	<input type="checkbox"/> 2 INTERIM PERMIT	<input type="checkbox"/> 4 AMENDED PERMIT	<input type="checkbox"/> 6 TEMPORARY TANK CLOSURE	<input type="checkbox"/> 8 TANK REMOVED

FACILITY/SITE NAME WHERE TANK IS INSTALLED: ANR Freight System, Inc. FARM TANK - YES  NO

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

A. OWNERS TANK ID # 0	B. MANUFACTURED BY: Unknown
C. YEAR INSTALLED 1974	D. TANK CAPACITY IN GALLONS: 10,000

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

A. <input type="checkbox"/> 1 MOTOR VEHICLE FUEL <input type="checkbox"/> 3 CHEMICAL PRODUCT <input type="checkbox"/> 5 HAZARDOUS	<input type="checkbox"/> 2 PETROLEUM <input type="checkbox"/> 4 OIL <input checked="" type="checkbox"/> 80 EMPTY <input type="checkbox"/> 95 UNKNOWN	B. <input type="checkbox"/> 1 PRODUCT <input type="checkbox"/> 2 WASTE	C. <input type="checkbox"/> 1 UNLEADED <input type="checkbox"/> 4 GASAHOL <input type="checkbox"/> 7 METHANOL	<input type="checkbox"/> 2 LEADED <input type="checkbox"/> 5 JET FUEL <input type="checkbox"/> 99 OTHER (DESCRIBE IN ITEM D, BELOW)	<input type="checkbox"/> 3 DIESEL <input type="checkbox"/> 6 AVIATION GAS
D IF NOT MOTOR VEHICLE FUEL, ENTER NAME OF HAZARDOUS SUBSTANCE STORED & C.A.S. # Previously gasoline		C.A.S. #:			

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

A. TYPE OF SYSTEM <input checked="" type="checkbox"/> 2 SINGLE WALLED	<input type="checkbox"/> 1 DOUBLE WALLED <input type="checkbox"/> 3 SINGLE WALLED WITH EXTERIOR LINER <input type="checkbox"/> 4 SECONDARY CONTAINMENT	<input type="checkbox"/> 95 UNKNOWN <input type="checkbox"/> 99 OTHER
B. TANK MATERIAL <input checked="" type="checkbox"/> 1 STEEL/IRON	<input type="checkbox"/> 2 STAINLESS STEEL <input type="checkbox"/> 6 POLYVINYL CHLORIDE <input type="checkbox"/> 10 GALVANIZED STEEL	<input type="checkbox"/> 3 FIBERGLASS <input type="checkbox"/> 7 ALUMINUM <input type="checkbox"/> 95 UNKNOWN <input type="checkbox"/> 99 OTHER
C. INTERIOR LINING <input type="checkbox"/> 5 GLASS LINING <input type="checkbox"/> IS LINING MATERIAL COMPATIBLE WITH 100% METHANOL?	<input type="checkbox"/> 1 RUBBER LINED <input type="checkbox"/> 2 ALKYD LINING <input checked="" type="checkbox"/> 6 UNLINED <input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> 3 EPOXY LINING <input type="checkbox"/> 4 PHENOLIC LINING <input type="checkbox"/> 95 UNKNOWN <input type="checkbox"/> 99 OTHER
D. CORROSION PROTECTION <input type="checkbox"/> 5 CATHODIC PROTECTION	<input checked="" type="checkbox"/> 2 TAR OR ASPHALT <input type="checkbox"/> 91 NONE	<input type="checkbox"/> 3 VINYL WRAP <input type="checkbox"/> 4 FIBERGLASS REINFORCED PLASTIC <input type="checkbox"/> 95 UNKNOWN <input type="checkbox"/> 99 OTHER

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

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

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

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

VI. INFORMATION ON TANK PERMANENTLY CLOSED IN PLACE

1. ESTIMATED DATE LAST USED (MO/YR) March 1987	2. ESTIMATED QUANTITY OF SUBSTANCE REMAINING IN 76 GALLONS	3. WAS TANK FILLED WITH INERT MATERIAL? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
---	---	--

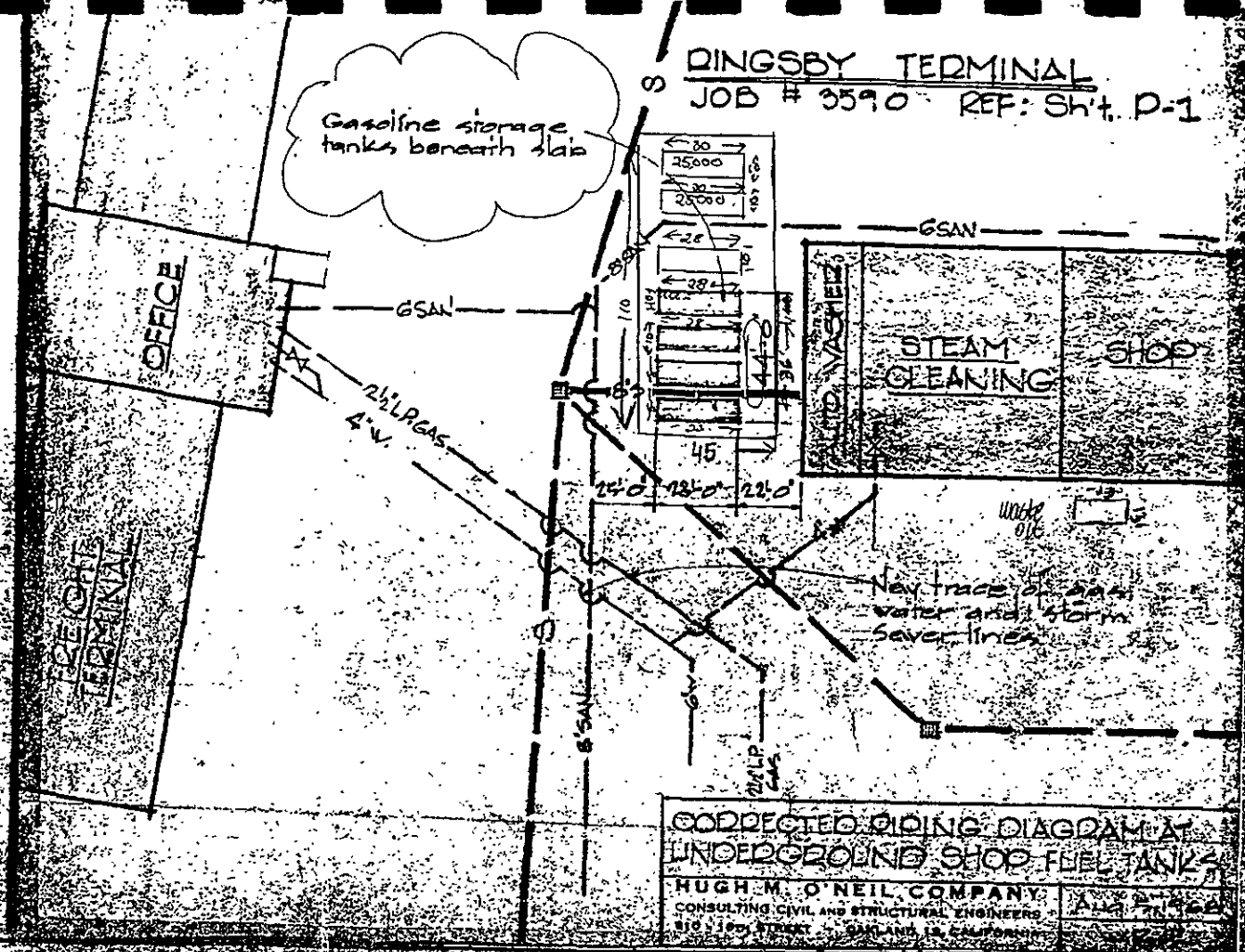
THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT.

APPLICANT'S NAME (PRINTED & SIGNATURE) <i>Bruce A. Bullock</i> Bruce A. Bullock	DATE 12/1/89
---	-----------------

LOCAL AGENCY USE ONLY

COUNTY #	JURISDICTION #	AGENCY #	FACILITY ID #	TANK ID #
CURRENT LOCAL AGENCY FACILITY ID #		APPROVED BY NAME		PHONE # WITH AREA CODE
PERMIT NUMBER	PERMIT APPROVAL DATE	PERMIT EXPIRATION DATE		
CHECK #	PERMIT AMOUNT	SURCHARGE AMT.	FEE CODE	RECEIPT #
				BY:

**RINGSBY TERMINAL**  
 JOB # 3590 REF: SH't. P-1



**CORRECTED PIPING DIAGRAM AT  
 UNDERGROUND SHOP FUEL TANK**  
**HUGH M. O'NEIL COMPANY**  
 CONSULTING CIVIL AND STRUCTURAL ENGINEERS  
 810 - 16TH STREET OAKLAND 12, CALIFORNIA

**RINGSBY FREIGHT TERMINAL**  
 BLDGS. C-406 & C-407  
 SEVENTH ST. NEAR MARITIME  
 OAKLAND CALIFORNIA

**UNDERGROUND PIPING REVISION**

**HUGH M. O'NEIL COMPANY**  
 CONSULTING CIVIL AND STRUCTURAL ENGINEERS

INDUSTRIAL PLANTS FOUNDATION INVESTIGATIONS  
 COMMERCIAL BUILDINGS SUPERVISION OF CONSTRUCTION

610 - 16TH STREET OAKLAND 12, CALIFORNIA PHONE 882-3808

DATE 2-12-69  
 DRAWN BY ALO  
 CHECKED BY

CIVIL & STRUCTURAL ENGINEER  
 CALIF. REG. NO.

PROJECT NO. DWG. NO.  
 3590 P-1A

Assembled on standard sheet	ALO	2-12-69
1968 to be voided by Dwg. of Aug. 5, 68	VRR	8-5-68
DATE	BY	

**Appendix B**

**Alameda County Representative's Field Notes**

white -env.health  
 yellow -facility  
 pink -files

ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH

80 Swan Way, #200  
 Oakland, CA 94621  
 (415) 271-4320

Hazardous Materials Inspection Form

p.1 of 3

II, III

Site ID # \_\_\_\_\_ Site Name Port of Oakland Shipyard Imperial Today's Date 9/23/93

Site Address 2277-7th St.

City Oakland Zip 94607 Phone \_\_\_\_\_

MAX AMT stored > 500 lbs, 55 gal., 200 cft.?

Inspection Categories:

- I. Haz. Mat/Waste GENERATOR/TRANSPORTER
- II. Business Plans, Acute Hazardous Materials
- III. Underground Tanks

\* Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)

II.A BUSINESS PLANS (Title 19)

- 1. Immediate Reporting 2703
- 2. Bus. Plan Stck. 25503(b)
- 3. RR Cars > 30 days 25503.7
- 4. Inventory Information 25504(a)
- 5. Inventory Complete 2730
- 6. Emergency Response 25504(b)
- 7. Training 25504(c)
- 8. Deficiency 25505(a)
- 9. Modification 25505(b)

II.B ACUTELY HAZ. MATLS

- 10. Registration Form Filed 25533(a)
- 11. Form Complete 25533(b)
- 12. RMPP Contents 25534(c)
- 13. Implement Sch. Req'd? (Y/N) \_\_\_\_\_
- 14. OnSite Conseq. Assess. 25524(c)
- 15. Probable Risk Assessment 25534(d)
- 16. Persons Responsible 25534(g)
- 17. Certification 25534(f)
- 18. Exemption Request? (Y/N) \_\_\_\_\_
- 19. Trade Secret Requested? 25538

III. UNDERGROUND TANKS (Title 23)

- 1. Permit Application 25284 (H&S)
- 2. Pipeline Leak Detection 25292 (H&S)
- 3. Records Maintenance 2712
- 4. Release Report 2651
- 5. Closure Plans 2670
- 6. Method
  - 1) Monthly Test
  - 2) Daily Vadose Semi-annual groundwater One time soil
  - 3) Daily Vadose One time soil Annual tank test
  - 4) Monthly Groundwater One time soil
  - 5) Daily Inventory Annual tank testing Cont pipe leak det Vadose/gndwater mon.
  - 6) Daily Inventory Annual tank testing Cont pipe leak det
  - 7) Weekly Tank Gauge Annual tank testing
  - 8) Annual Tank Testing Daily Inventory
  - 9) Other \_\_\_\_\_
- 7. Preck Tank Test Date: \_\_\_\_\_ 2643
- 8. Inventory Rec. 2644
- 9. Soil Testing 2646
- 10. Ground Water. 2647
- 11. Monitor Plan 2632
- 12. Access. Secure 2634
- 13. Plans Submit Date: \_\_\_\_\_ 2711
- 14. As Buil Date: \_\_\_\_\_ 2635

Comments:

10:10 Arrived on site. Toni Barnes from Urite is consultant. Toured site... waiting for Fire Dept. Port is paying for cleanup/tank removal. There was a small amt of product/waste in ~~the~~ all 4 USTs, which PTS removed into their vacuum trucks. Dolores Meannons of CFD said that Gordon Gullet gave the OK for AICo to check for tank inertness.

11:30 10,000-gal ~~oil~~ UST has 1.5% LEL + 8% C<sub>2</sub>

11:40 285-gal waste oil UST has 1% LEL + 0% C<sub>2</sub>

500-gal motor oil UST has .5% LEL + 2% C<sub>2</sub>

Waste oil UST removed. UST is steel w/ tar wrap. No obvious holes.

PTS is transporting USTs under manifest #s 92206522 + 92206523

11:55 Removal of 500-gal motor oil UST. UST is steel & w/ tar wrap. No obvious holes.

12:00 PTS used (Freeman's Towing) a tow truck to remove 10,000-gal UST because the jackline wouldn't do it.

II, III

Contact: Tom Balcer

Title: \_\_\_\_\_

Signature: \_\_\_\_\_

Inspector: Toni Barnes

Signature: \_\_\_\_\_



white -env.health  
 yellow -facility  
 pink -files

ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH  
 Hazardous Materials Inspection Form

80 Swan Way, #200  
 Oakland, CA 94621  
 (415) 271-4320

P. 2 of 3

II, III

Site ID # \_\_\_\_\_ Site Name Shipper's Imperial Today's Date 8/23/93

Site Address 2277-7th St.

City Oak Zip 94607 Phone \_\_\_\_\_

MAX AMT stored > 500 lbs, 55 gal., 200 cft.?

Inspection Categories:

- I. Haz. Mat/Waste GENERATOR/TRANSPORTER
- II. Business Plans, Acute Hazardous Materials
- III. Underground Tanks

\* Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)

II.A BUSINESS PLANS (Title 19)

- 1. Immediate Reporting 2703
- 2. Bus. Plan Sids 25503(b)
- 3. RR Cars > 30 days 25503.7
- 4. Inventory Information 25504(a)
- 5. Inventory Complete 2730
- 6. Emergency Response 25504(b)
- 7. Training 25504(c)
- 8. Deficiency 25505(a)
- 9. Modification 25505(b)

II.B ACUTELY HAZ. MATLS

- 10. Registration Form Filed 25533(a)
- 11. Form Complete 25533(b)
- 12. RMPP Contents 25534(c)
- 13. Implement Sch. Req'd? (Y/N) 25524(c)
- 14. OffSite Conseq. Assess. 25534(d)
- 15. Probable Risk Assessment 25534(e)
- 16. Persons Responsible 25534(f)
- 17. Certification 25534(g)
- 18. Exemption Request? (Y/N) 25536(b)
- 19. Trade Secret Requested? 25538

III. UNDERGROUND TANKS (Title 23)

- General
- 1. Permit Application 25284 (H&S)
  - 2. Pipeline Leak Detection 25292 (H&S)
  - 3. Records Maintenance 2712
  - 4. Release Report 2651
  - 5. Closure Plans 2670

- Maintaining for Existing Tanks
- 6. Method
    - 1) Monthly Test 1:30
    - 2) Daily Vadose 2:30
    - Semi-annual groundwater
    - One time soils
    - 3) Daily Vadose
    - One time soils
    - Annual tank test
    - 4) Monthly Groundwater
    - One time soils
    - 5) Daily Inventory
    - Annual tank testing
    - Cont pipe leak det
    - Vadose/groundwater mon.
    - 6) Daily Inventory
    - Annual tank testing
    - Cont pipe leak det
    - 7) Weekly Tank Gauge
    - Annual tank testing
    - 8) Annual Tank Testing 2:40
    - Daily Inventory
    - 9) Other 2:55

- 7. Preck Tank Test 2643
- Date: \_\_\_\_\_
- 8. Inventory Rec. 2644
- 9. Soil Testing 2646
- 10. Ground Water 2647

- New Tanks
- 11. Monitor Plan 2632
  - 12. Access. Secure 2634
  - 13. Plans Submit 2711
  - Date: \_\_\_\_\_
  - 14. As Buil 2635
  - Date: \_\_\_\_\_

Rev 8/88

Comments:

Tank A (1400-gal) is steel w/tar wrap. No obvious holes in UST. There is a floating dark substance in pit at 4 1/2'. A sample of liquid from pit was taken (W2) while sampled tank contents some days ago. Soil samples taken (see ap): 2 bottom (S-1 + S-2) + one wall (S-3). All had PID readings short lunch break.

While already sampled waste oil tank bottom at 9 1/2' (tank invert was 8 1/2') and motor oil tank bottom at 8 1/2' (tank invert was 6 1/2').

Tank B (1600-gal) has 30% LEL + 30% C<sub>2</sub>. Tank B removed. Tank is steel w/tar wrap. Liquid in pit has a sheen + brown floating substance (diesel?), at ~ 10 1/2' br.

No obvious holes in UST, but minor rust. Liquid sample taken from pit (W2). Liquid in both pits seems oily. They'll run a igne rust analysis.

Contact: Tom Zucos  
 Title: \_\_\_\_\_  
 Signature: \_\_\_\_\_

Inspector: \_\_\_\_\_  
 Signature: \_\_\_\_\_

II, III

ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH

Hazardous Materials Inspection Form

p. 3 of 3

II, III

white -env.health  
yellow -facility  
pink -files

Site ID # \_\_\_\_\_ Site Name Slippery's Imperial Today's Date 9/23/93

Site Address 2377-7th St.  
City Cak Zip 94607 Phone \_\_\_\_\_

MAX AMT stored > 500 lbs, 55 gal., 200 cft.?

Inspection Categories:

- I. Haz. Mat/Waste GENERATOR/TRANSPORTER
- II. Business Plans, Acute Hazardous Materials
- III. Underground Tanks

Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)

Comments:

Soil samples taken from Tank B excavation, which has been adjacent w/ Tank A excavation. (see map).  
Three wall samples taken (S6, S7, S8).

3:45 LC dug below Tank B to ~14' to see how fast "gw" was recharge. The deeper excavation was done initially, then we saw gw after ~5min.

4:00 left site

II.A BUSINESS PLANS (Title 19)

- 1. Immediate Reporting 2703
- 2. Ill. Plan Stab. 25503(b)
- 3. RR Cars > 30 days 25503.7
- 4. Inventory Information 25504(a)
- 5. Inventory Complete 2730
- 6. Emergency Response 25504(b)
- 7. Training 25504(c)
- 8. Deficiency 25505(a)
- 9. Modification 25505(b)

II.B ACUTELY HAZ. MATLS

- 10. Registration Form Filed 25533(a)
- 11. Form Complete 25533(b)
- 12. RMPP Contents 25534(a)
- 13. Implement Sch. Req'd? (Y/N) \_\_\_\_\_
- 14. Offsite Conseq. Assess. 25524(c)
- 15. Probable Risk Assessment 25534(d)
- 16. Persons Responsible 25534(g)
- 17. Certification 25534(i)
- 18. Exemption Request? (Y/N) \_\_\_\_\_
- 19. Trade Secret Requested? 25538

III. UNDERGROUND TANKS (Title 23)

- 1. Permit Application 25284 (H&S)
- 2. Pipeline Leak Detection 25292 (H&S)
- 3. Records Maintenance 2712
- 4. Release Report 2651
- 5. Closure Plans 2670
- 6. Method
  - 1) Monthly Test
  - 2) Daily Vadose  
Semi-annual groundwater  
One time soils
  - 3) Daily Vadose  
One time soils
  - 4) Monthly Gndwater  
One time soils
  - 5) Daily Inventory  
Annual tank testing  
Cont pipe leak det  
Vadose/gndwater mon.
  - 6) Daily Inventory  
Annual tank testing  
Cont pipe leak det
  - 7) Weekly Tank Gauge  
Annual tank testing
  - 8) Annual Tank Testing  
Daily Inventory
  - 9) Other \_\_\_\_\_
- 7. Precis Tank Test 2643  
Date: \_\_\_\_\_
- 8. Inventory Rec. 2644
- 9. Soil Testing 2646
- 10. Ground Water. 2647
- 11. Monitor Plan 2632
- 12. Access. Secure 2634
- 13. Plans Submit 2711  
Date: \_\_\_\_\_
- 14. As Built 2635  
Date: \_\_\_\_\_

Rev 6/88

Contact: TOM BARRETT  
Title: \_\_\_\_\_  
Signature: \_\_\_\_\_

Inspector: \_\_\_\_\_  
Signature: \_\_\_\_\_

II, III

ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH  
Hazardous Materials Inspection Form

II, III

white -env.health  
yellow -facility  
pink -files

Site ID # \_\_\_\_\_ Site Name Shippel's Imperia (Today Date 10/5/93)

Site Address 2277-7th St.

City Oakland Zip 94607 Phone \_\_\_\_\_

MAX AMT stored > 500 lbs, 55 gal., 200 cft.?

Inspection Categories:

- I. Haz. Mat/Waste GENERATOR/TRANSPORTER
- II. Business Plans, Acute Hazardous Materials
- III. Underground Tanks

• Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)

II.A BUSINESS PLANS (Title 19)

- 1. Immediate Reporting 2703
- 2. Bus. Plan Stok. 25503(b)
- 3. RR Cars > 30 days 25503.7
- 4. Inventory Information 25504(a)
- 5. Inventory Complete 2730
- 6. Emergency Response 25504(b)
- 7. Training 25504(c)
- 8. Deficiency 25505(a)
- 9. Modification 25505(b)

II.B ACUTELY HAZ. MATLS

- 10. Registration Form Filed 25533(a)
- 11. Form Complete 25533(b)
- 12. RMPP Contents 25534(c)
- 13. Implement Sch. Req'd? (Y/N) 25524(c)
- 14. OnSite Conseq. Assess. 25534(d)
- 15. Probable Risk Assessment 25534(g)
- 16. Persons Responsible 25534(f)
- 17. Certification 25534(h)
- 18. Exemption Request? (Y/N) 25536(b)
- 19. Trade Secret Requested? 25538

III. UNDERGROUND TANKS (Title 23)

- General**
- 1. Permit Application 25284 (H&S)
- 2. Pipeline Leak Detection 25292 (H&S)
- 3. Records Maintenance 2712
- 4. Release Report 2651
- 5. Closure Plans 2670
- Monitoring for Existing Tanks**
- 6. Method
- 1) Monthly Test
- 2) Daily Vadose
- Semi-annual groundwater
- One time soil
- 3) Daily Vadose
- One time soil
- Annual tank test
- 4) Monthly Groundwater
- One time soil
- 5) Daily Inventory
- Annual tank testing
- Cont pipe leak det
- Vadose/grdwater mon.
- 6) Daily Inventory
- Annual tank testing
- Cont pipe leak det
- 7) Weekly Tank Gauge
- Annual tank testing
- 8) Annual Tank Testing
- Daily Inventory
- 9) Other \_\_\_\_\_
- 7. Precis Tank Test 2643
- Date: \_\_\_\_\_
- 8. Inventory Rec. 2644
- 9. Soil Testing 2646
- 10. Ground Water 2647
- New Tanks**
- 11. Monitor Plan 2632
- 12. Access, Secure 2634
- 13. Plans Submit 2711
- Date: \_\_\_\_\_
- 14. As Built 2635
- Date: \_\_\_\_\_

4:15 Arrived onsite  
**Comments:**  
 Excavation + resampling.  
 (see memo on 10-1-93 fax)  
 Took 3 soil samples of sidewalls  
 at 8 1/2 - 9'. Groundwater is present  
 in western portion of pit & has  
 a dark oily looking substance  
 all over it. Submit for analysis.  
 48 hr. TAT. Please submit con-  
 tent tank contents anal. res.  
 3 samples to be analyzed for Hg,  
 & BTEX.

Rev 8/88

II, III

Contact: De... ..  
 Title: \_\_\_\_\_  
 Signature: \_\_\_\_\_

Inspector: .....  
 Signature: \_\_\_\_\_

**Appendix C**

**Uniform Hazardous Waste Manifests**

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

**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator's US EPA ID No. 010200044477		Manifest Document No. 00000000000000000000		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.							
3. Generator's Name and Mailing Address Port of Oakland 130 Water St., Oakland, Ca. 94604				A. State Manifest Document Number <b>92206525</b>									
4. Generator's Phone (415) 763-3457				B. State Generator's ID									
5. Transporter 1 Company Name T S Environmental		6. US EPA ID Number 01AD082040216		C. State Transporter's ID 508092		D. Transporter's Phone 916 652-5535							
7. Transporter 2 Company Name		8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Phone							
9. Designated Facility Name and Site Address Refinery Services 13331 N. Highway 33 Patterson, Ca. 95663				10. US EPA ID Number 01AD099116728		G. State Facility's ID 500083106728							
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)				12. Containers		13. Total		14. Unit		1. Waste Number			
				No. Type		Quantity		Wt/Vol		State		EPA/Other	
a. Fuel petroleum oils-nos, Combustible Liquids A 1070				1		150				221 None			
b. <i>tank rinseate</i>										None			
c.										None			
d.										None			
J. Additional Descriptions for Materials Listed Above 1-1 Fuel oils with undetermined amount of halogens 1-2 Waste Water				K. Handling Codes for Wastes Listed Above									
				a.				b.					
				c.				d.					
15. Special Handling Instructions and Additional Information													
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of the 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 federal, state and international laws.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name				Signature				Month		Day		Year	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature				Month		Day		Year	
Printed/Typed Name <i>KEVIN</i>				<i>[Signature]</i>				07		21		95	
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature				Month		Day		Year	
Printed/Typed Name				Signature				Month		Day		Year	
19. Discrepancy Indication Space													
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.													
Printed/Typed Name				Signature				Month		Day		Year	

DO NOT WRITE BELOW THIS LINE.

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

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. CA1310101021314171		Manifest Document No.		2. Page 1 of		Information in the shaded areas is not required by Federal law.									
3. Generator's Name and Mailing Address Port of Oakland 530 Water St., Oakland, Ca. 94604						A. State Manifest Document Number <b>92206523</b>											
4. Generator's Phone (510) 763-3437						B. State Generator's ID											
5. Transporter 1 Company Name T S Environmental Service						C. State Transporter's ID <b>308091</b>											
6. US EPA ID Number CA10902040206						D. Transporter's Phone <b>916-657-5535</b>											
7. Transporter 2 Company Name						E. State Transporter's ID											
8. US EPA ID Number						F. Transporter's Phone											
9. Designated Facility Name and Site Address Trickson, Inc. 255 Parr Blvd. Richmond, Ca. 94801						G. State Facility's ID											
10. US EPA ID Number CA101019416131912						H. Facility's Phone <b>510-235-1393</b>											
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number) Non EPCRA Hazardous Waste Solid Waste empty storage tank						12. Containers		13. Total Quantity		14. Unit Wt/Vol		1. Waste Number					
						No.		Type						State		EPA/Other	
						0101		TP						State		None	
														State		EPA/Other	
														State		EPA/Other	
J. Additional Descriptions for Materials Listed Above Empty Empty Gasoline Tank # 1212 load with Dry ICE						K. Handling Codes for Wastes Listed Above											
15. Special Handling Instructions and Additional Information																	
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of the 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 federal, state and international laws.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.																	
Printed/Typed Name						Signature		Month		Day		Year					
								11		12		7					
17. Transporter 1 Acknowledgement of Receipt of Materials						Signature		Month		Day		Year					
Printed/Typed Name								12		13		12					
18. Transporter 2 Acknowledgement of Receipt of Materials						Signature		Month		Day		Year					
Printed/Typed Name																	
19. Discrepancy Indication Space																	
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.																	
Printed/Typed Name						Signature		Month		Day		Year					

DO NOT WRITE BELOW THIS LINE.

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

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. CA10101084443206548		Manifest Document No. 1 of 1		2. Page 1		Information in the shaded areas is not required by Federal law.					
3. Generator's Name and Mailing Address PORT OF OAKLAND 2277 7TH ST. BLDG C-461				A. State Manifest Document Number 92206548		B. State Generator's ID							
4. Generator's Phone (707) 272-1457 OAKLAND, CAL 94604				C. State Transporter's ID 412351		D. Transporter's Phone 916-652-3336							
5. Transporter 1 Company Name PTS ENVIRONMENTAL SERVICE				6. US EPA ID Number CA10992040206		E. State Transporter's ID							
7. Transporter 2 Company Name				8. US EPA ID Number		F. Transporter's Phone							
9. Designated Facility Name and Site Address REFINERY SERVICES 1331 N. HIGHWAY 33 WATTERSON CA 95303				10. US EPA ID Number CA10083166728		G. State Facility's ID CA10083166728							
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)				12. Containers No. Type		13. Total Quantity		14. Unit Wt/Vol		I. Waste Number			
a. FUEL PETROLEUM OIL-NOS. COMBUSTIBLE LIQUIDS, NA 1270				001 TT		01650 G				221 EPA/Other NONE			
b. Petroleum Recycling Corporation certifies that the above mentioned wastes, more specifically identified by reference to the waste manifest shown above, was recycled in accordance with provisions of 40CFR261.6 and 23.4 pursuant to 40CFR261.3(c)										State EPA/Other			
c. The waste generated from the recycling efforts was also recycled in accordance with the provision of 40CFR266 Subpart P.										State EPA/Other			
d. PETROLEUM RECYCLING CORPORATION										State EPA/Other			
J. Additional Descriptions for Materials Listed Above BY Mary Ann Gator 1-1 FUEL OILS WITH UNDETERMINED AMOUNTS OF HALOGENS 1-2 WASTE WATER				K. Handling Codes for Wastes Listed Above a. 01									
15. Special Handling Instructions and Additional Information													
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of the 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 federal, state and international laws.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name JAN. APPOINT				Signature [Signature]				Month 12		Day 13		Year 93	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name SANDON SKEELS				Signature [Signature]				Month 12		Day 13		Year 93	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name				Signature				Month		Day		Year	
19. Discrepancy Indication Space Actual gals. per wt. tag: 1476													
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. Printed/Typed Name MATTHEW ANGUS				Signature [Signature]				Month 12		Day 14		Year 93	

DO NOT WRITE BELOW THIS LINE.

yellow. \*DTSC SENDS THIS COPY TO GENERATOR WITHIN 30 DAYS.  
 Generators who submit hazardous waste for transport out-of-state, produce completed copy of this copy and send to DTSC within 30 days.

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

EMERGENCY <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		HAS STATE OFFICE OF EMERGENCY SERVICES REPORT BEEN FILED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		FOR LOCAL AGENCY USE ONLY I HEREBY CERTIFY THAT I HAVE DISTRIBUTED THIS INFORMATION ACCORDING TO THE DISTRIBUTION SHOWN ON THE INSTRUCTION SHEET ON THE BACK PAGE OF THIS FORM.	
REPORT DATE M / W / D / D / Y / Y _____ / _____ / _____ / _____ / _____ / _____		CASE # _____		SIGNED _____ DATE _____	
REPORTED BY	NAME OF INDIVIDUAL FILING REPORT <b>Michael James</b>		PHONE <b>(510) 272-1178</b>		SIGNATURE _____
	REPRESENTING <input checked="" type="checkbox"/> OWNER/OPERATOR <input type="checkbox"/> REGIONAL BOARD <input type="checkbox"/> LOCAL AGENCY <input type="checkbox"/> OTHER _____		COMPANY OR AGENCY NAME <b>Port of Oakland</b>		
	ADDRESS <b>530 Water Street</b> <b>Oakland</b> <b>CA</b> <b>94607</b> <small>STREET CITY STATE ZIP</small>				
RESPONSIBLE PARTY	NAME <b>Port of Oakland</b> <input type="checkbox"/> UNKNOWN		CONTACT PERSON <b>Michael James</b>		PHONE <b>(510) 272-1178</b>
	ADDRESS <b>530 Water Street</b> <b>Oakland</b> <b>CA</b> <b>94607</b> <small>STREET CITY STATE ZIP</small>				
SITE LOCATION	FACILITY NAME (IF APPLICABLE) <b>Shippers Imperial</b>		OPERATOR _____		PHONE ( )
	ADDRESS <b>2777 7th Street</b> <b>Oakland</b> <b>Alameda</b> <b>CA</b> <b>94607</b> <small>STREET CITY COUNTY STATE ZIP</small>				
	CROSS STREET <b>7th Street</b>				
IMPLEMENTING AGENCIES	LOCAL AGENCY AGENCY NAME <b>Alameda County Health Care Services</b>		CONTACT PERSON <b>Jennifer Eberle</b>		PHONE <b>(510) 271-4530</b>
	REGIONAL BOARD <b>Region 2, SF Bay Region</b>				
SUBSTANCES INVOLVED	(1) NAME <b>Gasoline</b>		QUANTITY LOST (GALLONS) _____ <input checked="" type="checkbox"/> UNKNOWN		
	(2) <b>N/A</b>		_____ <input type="checkbox"/> UNKNOWN		
DISCOVERY/ABATEMENT	DATE DISCOVERED <b>0 9 23 9 3</b> <small>M / W / D / D / Y / Y</small>		HOW DISCOVERED <input type="checkbox"/> INVENTORY CONTROL <input type="checkbox"/> SUBSURFACE MONITORING <input type="checkbox"/> NUISANCE CONDITIONS <input type="checkbox"/> TANK TEST <input checked="" type="checkbox"/> TANK REMOVAL <input type="checkbox"/> OTHER _____		
	DATE DISCHARGE BEGAN _____ <input checked="" type="checkbox"/> UNKNOWN		METHOD USED TO STOP DISCHARGE (CHECK ALL THAT APPLY) <input type="checkbox"/> REMOVE CONTENTS <input checked="" type="checkbox"/> CLOSE TANK & REMOVE <input type="checkbox"/> REPAIR PIPING <input type="checkbox"/> REPAIR TANK <input type="checkbox"/> CLOSE TANK & FILL IN PLACE <input type="checkbox"/> CHANGE PROCEDURE <input type="checkbox"/> REPLACE TANK <input type="checkbox"/> OTHER _____		
	HAS DISCHARGE BEEN STOPPED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, DATE <b>0 9 23 9 3</b> <small>M / W / D / D / Y / Y</small>				
SOURCE/ CAUSE	SOURCE OF DISCHARGE <input type="checkbox"/> TANK LEAK <input checked="" type="checkbox"/> UNKNOWN <input type="checkbox"/> PIPING LEAK <input type="checkbox"/> OTHER _____		CAUSE(S) <input type="checkbox"/> OVERFILL <input type="checkbox"/> RUPTURE/FAILURE <input type="checkbox"/> SPILL <input type="checkbox"/> CORROSION <input checked="" type="checkbox"/> UNKNOWN <input type="checkbox"/> OTHER _____		
	CASE TYPE CHECK ONE ONLY <input checked="" type="checkbox"/> UNDETERMINED <input type="checkbox"/> SOIL ONLY <input type="checkbox"/> GROUNDWATER <input type="checkbox"/> DRINKING WATER - (CHECK ONLY IF WATER WELLS HAVE ACTUALLY BEEN AFFECTED)				
CURRENT STATUS	CHECK ONE ONLY <input type="checkbox"/> NO ACTION TAKEN <input type="checkbox"/> PRELIMINARY SITE ASSESSMENT WORKPLAN SUBMITTED <input type="checkbox"/> POLLUTION CHARACTERIZATION <input type="checkbox"/> LEAK BEING CONFIRMED <input type="checkbox"/> PRELIMINARY SITE ASSESSMENT UNDERWAY <input type="checkbox"/> POST CLEANUP MONITORING IN PROGRESS <input type="checkbox"/> REMEDIATION PLAN <input type="checkbox"/> CASE CLOSED (CLEANUP COMPLETED OR UNNECESSARY) <input checked="" type="checkbox"/> CLEANUP UNDERWAY				
	REMEDIAL ACTION CHECK APPROPRIATE ACTION(S) (SEE BACK FOR DETAILS) <input type="checkbox"/> CAP SITE (CS) <input checked="" type="checkbox"/> EXCAVATE & DISPOSE (ED) <input type="checkbox"/> REMOVE FREE PRODUCT (FP) <input type="checkbox"/> ENHANCED BIO DEGRADATION (IT) <input type="checkbox"/> CONTAINMENT BARRIER (CB) <input type="checkbox"/> EXCAVATE & TREAT (ET) <input type="checkbox"/> PUMP & TREAT GROUNDWATER (GT) <input type="checkbox"/> REPLACE SUPPLY (RS) <input type="checkbox"/> VACUUM EXTRACT (VE) <input type="checkbox"/> NO ACTION REQUIRED (NA) <input type="checkbox"/> TREATMENT AT HOOKUP (HU) <input type="checkbox"/> VENT SOIL (VS) <input type="checkbox"/> OTHER (OT) _____				
COMMENTS	_____ _____ _____				



**Appendix D**

**Photographs of Removed Underground Storage Tanks**



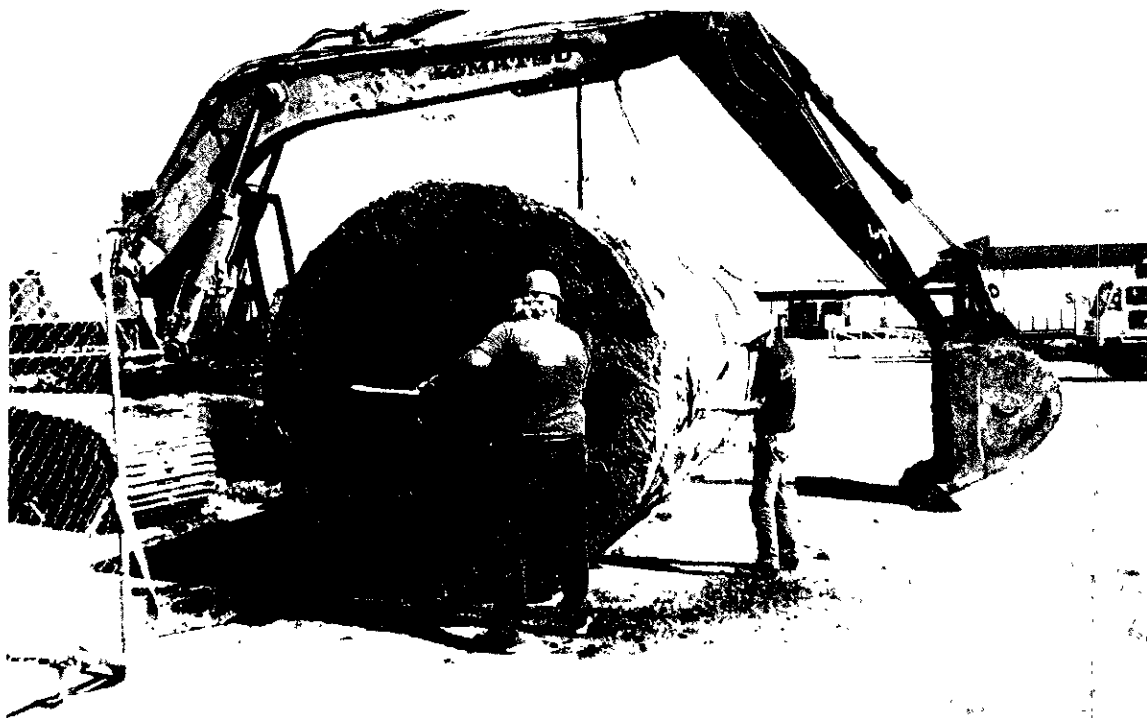
Uncovered USTs CF-19 in Foreground and CF-20 in Background



Uncovered USTs CF-18 in Foreground and CF-17 in Background



UST CF-17



UST CF-18



Groundwater in Excavation Pit with Floating Petroleum Hydrocarbons

**Appendix E**

**Laboratory Data Sheets**



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

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**A N A L Y T I C A L   R E P O R T**

**Prepared for:**

**Dribe & Associates  
2930 Lakeshore Avenue  
Suite Two Hundred  
Oakland, CA 94610**

**Date: 23-NOV-93  
Lab Job Number: 113189  
Project ID: 96-209  
Location: Shipper Imperial**

Reviewed by:

Reviewed by:

**This package may be reproduced only in its entirety.**

LABORATORY NUMBER: 113189  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: SHIPPERS IMPERIAL

DATE SAMPLED: 11/11/93  
 DATE RECEIVED: 11/11/93  
 DATE ANALYZED: 11/19/93  
 DATE REPORTED: 11/23/93

Total Volatile Hydrocarbons as Gasoline in Soils & Wastes  
 California DOHS Method  
 LUFT Manual October 1989

LAB ID	CLIENT ID	TVH AS GASOLINE (mg/Kg)	REPORTING LIMIT (mg/Kg)
113189-1	ANR-S-1	18	1

QA/QC SUMMARY

RPD, ‡	3
RECOVERY, ‡	85

LABORATORY NUMBER: 113189  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: SHIPPERS IMPERIAL

DATE SAMPLED: 11/11/93  
 DATE RECEIVED: 11/11/93  
 DATE EXTRACTED: 11/15/93  
 DATE ANALYZED: 11/18/93  
 DATE REPORTED: 11/23/93

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

LAB ID	SAMPLE ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT* (mg/Kg)
113189-1	ANR-S-1	ND	ND	1

ND = Not detected at or above reporting limit.

\* Reporting limit applies to all analytes.

QA/QC SUMMARY

RPD, ‡	10
RECOVERY, ‡	72





URIBE & ASSOCIATES  
 2930 LAKESHORE AVENUE  
 SUITE TWO HUNDRED  
 OAKLAND, CALIFORNIA 94610  
 510-832-2233  
 FAX 510-832-2237

113189

CHAIN OF CUSTODY RECORD

gas and diesel

PIVOT NO. 96-209		PROJECT NAME Shippers Imperial				NO. OF CONTAINERS 1	ANALYSIS Chromatogram gas and diesel					REMARKS	CHECK IF RUSH						
SAMPLERS: (Signature) [Signature]																			
NO	DATE	TIME	COMP	GRAB	SAMPLE I.D.														
1	11/11/93	11:00			ANR-S-1														
Relinquished by: (Signature)			Date/Time		Received by: (Signature)			Relinquished by: (Signature)			Date/Time		Received by: (Signature)						
[Signature]			11/11/93 12:00		[Signature]														
Relinquished by: (Signature)			Date/Time		Received by: (Signature)			Relinquished by: (Signature)			Date/Time		Received by: (Signature)						
Relinquished by: (Signature)			Date/Time		Received for Laboratory by: (Signature)			Date/Time		NAME			ADDRESS						



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

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L   R E P O R T

Prepared for:

Uribe & Associates  
2930 Lakeshore Avenue  
Suite Two Hundred  
Oakland, CA 94610

Date: 21-OCT-93  
Lab Job Number: 112765  
Project ID: 96-209  
Location: Shipper Imperial

Reviewed by:

Reviewed by:

This package may be reproduced only in its entirety.



LABORATORY NUMBER: 112765  
CLIENT: URIBE & ASSOCIATES  
PROJECT ID: 96-209  
LOCATION: SHIPPER'S IMPERIAL

DATE SAMPLED: 10/15/93  
DATE RECEIVED: 10/15/93  
DATE EXTRACTED: 10/18/93  
DATE ANALYZED: 10/19/93  
DATE REPORTED: 10/20/93

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

LAB ID	SAMPLE ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT* (mg/Kg)
112765-001	CON-1-2.0	**	25	1
112765-002	CON-2-2.0	**	140	10

\*\* Kerosene range not reported due to overlap of hydrocarbon ranges.

\* Reporting limit applies to all analytes.

QA/QC SUMMARY

LCS RECOVERY, %

81



LABORATORY NUMBER: 112765  
CLIENT: URIBE & ASSOCIATES  
PROJECT ID: 96-209  
LOCATION: SHIPPER'S IMPERIAL

DATE SAMPLED: 10/15/93  
DATE RECEIVED: 10/15/93  
DATE ANALYZED: 10/19/93  
DATE REPORTED: 10/19/93

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

LAB ID	SAMPLE ID	TVH AS GASOLINE (mg/Kg)	BENZENE (ug/Kg)	TOLUENE (ug/Kg)	ETHYL BENZENE (ug/Kg)	TOTAL XYLENES (ug/Kg)
112765-001	CON-1-2.0	ND(1)	ND(5)	ND(5)	ND(5)	ND(5)
112765-002	CON-2-2.0	ND(1)	ND(5)	ND(5)	ND(5)	ND(5)

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

QA/QC SUMMARY

=====  
RPD, % 2  
RECOVERY, % 99  
=====

# CHAIN OF CUSTODY FORM

**Curtis & Tompkins, Ltd.**  
 2323 Fifth Street  
 Berkeley, CA 94710  
 (510) 486-0900 Phone  
 (510) 486-0532 Fax

Sampler: John Borrego

Report to: Tom Barnes

**Analyses**

Project No: 96-209

Company: Urbe & Assoc

Project Name: Sheppards Imperial

Telephone: 832-2233

Turnaround Time: 48 hr

Fax: 832-2237

Laboratory Number	Sample ID.	Sampling Date	Time	Matrix			# of Containers	Preservative				Field Notes
				Soil	Water	Waste		HCL	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	ICE	
<u>112705-1</u>	<u>CON-1-2.0</u>	<u>10/15/93</u>	<u>9:45</u>	<u>X</u>			<u>1 liter</u>					
<u>112705-2</u>	<u>CON-2-2.0</u>	<u>10/15/93</u>	<u>9:00</u>	<u>X</u>			<u>↓</u>					

TVH-Gas w/BTEX  
 TEH-Diesel

NOTES:

RELINQUISHED BY:		RECEIVED BY:	
<u>John C. Borrego</u>	<u>10/15/93 17:35</u>	<u>Kelly B.</u>	<u>10/15/93 17:35</u>
DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME
DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME



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

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L   R E P O R T

Prepared for:

Uribe & Associates  
2930 Lakeshore Avenue  
Suite Two Hundred  
Oakland, CA 94610

Date: 13-OCT-93  
Lab Job Number: 112627  
Project ID: 96-209  
Location: Shipper Imperial

Reviewed by:

\_\_\_\_\_

Reviewed by:

\_\_\_\_\_

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LABORATORY NUMBER: 112627  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: SHIPPERS IMPERIAL

DATE SAMPLED: 10/05/93  
 DATE RECEIVED: 10/06/93  
 DATE ANALYZED: 10/12/93  
 DATE REPORTED: 10/13/93

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

LAB ID	SAMPLE ID	TVH AS GASOLINE (mg/Kg)	BENZENE (ug/Kg)	TOLUENE (ug/Kg)	ETHYL BENZENE (ug/Kg)	TOTAL XYLENES (ug/Kg)
112627-1	CON-1	900	2,500	20,000	15,000	65,000
112627-2	CON-2	1,500	5,700	36,000	22,000	82,000

QA/QC SUMMARY

RPD, %	4
RECOVERY, %	90

LABORATORY NUMBER: 112627  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: SHIPPERS IMPERIAL

DATE SAMPLED: 10/05/93  
 DATE RECEIVED: 10/06/93  
 DATE ANALYZED: 10/08/93  
 DATE REPORTED: 10/12/93

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

LAB ID	SAMPLE ID	TVH AS GASOLINE (mg/Kg)	BENZENE (ug/Kg)	TOLUENE (ug/Kg)	ETHYL BENZENE (ug/Kg)	TOTAL XYLENES (ug/Kg)
112627-3	CON-3	ND(1)	ND(5)	ND(5)	ND(5)	ND(5)

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

QA/QC SUMMARY

LCS RECOVERY, %

96





LABORATORY NUMBER: 112627  
CLIENT: URIBE & ASSOCIATES  
PROJECT ID: 96-209  
LOCATION: SHIPPERS IMPERIAL

DATE SAMPLED: 10/05/93  
DATE RECEIVED: 10/06/93  
DATE EXTRACTED: 10/12/93  
DATE ANALYZED: 10/13/93  
DATE REPORTED: 10/13/93

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

LAB ID	SAMPLE ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT* (mg/Kg)
112627-1	CON-1	**	6,700	100
112627-2	CON-2	**	1,600	10
112627-3	CON-3	ND	ND	2
112627-4	BLANK	**	340	10

ND = Not detected at or above reporting limit.

\* Reporting limit applies to all analytes.

\*\* Kerosene range not reported due to overlap of hydrocarbon ranges.

QA/QC SUMMARY

RPD, %	7
RECOVERY, %	63

LABORATORY NUMBER: 112627  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: SHIPPERS IMPERIAL

DATE SAMPLED: 10/05/93  
 DATE RECEIVED: 10/06/93  
 DATE ANALYZED: 10/12/93  
 DATE REPORTED: 10/12/93

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

LAB ID	SAMPLE ID	TVH AS GASOLINE (mg/Kg)	BENZENE (ug/Kg)	TOLUENE (ug/Kg)	ETHYL BENZENE (ug/Kg)	TOTAL XYLENES (ug/Kg)
112627-4	BLANK	ND(1)	10	12	ND(5)	12

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

QA/QC SUMMARY

=====

LCS RECOVERY, %

=====

89



URIBE & ASSOCIATES  
 2930 LAKESHORE AVENUE  
 SUITE TWO HUNDRED  
 OAKLAND, CALIFORNIA 94610  
 510 - 832 - 2233  
 FAX 510 - 832 - 2237

17627

CHAIN OF CUSTODY RECORD

PROJ NO		PROJECT NAME				NO. OF CONTAINERS	ANALYSIS			REMARKS
96-209		Shippers Imperial					TPH-Gasoline	BTX	TPH-Diesel	
SAMPLERS: (Signature)										
- CR										
NO	DATE	TIME	COMP	GRAB	SAMPLE I.D.					
1	10/5/93	4:30		/	CON-1	1	X	X	X	
2	10/5	4:35		/	CON-2	2	X	X	X	
3	10/5	4:38		/	CON-3	3	X	X	X	
4	10/5				Blank ?	4				

CHECK IF RUSH  
48 hr

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	<i>[Signature]</i>	10/6/93 1310	<i>[Signature]</i>		
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received in Laboratory by: (Signature)	Date/Time	NAME ADDRESS	



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

2323 Fifth Street, Berkeley, CA 94710. Phone (510) 486-0900

A N A L Y T I C A L   R E P O R T

Prepared for:

Uribe & Associates  
2930 Lakeshore Avenue  
Suite Two Hundred  
Oakland, CA 94610

Date: 30-SEP-93  
Lab Job Number: 112439  
Project ID: 96-209  
Location: Shipper Imperial

Reviewed by:

Reviewed by:

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LABORATORY NUMBER: 112439  
CLIENT: URIBE & ASSOCIATES  
PROJECT ID: 96-209  
LOCATION: SHIPPER'S IMPERIAL

DATE SAMPLED: 09/23/93  
DATE RECEIVED: 09/24/93  
DATE ANALYZED: 09/29/93  
DATE REPORTED: 09/29/93

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

LAB ID	SAMPLE ID	BENZENE (ug/Kg)	TOLUENE (ug/Kg)	ETHYL BENZENE (ug/Kg)	TOTAL XYLENES (ug/Kg)	REPORTING LIMIT (ug/Kg)
112439-1	W-1	110,000*	ND	1,400,000	3,100,000	200,000
112439-2	W-2	180,000**	330,000**	1,800,000	5,600,000	300,000

\*Analyzed at a 1:32,000 dilution on 09/27/93.

\*\*Analyzed at a 1:50,000 dilution on 09/27/93.

ND = Not detected at or above reporting limit.

Reporting Limit applies to all analytes.

QA/QC SUMMARY

RPD, %	5
RECOVERY, %	93

LABORATORY NUMBER: 112439  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: SHIPPER'S IMPERIAL

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/24/93  
 DATE ANALYZED: 09/28/93  
 DATE REPORTED: 09/28/93

=====  
 ANALYSIS: LEAD  
 ANALYSIS METHOD: EPA 7420  
 =====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
112439-3	S-1	ND	mg/Kg	5
112439-4	S-2	44	mg/Kg	5
112439-5	S-3	6	mg/Kg	5
112439-6	S-6	ND	mg/Kg	5
112439-7	S-7	ND	mg/Kg	5
112439-8	S-8	ND	mg/Kg	5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY:

=====  
 RPD, % 5  
 RECOVERY, % 98  
 =====



LABORATORY NUMBER: 112439  
CLIENT: URIBE & ASSOCIATES  
PROJECT ID: 96-209  
LOCATION: SHIPPER'S IMPERIAL

DATE SAMPLED: 09/23/93  
DATE RECEIVED: 09/24/93  
DATE ANALYZED: 09/28/93  
DATE REPORTED: 09/29/93

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

LAB ID	SAMPLE ID	TVH AS GASOLINE (mg/Kg)	BENZENE (ug/Kg)	TOLUENE (ug/Kg)	ETHYL BENZENE (ug/Kg)	TOTAL XYLENES (ug/Kg)
112439-3	S-1	700	6,700	2,600	9,200	25,000
112439-4	S-2	5	23	19	30	66
112439-5	S-3	1,700	ND(500)	2,000	13,000	52,000
112439-6	S-6	1,300	290	8,500	11,000	51,000
112439-7	S-7	190	51	250	410	4,200
112439-8	S-8	8	ND(5)	6	ND(5)	23

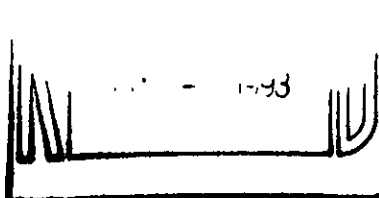
ND = Not detected at or above reporting limit; Reporting limit indicated in parentheses.

QA/QC SUMMARY

RPD, %	9
RECOVERY, %	92



LABORATORY NUMBER: 112439  
CLIENT: URIBE & ASSOCIATES  
PROJECT ID: 96-209  
LOCATION: SHIPPER'S IMPERIAL



DATE SAMPLED: 09/23/93  
DATE RECEIVED: 09/24/93  
DATE EXTRACTED: 09/24/93  
DATE ANALYZED: 09/28/93  
DATE REPORTED: 09/28/93

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

LAB ID	SAMPLE ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT* (mg/Kg)
112439-3	S-1	320	***	10
112439-4	S-2	**	5,500	100
112439-5	S-3	490	***	10
112439-6	S-6	350	***	10
112439-7	S-7	**	1,200	10
112439-8	S-8	ND	ND	1

ND = Not detected at or above reporting limit.

\* Reporting limit applies to all analytes.

\*\* Kerosene range not reported due to overlap of hydrocarbon ranges.

\*\*\* Diesel range not reported due to overlap of hydrocarbon ranges.

QA/QC SUMMARY

RPD, %	10
RECOVERY, %	103





LABORATORY NUMBER: 112439  
CLIENT: URIBE & ASSOCIATES  
PROJECT ID: 96-209  
LOCATION: SHIPPER IMPERIAL

DATE RECEIVED: 09/24/93  
DATE REPORTED: 09/28/93

CASE NARRATIVE

On September 23, 1993 Curtis & Tompkins received two samples, W-1 and W-2, on which a fuel fingerprint was to be performed. Total Extractable Hydrocarbons was run and sample chromatograms were produced, fingerprinting the samples. The majority of the TEH sample pattern for both samples lies in the diesel range (C12-C22). The pattern is similar to the diesel standard however, lighter range hydrocarbons are also present.





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

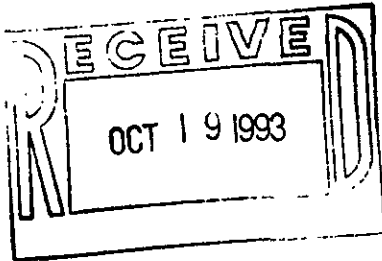
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L   R E P O R T

Prepared for:

Uribe & Associates  
2930 Lakeshore Avenue  
Suite Two Hundred  
Oakland, CA 94610

Date: 14-OCT-93  
Lab Job Number: 112436  
Project ID: 96-209  
Location: Shipper Imperial



Reviewed by:

*[Signature]*

Reviewed by:

*[Signature]*

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LABORATORY NUMBER: 112436-1  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: SHIPPERS IMPERIAL  
 SAMPLE ID: S-4

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/24/93  
 DATE EXTRACTED: 09/27/93  
 DATE ANALYZED: 09/28/93  
 DATE REPORTED: 09/29/93

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

ACID COMPOUNDS	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Phenol	ND	300
2-Chlorophenol	ND	300
Benzyl Alcohol	ND	300
2-Methylphenol	ND	300
4-Methylphenol	ND	300
2-Nitrophenol	ND	2,000
2,4-Dimethylphenol	ND	300
Benzoic Acid	ND	2,000
2,4-Dichlorophenol	ND	2,000
4-Chloro-3-methylphenol	ND	300
2,4,6-Trichlorophenol	ND	300
2,4,5-Trichlorophenol	ND	2,000
2,4-Dinitrophenol	ND	2,000
4-Nitrophenol	ND	2,000
4,6-Dinitro-2-methylphenol	ND	2,000
Pentachlorophenol	ND	2,000
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	300
Aniline	ND	300
Bis(2-chloroethyl) ether	ND	300
1,3-Dichlorobenzene	ND	300
1,4-Dichlorobenzene	ND	300
1,2-Dichlorobenzene	ND	300
Bis(2-chloroisopropyl) ether	ND	300
N-Nitroso-di-n-propylamine	ND	300
Hexachloroethane	ND	300
Nitrobenzene	ND	300
Isophorone	ND	300
Bis(2-chloroethoxy) methane	ND	300
1,2,4-Trichlorobenzene	ND	300
Naphthalene	ND	300
4-Chloroaniline	ND	300
Hexachlorobutadiene	ND	300
2-Methylnaphthalene	ND	300
Hexachlorocyclopentadiene	ND	300
2-Chloronaphthalene	ND	300
2-Nitroaniline	ND	2,000



LABORATORY NUMBER: 112436-1  
SAMPLE ID: S-4

EPA 8270

BASE/NEUTRAL COMPOUNDS

	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Dimethylphthalate	ND	300
Acenaphthylene	ND	300
2,6-Dinitrotoluene	ND	300
3-Nitroaniline	ND	2,000
Acenaphthene	ND	300
Dibenzofuran	ND	300
2,4-Dinitrotoluene	ND	300
Diethylphthalate	ND	300
4-Chlorophenyl-phenylether	ND	300
Fluorene	ND	300
4-Nitroaniline	ND	2,000
N-Nitrosodiphenylamine	ND	300
Azobenzene	ND	300
4-Bromophenyl-phenylether	ND	300
Hexachlorobenzene	ND	300
Phenanthrene	ND	300
Anthracene	ND	300
Di-n-butylphthalate	ND	300
Fluoranthene	ND	300
Pyrene	ND	300
Butylbenzylphthalate	ND	300
3,3'-Dichlorobenzidine	ND	2,000
Benzo(a)anthracene	ND	300
Chrysene	ND	300
Bis(2-ethylhexyl)phthalate	ND	300
Di-n-octylphthalate	ND	300
Benzo(b)fluoranthene	ND	300
Benzo(k)fluoranthene	ND	300
Benzo(a)pyrene	ND	300
Indeno(1,2,3-cd)pyrene	ND	300
Dibenzo(a,h)anthracene	ND	300
Benzo(g,h,i)perylene	ND	300

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: % SURROGATE RECOVERIES

2-Fluorophenol	101	Nitrobenzene-d5	103
Phenol-d6	114	2-Fluorobiphenyl	100
2,4,6-Tribromophenol	122	Terphenyl-d14	90



LABORATORY NUMBER: 112436-2  
CLIENT: URIBE & ASSOCIATES  
PROJECT ID: 96-209  
LOCATION: SHIPPERS IMPERIAL  
SAMPLE ID: S-5

DATE SAMPLED: 09/23/93  
DATE RECEIVED: 09/24/93  
DATE EXTRACTED: 10/01/93  
DATE ANALYZED: 10/14/93  
DATE REPORTED: 10/14/93

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

ACID COMPOUNDS	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Phenol	ND	300
2-Chlorophenol	ND	300
Benzyl Alcohol	ND	300
2-Methylphenol	ND	300
4-Methylphenol	ND	300
2-Nitrophenol	ND	2,000
2,4-Dimethylphenol	ND	300
Benzoic Acid	ND	2,000
2,4-Dichlorophenol	ND	2,000
4-Chloro-3-methylphenol	ND	300
2,4,6-Trichlorophenol	ND	300
2,4,5-Trichlorophenol	ND	2,000
2,4-Dinitrophenol	ND	2,000
4-Nitrophenol	ND	2,000
4,6-Dinitro-2-methylphenol	ND	2,000
Pentachlorophenol	ND	2,000
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	300
Aniline	ND	300
Bis(2-chloroethyl) ether	ND	300
1,3-Dichlorobenzene	ND	300
1,4-Dichlorobenzene	ND	300
1,2-Dichlorobenzene	ND	300
Bis(2-chloroisopropyl) ether	ND	300
N-Nitroso-di-n-propylamine	ND	300
Hexachloroethane	ND	300
Nitrobenzene	ND	300
Isophorone	ND	300
Bis(2-chloroethoxy) methane	ND	300
1,2,4-Trichlorobenzene	ND	300
Naphthalene	ND	300
4-Chloroaniline	ND	300
Hexachlorobutadiene	ND	300
2-Methylnaphthalene	ND	300
Hexachlorocyclopentadiene	ND	300
2-Chloronaphthalene	ND	300
2-Nitroaniline	ND	2,000

LABORATORY NUMBER: 112436-2  
 SAMPLE ID: S-5

EPA 8270

## BASE/NEUTRAL COMPOUNDS

	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Dimethylphthalate	ND	300
Acenaphthylene	ND	300
2,6-Dinitrotoluene	ND	300
3-Nitroaniline	ND	2,000
Acenaphthene	ND	300
Dibenzofuran	ND	300
2,4-Dinitrotoluene	ND	300
Diethylphthalate	ND	300
4-Chlorophenyl-phenylether	ND	300
Fluorene	ND	300
4-Nitroaniline	ND	2,000
N-Nitrosodiphenylamine	ND	300
Azobenzene	ND	300
4-Bromophenyl-phenylether	ND	300
Hexachlorobenzene	ND	300
Phenanthrene	ND	300
Anthracene	ND	300
Di-n-butylphthalate	ND	300
Fluoranthene	ND	300
Pyrene	ND	300
Butylbenzylphthalate	ND	300
3,3'-Dichlorobenzidine	ND	2,000
Benzo(a)anthracene	ND	300
Chrysene	ND	300
Bis(2-ethylhexyl)phthalate	ND	300
Di-n-octylphthalate	ND	300
Benzo(b)fluoranthene	ND	300
Benzo(k)fluoranthene	ND	300
Benzo(a)pyrene	ND	300
Indeno(1,2,3-cd)pyrene	ND	300
Dibenzo(a,h)anthracene	ND	300
Benzo(g,h,i)perylene	ND	300

ND = Not detected at or above reporting limit.

## QA/QC SUMMARY: % SURROGATE RECOVERIES

2-Fluorophenol	55	Nitrobenzene-d5	83
Phenol-d6	85	2-Fluorobiphenyl	87
2,4,6-Tribromophenol	24	Terphenyl-d14	71



LABORATORY NUMBER: 112436  
CLIENT: URIBE & ASSOCIATES  
PROJECT ID: 96-209  
LOCATION: SHIPPERS IMPERIAL

DATE SAMPLED: 09/23/93  
DATE RECEIVED: 09/24/93  
DATE EXTRACTED: 09/24/93  
DATE ANALYZED: 09/28/93  
DATE REPORTED: 09/28/93

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

LAB ID	SAMPLE ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	MOTOR OIL RANGE (mg/Kg)
112436-1	S-4	ND(1)	ND(1)	ND(30)
112436-2	S-5	ND(1)	ND(1)	ND(30)

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

QA/QC SUMMARY

RPD, %	10
RECOVERY, %	103



LABORATORY NUMBER: 112436-1  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: SHIPPERS IMPERIAL  
 SAMPLE ID: S-4

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/24/93  
 DATE ANALYZED: 09/27/93  
 DATE REPORTED: 09/28/93

PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
Cadmium	ND	mg/Kg	0.3	EPA 6010
Chromium	28	mg/Kg	0.5	EPA 6010
Lead	ND	mg/Kg	5	EPA 7420
Nickel	36	mg/Kg	2	EPA 6010
Zinc	22	mg/Kg	1	EPA 6010

ND = Not detected at or above reporting limit.

QA/QC SUMMARY	RPD, %	Recovery, %
Cadmium	<1	93
Chromium	3	99
Lead	4	98
Nickel	4	100
Zinc	1	96

LABORATORY NUMBER: 112436-2  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: SHIPPERS IMPERIAL  
 SAMPLE ID: S-5

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/24/93  
 DATE ANALYZED: 09/27/93  
 DATE REPORTED: 09/28/93

PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
Cadmium	ND	mg/Kg	0.3	EPA 6010
Chromium	33	mg/Kg	0.5	EPA 6010
Lead	ND	mg/Kg	5	EPA 7420
Nickel	36	mg/Kg	2	EPA 6010
Zinc	18	mg/Kg	1	EPA 6010

ND = Not detected at or above reporting limit.

QA/QC SUMMARY	RPD, %	Recovery, %
Cadmium	<1	93
Chromium	3	99
Lead	4	98
Nickel	4	100
Zinc	1	96



LABORATORY NUMBER: 112436-1  
CLIENT: URIBE & ASSOCIATES  
PROJECT ID: 96-209  
LOCATION: SHIPPERS IMPERIAL  
SAMPLE ID: S-4

DATE SAMPLED: 09/23/93  
DATE RECEIVED: 09/24/93  
DATE ANALYZED: 09/24/93  
DATE REPORTED: 09/28/93

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

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
1,1,2-Trichloroethane	ND	5
trans-1,3-Dichloropropene	ND	5
Dibromochloromethane	ND	5
Bromoform	ND	10
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Chlorobenzene	ND	5
1,3-Dichlorobenzene	ND	5
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %

97



LABORATORY NUMBER: 112436-2  
CLIENT: URIBE & ASSOCIATES  
PROJECT ID: 96-209  
LOCATION: SHIPPERS IMPERIAL  
SAMPLE ID: S-5

DATE SAMPLED: 09/23/93  
DATE RECEIVED: 09/24/93  
DATE ANALYZED: 09/24/93  
DATE REPORTED: 09/28/93

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

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
1,1,2-Trichloroethane	ND	5
trans-1,3-Dichloropropene	ND	5
Dibromochloromethane	ND	5
Bromoform	ND	10
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Chlorobenzene	ND	5
1,3-Dichlorobenzene	ND	5
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %

102

LABORATORY NUMBER: 112436-METHOD BLANK  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: SHIPPERS IMPERIAL

DATE ANALYZED: 09/24/93  
 DATE REPORTED: 09/28/93

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

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
1,1,2-Trichloroethane	ND	5
trans-1,3-Dichloropropene	ND	5
Dibromochloromethane	ND	5
Bromoform	ND	10
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Chlorobenzene	ND	5
1,3-Dichlorobenzene	ND	5
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

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Surrogate Recovery, %	100
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## MS/MSD SUMMARY SHEET FOR EPA 8010

Laboratory Number: 112441  
 Client: Uribe & Associates  
 Analysis date: 09/25/93  
 Sample type: Soil

Spike file: 267w026  
 Spike dup file: 267w027

## 8010 MS/MSD DATA (spiked at 20 ppb)

SPIKE COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	20.2	101 %	OK	59 - 172
Trichloroethene	23.0	115 %	OK	62 - 137
Chlorobenzene	23.0	115 %	OK	60 - 133
SPIKE DUP COMPOUNDS				
1,1-Dichloroethene	23.6	118 %	OK	59 - 172
Trichloroethene	28.2	141 %	NOT OK	62 - 137
Chlorobenzene	26.7	134 %	NOT OK	60 - 133
SURROGATES				
Bromobenzene (MS)	114.2	114 %	OK	59 - 172
Bromobenzene (MSD)	107.1	107 %	OK	59 - 172
MATRIX RESULTS				
1,1-Dichloroethene	0			
Trichloroethene	0			
Chlorobenzene	0			

## RPD DATA

8010 COMPOUNDS	SPIKE	SPIKE DUP	RPD	STATUS	LIMITS
1,1-Dichloroethe	20.20	23.60	16 %	OK	<= 22
Trichloroethene	23.00	28.25	20 %	OK	<= 24
Chlorobenzene	23.01	26.71	15 %	OK	<= 21

## LCS SUMMARY SHEET FOR EPA 8010

Laboratory Number: 112441  
 Client: Uribe & Associates  
 Analysis date: 09/25/93  
 Sample type: Water

LCS spike file: 267w003

## 8010 LCS DATA (spiked at 20 ppb)

SPIKE COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	16.7	84 %	OK	61 - 145
Trichloroethene	20.0	100 %	OK	71 - 120
Chlorobenzene	19.5	98 %	OK	75 - 130
SURROGATES				
Bromobenzene (LCS)	99.2	99 %	OK	75 - 125

Client: Uribe &amp; Associates

Laboratory Login Number: 112436

 Project Name: Shipper Imperial  
 Project Number: 96-209

Report Date: 28 September 93

ANALYSIS: Hydrocarbon Oil &amp; Grease (Gravimetric)      METHOD: SMWW 17:5520EP

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
112436-001	S-4	Soil	23-SEP-93	24-SEP-93	27-SEP-93	ND	mg/Kg	50	TR	10720
112436-002	S-5	Soil	23-SEP-93	24-SEP-93	27-SEP-93	ND	mg/Kg	50	TR	10720

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





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

Client: Uribe & Associates  
Project Name: Shipper Imperial  
Project Number: 96-209

Laboratory Login Number: 112436  
Report Date: 28 September 93

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric)

QC Batch Number: 10720

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
BLANK	ND	50	mg/Kg	SMWW 17:5520EF	27-SEP-93

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	88%	SMWW 17:5520EF	27-SEP-93
BSD	82%	SMWW 17:5520EF	27-SEP-93

		Control Limits
Average Spike Recovery	85%	80% - 120%
Relative Percent Difference	7.0%	< 20%



LABORATORY NUMBER: 112436  
CLIENT: URIBE & ASSOCIATES  
PROJECT ID: 96-209  
LOCATION: SHIPPERS IMPERIAL

DATE SAMPLED: 09/23/93  
DATE RECEIVED: 09/24/93  
DATE ANALYZED: 09/28/93  
DATE REPORTED: 09/28/93

Total Volatile Hydrocarbons as Gasoline in Soils & Wastes  
California DOHS Method  
LUFT Manual October 1989

LAB ID	CLIENT ID	TVH AS GASOLINE (mg/Kg)	REPORTING LIMIT (mg/Kg)
112436-1	S-4	ND	1
112436-2	S-5	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	9
RECOVERY, %	92



URIBE & ASSOCIATES  
2930 LAKESHORE AVENUE  
SUITE TWO HUNDRED  
OAKLAND, CALIFORNIA 94610  
510-832-2233  
FAX 510-832-2237

17436

CHAIN OF CUSTODY RECORD

PROJECT NO		PROJECT NAME				NO. OF CONTAINERS	ANALYSIS								REMARKS
96-209		Shippers Impromial					TPH - Motor Oil	TPH - Gasoline	TPH - Diesel	Oil Grease	8010	8270	STLC Lead	Cadmium, Chromium, Lead, Zinc, Nickel (ICAA)	
SAMPLES: (Signature)															
NO	DATE	TIME	COMP	GRAB	SAMPLE I.D.										
1	9/23			✓	S-4	1	X	X	X	X	X	X	X		
2	"			✓	S-5	1	X	X	X	X	X	X	X		
														<p>CANCEL STLC Lead until TPH Pb results are established</p> <p>NYW/Tom BARKES 11-4</p>	
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Relinquished by: (Signature)		Date/Time		Received by: (Signature)					
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Relinquished by: (Signature)		Date/Time		Received by: (Signature)					
Relinquished by: (Signature)		Date/Time		Received for Laboratory by: (Signature)		Date/Time		NAME		ADDRESS					
				E. Uribe		9/24/93 0925									

CHECK IF RUSH  
48 hr  
RUSH



LABORATORY NUMBER: 112460  
CLIENT: URIBE & ASSOCIATES  
PROJECT ID: 96-209  
LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL

DATE SAMPLED: 09/23/93  
DATE RECEIVED: 09/27/93  
DATE ANALYZED: 10/03,04/93  
DATE REPORTED: 10/05/93

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

LAB ID	SAMPLE ID	TVH AS GASOLINE (mg/Kg)	BENZENE (ug/Kg)	TOLUENE (ug/Kg)	ETHYL BENZENE (ug/Kg)	TOTAL XYLENES (ug/Kg)
112460-11	SPT-1,2	49	10	11	41	3,300
112460-12	SPT-3,4	160	ND(300)	ND(300)	ND(300)	2,900
112460-13	SPT-7,8	260	ND(300)	400	1,000	11,000
112460-14	SPT-6,9	7	8	6	ND(5)	220
112460-15	SPT-5,10	230	ND(300)	ND(300)	ND(300)	6,000

NOTE: Benzene, Toluene, Ethyl Benzene and Xylenes have not been confirmed with second column.

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

QA/QC SUMMARY

LCS RECOVERY, %

100

LABORATORY NUMBER: 112460  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE EXTRACTED: 09/30/93  
 DATE ANALYZED: 10/02/93  
 DATE REPORTED: 10/04/93

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

LAB ID	SAMPLE ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT* (mg/Kg)
112460-11	SPT-1,2	320	***	10
112460-12	SPT-3,4	**	1,200	10
112460-13	SPT-7,8	**	1,200	10
112460-14	SPT-6,9	**	520	10
112460-15	SPT-5,10	**	850	10

\* Reporting limit applies to all analytes.

\*\* Kerosene range not reported due to overlap of hydrocarbon ranges.

\*\*\* Diesel range not reported due to overlap of hydrocarbon ranges.

QA/QC SUMMARY

RPD, %	8
RECOVERY, %	92

LABORATORY NUMBER: 112460-14  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL  
 SAMPLE ID: COMP SPT-6,9

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE ANALYZED: 09/29/93  
 DATE REPORTED: 10/04/93

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

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	60	20
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
1,1,2-Trichloroethane	ND	5
trans-1,3-Dichloropropene	ND	5
Dibromochloromethane	ND	5
Bromoform	ND	10
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Chlorobenzene	ND	5
1,3-Dichlorobenzene	ND	5
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

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Surrogate Recovery, %

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67

LABORATORY NUMBER: 112460-METHOD BLANK  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL

DATE ANALYZED: 09/29/93  
 DATE REPORTED: 10/04/93

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

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
1,1,2-Trichloroethane	ND	5
trans-1,3-Dichloropropene	ND	5
Dibromochloromethane	ND	5
Bromoform	ND	10
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Chlorobenzene	ND	5
1,3-Dichlorobenzene	ND	5
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

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Surrogate Recovery, %	95
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LABORATORY NUMBER: 112552-1  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL  
 SAMPLE ID: COMP SPT-1,2

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE REQUESTED: 09/30/93  
 DATE ANALYZED: 10/06/93  
 DATE REPORTED: 10/12/93

## EPA METHOD 8240: VOLATILE ORGANICS IN SOILS &amp; WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	300
Bromomethane	ND	300
Vinyl chloride	ND	300
Chloroethane	ND	300
Methylene chloride	ND	500
Acetone	ND	500
Carbon disulfide	ND	100
Trichlorofluoromethane	ND	100
1,1-Dichloroethene	ND	100
1,1-Dichloroethane	ND	100
cis-1,2-Dichloroethene	ND	100
trans-1,2-Dichloroethene	ND	100
Chloroform	ND	100
Freon 113	ND	100
1,2-Dichloroethane	ND	100
2-Butanone	ND	300
1,1,1-Trichloroethane	ND	100
Carbon tetrachloride	ND	100
Vinyl acetate	ND	300
Bromodichloromethane	ND	100
1,2-Dichloropropane	ND	100
cis-1,3-Dichloropropene	ND	100
Trichloroethene	ND	100
Dibromochloromethane	ND	100
1,1,2-Trichloroethane	ND	100
Benzene	100	100
trans-1,3-Dichloropropene	ND	100
Bromoform	ND	100
2-Hexanone	ND	300
4-Methyl-2-pentanone	ND	300
1,1,2,2-Tetrachloroethane	ND	100
Tetrachloroethene	ND	100
Toluene	300	100
Chlorobenzene	ND	100
Ethyl benzene	100	100
Styrene	ND	100
Total xylenes	5,000	100

ND = Not detected at or above reporting limit.

## QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	108 %
Toluene-d8	97 %
Bromofluorobenzene	99 %



LABORATORY NUMBER: 112552-METHOD BLANK  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL

DATE ANALYZED: 10/06/93  
 DATE REPORTED: 10/12/93

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	10
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	103 %
Toluene-d8	102 %
Bromofluorobenzene	94 %



SAMPLE ID: SPT-6,9  
LAB ID: 112460-014  
CLIENT: Uribe & Associates  
PROJECT ID: 96-209  
LOCATION: Shipper Imperial  
MATRIX: Soil

DATE SAMPLED: 09/23/93  
DATE RECEIVED: 09/27/93  
DATE REPORTED: 10/04/93

**METALS ANALYTICAL REPORT**

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	QC Batch	Method	Analysis Date
Cadmium	0.94	0.25	10727	EPA 6010	09/29/93
Chromium (total)	32	0.50	10727	EPA 6010	09/29/93
Lead	48	5.0	10727	EPA 7420	09/29/93
Nickel	34	1.6	10727	EPA 6010	09/29/93
Zinc	75	0.99	10727	EPA 6010	09/29/93

ND = Not detected at or above reporting limit



LABORATORY NUMBER: 112460-14  
CLIENT: URIBE & ASSOCIATES  
PROJECT ID: 96-209  
LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL  
SAMPLE ID: COMP SPT-6,9

DATE SAMPLED: 09/23/93  
DATE RECEIVED: 09/27/93  
DATE EXTRACTED: 09/27/93  
DATE ANALYZED: 09/28/93  
DATE REPORTED: 10/04/93

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

ACID COMPOUNDS	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Phenol	ND	3,000
2-Chlorophenol	ND	3,000
Benzyl Alcohol	ND	3,000
2-Methylphenol	ND	3,000
4-Methylphenol	ND	3,000
2-Nitrophenol	ND	20,000
2,4-Dimethylphenol	ND	3,000
Benzoic Acid	ND	20,000
2,4-Dichlorophenol	ND	20,000
4-Chloro-3-methylphenol	ND	3,000
2,4,6-Trichlorophenol	ND	3,000
2,4,5-Trichlorophenol	ND	20,000
2,4-Dinitrophenol	ND	20,000
4-Nitrophenol	ND	20,000
4,6-Dinitro-2-methylphenol	ND	20,000
Pentachlorophenol	ND	20,000
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	3,000
Aniline	ND	3,000
Bis(2-chloroethyl) ether	ND	3,000
1,3-Dichlorobenzene	ND	3,000
1,4-Dichlorobenzene	ND	3,000
1,2-Dichlorobenzene	ND	3,000
Bis(2-chloroisopropyl) ether	ND	3,000
N-Nitroso-di-n-propylamine	ND	3,000
Hexachloroethane	ND	3,000
Nitrobenzene	ND	3,000
Isophorone	ND	3,000
Bis(2-chloroethoxy)methane	ND	3,000
1,2,4-Trichlorobenzene	ND	3,000
Naphthalene	ND	3,000
4-Chloroaniline	ND	3,000
Hexachlorobutadiene	ND	3,000
2-Methylnaphthalene	ND	3,000
Hexachlorocyclopentadiene	ND	3,000
2-Chloronaphthalene	ND	3,000
2-Nitroaniline	ND	20,000

LABORATORY NUMBER: 112460-14  
 SAMPLE ID: COMP SPT-6,9

EPA 8270

## BASE/NEUTRAL COMPOUNDS

	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Dimethylphthalate	ND	3,000
Acenaphthylene	ND	3,000
2,6-Dinitrotoluene	ND	3,000
3-Nitroaniline	ND	20,000
Acenaphthene	ND	3,000
Dibenzofuran	ND	3,000
2,4-Dinitrotoluene	ND	3,000
Diethylphthalate	ND	3,000
4-Chlorophenyl-phenylether	ND	3,000
Fluorene	ND	3,000
4-Nitroaniline	ND	20,000
N-Nitrosodiphenylamine	ND	3,000
Azobenzene	ND	3,000
4-Bromophenyl-phenylether	ND	3,000
Hexachlorobenzene	ND	3,000
Phenanthrene	ND	3,000
Anthracene	ND	3,000
Di-n-butylphthalate	ND	3,000
Fluoranthene	ND	3,000
Pyrene	ND	3,000
Butylbenzylphthalate	ND	3,000
3,3'-Dichlorobenzidine	ND	20,000
Benzo(a)anthracene	ND	3,000
Chrysene	ND	3,000
Bis(2-ethylhexyl)phthalate	ND	3,000
Di-n-octylphthalate	ND	3,000
Benzo(b)fluoranthene	ND	3,000
Benzo(k)fluoranthene	ND	3,000
Benzo(a)pyrene	ND	3,000
Indeno(1,2,3-cd)pyrene	ND	3,000
Dibenzo(a,h)anthracene	ND	3,000
Benzo(g,h,i)perylene	ND	3,000

ND = Not detected at or above reporting limit.

## QA/QC SUMMARY: % SURROGATE RECOVERIES

2-Fluorophenol	117	Nitrobenzene-d5	114
Phenol-d6	130	2-Fluorobiphenyl	116
2,4,6-Tribromophenol	132	Terphenyl-d14	111

Client: Uribe & Associates

Laboratory Login Number: 112460

Project Name: Shipper Imperial  
Project Number: 96-209

Report Date: 04 October 93

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric)      METHOD: SMWW 17:5520EF

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
112460-014	SPT-6,9	Soil	23-SEP-93	27-SEP-93	01-OCT-93	390	mg/Kg	50	TR	10798

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



LABORATORY NUMBER: 112552-2  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL  
 SAMPLE ID: COMP SPT-3,4

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE REQUESTED: 09/30/93  
 DATE ANALYZED: 10/06/93  
 DATE REPORTED: 10/12/93

## EPA METHOD 8240: VOLATILE ORGANICS IN SOILS &amp; WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	300
Bromomethane	ND	300
Vinyl chloride	ND	300
Chloroethane	ND	300
Methylene chloride	ND	500
Acetone	ND	500
Carbon disulfide	ND	100
Trichlorofluoromethane	ND	100
1,1-Dichloroethene	ND	100
1,1-Dichloroethane	ND	100
cis-1,2-Dichloroethene	ND	100
trans-1,2-Dichloroethene	ND	100
Chloroform	ND	100
Freon 113	ND	100
1,2-Dichloroethane	ND	100
2-Butanone	ND	300
1,1,1-Trichloroethane	ND	100
Carbon tetrachloride	ND	100
Vinyl acetate	ND	300
Bromodichloromethane	ND	100
1,2-Dichloropropane	ND	100
cis-1,3-Dichloropropene	ND	100
Trichloroethene	ND	100
Dibromochloromethane	ND	100
1,1,2-Trichloroethane	ND	100
Benzene	ND	100
trans-1,3-Dichloropropene	ND	100
Bromoform	ND	100
2-Hexanone	ND	300
4-Methyl-2-pentanone	ND	300
1,1,2,2-Tetrachloroethane	ND	100
Tetrachloroethene	ND	100
Toluene	ND	100
Chlorobenzene	ND	100
Ethyl benzene	100	100
Styrene	ND	100
Total xylenes	6,900	100

ND = Not detected at or above reporting limit.

## QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	105 %
Toluene-d8	98 %
Bromofluorobenzene	106 %



LABORATORY NUMBER: 112552-3
CLIENT: URIBE & ASSOCIATES
PROJECT ID: 96-209
LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL
SAMPLE ID: COMP SPT-7,8

DATE SAMPLED: 09/23/93
DATE RECEIVED: 09/27/93
DATE REQUESTED: 09/30/93
DATE ANALYZED: 10/06/93
DATE REPORTED: 10/12/93

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

Table with 3 columns: COMPOUND, Result (ug/Kg), Reporting Limit (ug/Kg). Lists various organic compounds and their detection results.

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

Table showing surrogate recoveries for 1,2-Dichloroethane-d4, Toluene-d8, and Bromofluorobenzene with percentages.

LABORATORY NUMBER: 112552-5  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL  
 SAMPLE ID: COMP SPT-9,6

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE REQUESTED: 09/30/93  
 DATE ANALYZED: 10/06/93  
 DATE REPORTED: 10/12/93

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	500
Bromomethane	ND	500
Vinyl chloride	ND	500
Chloroethane	ND	500
Methylene chloride	ND	1,000
Acetone	ND	1,000
Carbon disulfide	ND	300
Trichlorofluoromethane	ND	300
1,1-Dichloroethene	ND	300
1,1-Dichloroethane	ND	300
cis-1,2-Dichloroethene	ND	300
trans-1,2-Dichloroethene	ND	300
Chloroform	ND	300
Freon 113	ND	300
1,2-Dichloroethane	ND	300
2-Butanone	ND	500
1,1,1-Trichloroethane	ND	300
Carbon tetrachloride	ND	300
Vinyl acetate	ND	500
Bromodichloromethane	ND	300
1,2-Dichloropropane	ND	300
cis-1,3-Dichloropropene	ND	300
Trichloroethene	ND	300
Dibromochloromethane	ND	300
1,1,2-Trichloroethane	ND	300
Benzene	ND	300
trans-1,3-Dichloropropene	ND	300
Bromoform	ND	300
2-Hexanone	ND	500
4-Methyl-2-pentanone	ND	500
1,1,2,2-Tetrachloroethane	ND	300
Tetrachloroethene	ND	300
Toluene	800	300
Chlorobenzene	ND	300
Ethyl benzene	1,500	300
Styrene	ND	300
Total xylenes	12,000	300

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	103 %
Toluene-d8	98 %
Bromofluorobenzene	104 %



LABORATORY NUMBER: 112552-5  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL  
 SAMPLE ID: COMP SPT-5,10

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE REQUESTED: 09/30/93  
 DATE ANALYZED: 10/05,06/93  
 DATE REPORTED: 10/12/93

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

METAL	RESULT mg/Kg	REPORTING LIMIT mg/Kg	METHOD
Antimony	ND	3	EPA 6010
Arsenic	14	3	EPA 7060
Barium	97	0.5	EPA 6010
Beryllium	0.2	0.1	EPA 6010
Cadmium	ND	0.3	EPA 6010
Chromium (total)	36	0.5	EPA 6010
Cobalt	12	0.9	EPA 6010
Copper	25	0.5	EPA 6010
Lead	19	5	EPA 7420
Mercury	ND	0.1	EPA 7471
Molybdenum	0.8	0.7	EPA 6010
Nickel	41	2	EPA 6010
Selenium	ND	3	EPA 7740
Silver	ND	0.5	EPA 6010
Thallium	ND	3	EPA 7841
Vanadium	29	0.5	EPA 6010
Zinc	43	1	EPA 6010

ND = Not detected at or above reporting limit.

LABORATORY NUMBER: 112552-3  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL  
 SAMPLE ID: COMP SPT-7,8

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE REQUESTED: 09/30/93  
 DATE ANALYZED: 10/05,06/93  
 DATE REPORTED: 10/12/93

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

METAL	RESULT mg/Kg	REPORTING LIMIT mg/Kg	METHOD
Antimony	ND	3	EPA 6010
Arsenic	35	3	EPA 7060
Barium	82	0.5	EPA 6010
Beryllium	0.2	0.1	EPA 6010
Cadmium	0.6	0.3	EPA 6010
Chromium (total)	43	0.5	EPA 6010
Cobalt	110	0.9	EPA 6010
Copper	22	0.5	EPA 6010
Lead	13	5	EPA 7420
Mercury	ND	0.1	EPA 7471
Molybdenum	0.9	0.7	EPA 6010
Nickel	47	2	EPA 6010
Selenium	ND	3	EPA 7740
Silver	ND	0.5	EPA 6010
Thallium	ND	3	EPA 7841
Vanadium	31	0.5	EPA 6010
Zinc	62	1	EPA 6010

ND = Not detected at or above reporting limit.



LABORATORY NUMBER: 112552-2  
CLIENT: URIBE & ASSOCIATES  
PROJECT ID: 96-209  
LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL  
SAMPLE ID: COMP SPT-3,4

DATE SAMPLED: 09/23/93  
DATE RECEIVED: 09/27/93  
DATE REQUESTED: 09/30/93  
DATE ANALYZED: 10/05,06/93  
DATE REPORTED: 10/12/93

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

METAL	RESULT	REPORTING LIMIT	METHOD
	mg/Kg	mg/Kg	
Antimony	ND	3	EPA 6010
Arsenic	14	3	EPA 7060
Barium	64	0.5	EPA 6010
Beryllium	0.2	0.1	EPA 6010
Cadmium	0.3	0.3	EPA 6010
Chromium (total)	38	0.5	EPA 6010
Cobalt	20	0.9	EPA 6010
Copper	29	0.5	EPA 6010
Lead	22	5	EPA 7420
Mercury	ND	0.1	EPA 7471
Molybdenum	0.9	0.7	EPA 6010
Nickel	45	2	EPA 6010
Selenium	ND	3	EPA 7740
Silver	ND	0.5	EPA 6010
Thallium	ND	3	EPA 7841
Vanadium	33	0.5	EPA 6010
Zinc	57	1	EPA 6010

ND = Not detected at or above reporting limit.

LABORATORY NUMBER: 112552-1  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL  
 SAMPLE ID: COMP SPT-1,2

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE REQUESTED: 09/30/93  
 DATE ANALYZED: 10/05,06/93  
 DATE REPORTED: 10/12/93

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

METAL	RESULT mg/Kg	REPORTING LIMIT mg/Kg	METHOD
Antimony	ND	3	EPA 6010
Arsenic	23	3	EPA 7060
Barium	79	0.5	EPA 6010
Beryllium	0.2	0.1	EPA 6010
Cadmium	0.3	0.3	EPA 6010
Chromium (total)	29	0.5	EPA 6010
Cobalt	8.7	0.9	EPA 6010
Copper	33	0.5	EPA 6010
Lead	41	5	EPA 7420
Mercury	ND	0.1	EPA 7471
Molybdenum	1.0	0.7	EPA 6010
Nickel	31	2	EPA 6010
Selenium	ND	3	EPA 7740
Silver	ND	0.5	EPA 6010
Thallium	ND	3	EPA 7841
Vanadium	25	0.5	EPA 6010
Zinc	63	1	EPA 6010

ND = Not detected at or above reporting limit.

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

Client: Uribe & Associates  
 Project Name: Shipper Imperial  
 Project Number: 96-209

Laboratory Login Number: 112552  
 Report Date: 12 October 93

ANALYSIS: pH

QC Batch Number: 10876

## Calibration Verification Results

Sample	Result	TV	Difference	Limit	Analyzed
ICV	10.02	10.00	.02	< 0.10	07-OCT-93
CCV	10.02	10.00	.02	< 0.10	07-OCT-93

## Sample Duplicate Results

Sample	Duplicate	RPD	Analyzed
8.60	8.61	.1%	07-OCT-93

Client: Uribe &amp; Associates

Laboratory Login Number: 112552

 Project Name: Shipper Imperial  
 Project Number: 96-209

Report Date: 12 October 93

## ANALYSIS: pH

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	Method	Analyst	QC Batch
112552-001	SPT-1,2	Soil	23-SEP-93	27-SEP-93	07-OCT-93	8.4	SU *	EPA 9045	TR	10876
112552-002	SPT-3,4	Soil	23-SEP-93	27-SEP-93	07-OCT-93	8.5	SU *	EPA 9045	TR	10876
112552-003	SPT-7,8	Soil	23-SEP-93	27-SEP-93	07-OCT-93	8.6	SU *	EPA 9045	TR	10876
112552-004	SPT-6,9	Soil	23-SEP-93	27-SEP-93	07-OCT-93	8.6	SU *	EPA 9045	TR	10876
112552-005	SPT-5,10	Soil	23-SEP-93	27-SEP-93	07-OCT-93	8.6	SU *	EPA 9045	TR	10876

\* Soil pH measured as water

LABORATORY NUMBER: 112552-5  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL  
 SAMPLE ID: COMP SPT-5,10

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE REQUESTED: 09/30/93  
 DATE REPORTED: 10/12/93

PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
Releasable Cyanide	ND	mg/Kg	1	SW-846 Section 7.3.3.2
Releasable Sulfide	ND	mg/Kg	1	SW-846 Section 7.3.4.1
Ignitability	Does Not Ignite			SW-846 Section 7.1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY	Analysis Date	RPD, %	RECOVERY, %
Cyanide	10/05/93	7	79
Sulfide	10/05/93	7	76
Ignitability	10/05/93	--	--

LABORATORY NUMBER: 112552-4  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL  
 SAMPLE ID: COMP SPT-9,6

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE REQUESTED: 09/30/93  
 DATE REPORTED: 10/12/93

PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
Releasable Cyanide	ND	mg/Kg	1	SW-846 Section 7.3.3.2
Releasable Sulfide	ND	mg/Kg	1	SW-846 Section 7.3.4.1
Ignitability	Does Not Ignite			SW-846 Section 7.1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY	Analysis Date	RPD, %	RECOVERY, %
Cyanide	10/05/93	7	79
Sulfide	10/05/93	7	76
Ignitability	10/05/93	--	--



LABORATORY NUMBER: 112552-3  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL  
 SAMPLE ID: COMP SPT-7,8

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE REQUESTED: 09/30/93  
 DATE REPORTED: 10/12/93

PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
Releasable Cyanide	ND	mg/Kg	1	SW-846 Section 7.3.3.2
Releasable Sulfide	ND	mg/Kg	1	SW-846 Section 7.3.4.1
Ignitability	Does Not Ignite			SW-846 Section 7.1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY	Analysis Date	RPD, %	RECOVERY, %
Cyanide	10/05/93	7	79
Sulfide	10/05/93	7	76
Ignitability	10/05/93	--	--

LABORATORY NUMBER: 112552-2  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL  
 SAMPLE ID: COMP SPT-3,4

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE REQUESTED: 09/30/93  
 DATE REPORTED: 10/12/93

PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
Releasable Cyanide	ND	mg/Kg	1	SW-846 Section 7.3.3.2
Releasable Sulfide	ND	mg/Kg	1	SW-846 Section 7.3.4.1
Ignitability	Does Not Ignite			SW-846 Section 7.1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY	Analysis Date	RPD, %	RECOVERY, %
Cyanide	10/05/93	7	79
Sulfide	10/05/93	7	76
Ignitability	10/05/93	--	--



LABORATORY NUMBER: 112552-1  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL  
 SAMPLE ID: COMP SPT-1,2

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE REQUESTED: 09/30/93  
 DATE REPORTED: 10/12/93

PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
Releasable Cyanide	ND	mg/Kg	1	SW-846 Section 7.3.3.2
Releasable Sulfide	ND	mg/Kg	1	SW-846 Section 7.3.4.1
Ignitability	Does Not Ignite			SW-846 Section 7.1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY	Analysis Date	RPD, %	RECOVERY, %
Cyanide	10/05/93	7	79
Sulfide	10/05/93	7	76
Ignitability	10/05/93	--	--

AQUATIC BIOASSAY AND CONSULTING LABORATORIES, INC.

29 North Olive Street

Ventura, CA 93001

(805) 643-5621

DOHS Bioassay for Hazardous Waste (Title 22)

SAMPLE INFORMATION

CLIENT:	Curtis & Tompkins, Ltd.	Date:	10/04/93
SAMPLE I.D.:	Comp SP-7,8	LAB #:	C&T1032.967

WATER QUALITY

DILUTION WATER: Reconst. Fresh		AERATION: Single Bubble Air	
CONTROL HARDNESS		CONTROL ALKALINITY	
Beg.:	41 mg/l	End:	45 mg/l
Beg.:	30 mg/l	End:	32 mg/l
SAMPLE HARDNESS		SAMPLE ALKALINITY	
Beg.:	44 mg/l	End:	50 mg/l
Beg.:	39 mg/l	End:	40 mg/l

ORGANISM INFORMATION

SPECIES:	Pimephales promelas	DATE REC'D:	9/22/93
COMMON NAME:	Fathead Minnow	AVERAGE LNTH:	38 mm
SOURCE:	Thomas Fish Co.	AVERAGE WT:	0.68 gm
CARRIER:	Greyhound Bus Co.	NO. FISH / TANK:	10

TEST DATA


	INITIAL			24 HOURS				48 HOURS				72 HOURS				96 HOURS			
DATE:	10/04/93			10/05/93				10/06/93				10/07/93				10/08/93			
TIME:	1700			1530				1600				1530				1700			
	Dis.	Temp.	pH	Dis.	Temp.	pH	#Fish	Dis.	Temp.	pH	#Fish	Dis.	Temp.	pH	#Fish	Dis.	Temp.	pH	#Fish
CONC.	Oxy.	dg.C		Oxy.	dg.C		Dead	Oxy.	dg.C		Dead	Oxy.	dg.C		Dead	Oxy.	dg.C		Dead
0 (Control)	8.5	22.0	7.5	8.3	22.0	7.3	0	8.2	20.8	7.4	0	8.1	21.3	7.2	0	8.0	20.6	7.4	0
400 mg/l	8.4	22.0	7.5	8.1	21.9	7.2	0	8.1	21.0	7.4	0	8.0	20.6	7.7	0	7.9	20.3	7.3	0
400 mg/l	8.4	22.0	7.5	8.1	21.8	7.2	0	8.0	21.0	7.4	0	8.0	20.5	7.7	0	8.0	20.2	7.3	0
750 mg/l	8.5	22.0	7.5	8.1	21.8	7.2	0	8.0	21.0	7.4	0	8.0	20.5	7.7	0	8.0	20.2	7.3	0
750 mg/l	8.4	22.0	7.5	8.2	21.8	7.2	0	8.1	21.1	7.4	0	8.0	20.7	7.7	0	8.0	20.3	7.3	0

FINAL DATA

TOTAL MORTALITIES	
0 (Control)	0
400 mg/l	0
400 mg/l	0
750 mg/l	0
750 mg/l	0

FINAL RESULTS

96 HOUR LC50 =	>750 mg/l
STATUS =	Pass
CALCULATION METHOD =	Binomial Test

  
 Martha Meyer, Chief Biologist

Date 10/11/93

VERBAL ADDITIONS / CANCELLATIONS TO ANALYSIS REQUEST SHEET

CLIENT: Unite & Associates DATE: 9/30/93  
 REQUESTED BY: Tom Barnes TIME: am 15:45 pm  
 RECORDED BY: J. Brown Normal TAT

Current Lab ID (Previous Lab ID)	Client ID	Circle matrix	Specify add or cancel	Analysis	Due date
112552-1 112460-11	Comp SPT-1,2	soil water other	+	T26 nets 8240 I grid React CW+res soil	
112552-2 112460-12	Comp SPT-3,4	soil water other	+		
112552-3 112460-13	Comp SPT-7,8	soil water other	+	Biosassay	
112552-5 112460-15	Comp SPT 5,10	soil water other	+	↓	
112552-4 112460-14	Comp SPT-9,6	soil water other	+	Reactivity concocting + grid	
		soil water other			
		soil water other			
		soil water other			

Original in job jacket.

Copies to analytical departments.



**Appendix F**

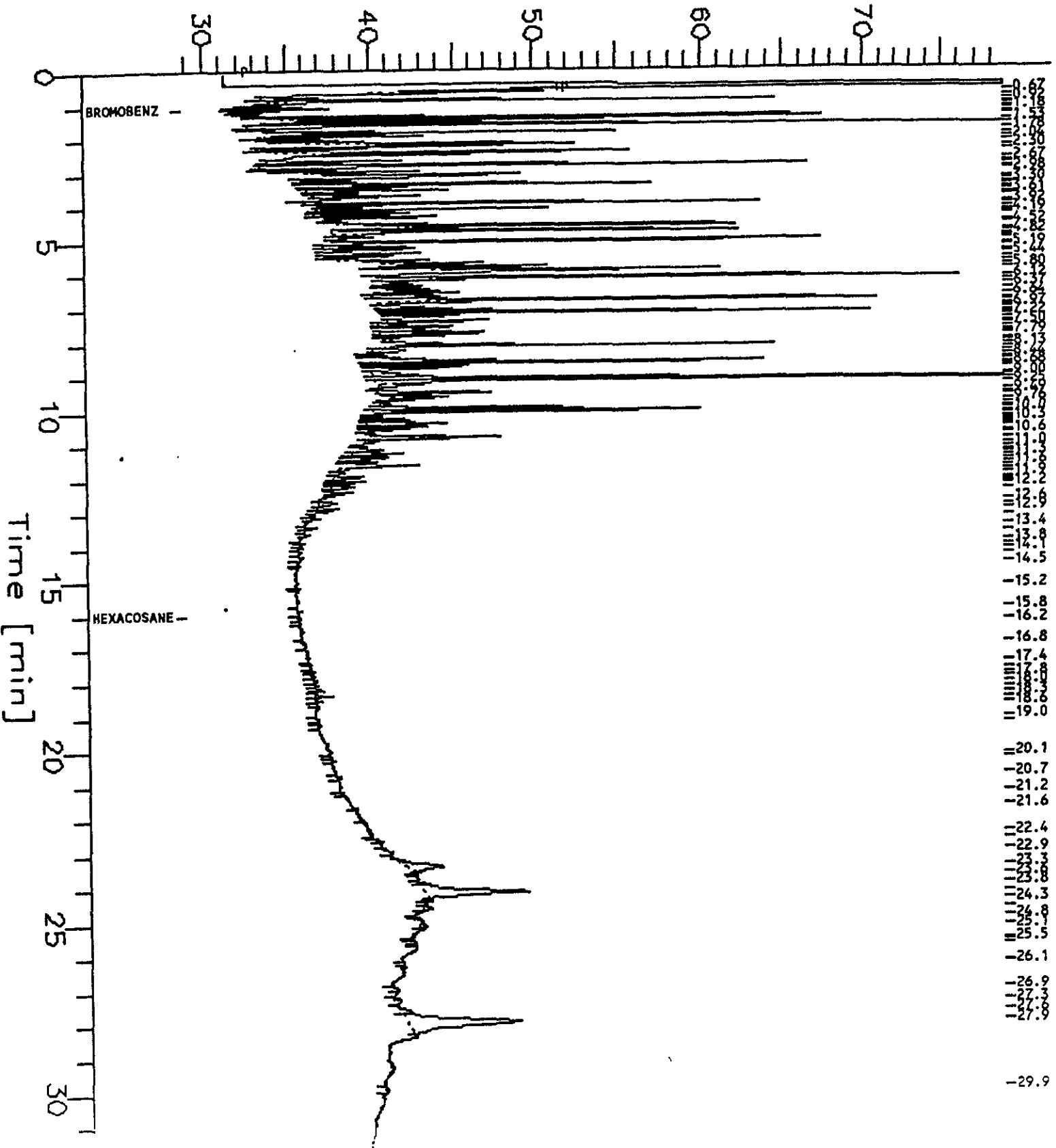
**Chromatograms**

Sample Name : 112439-001 W-1  
 FileName : g:\gc13\cha\272a015.raw  
 Method : TEH\_CHA.ins  
 Start Time : 0.00 min  
 Scale Factor : -1

End Time : 31.92 min  
 Plot Offset: 29 mV

Sample #: fingerprint  
 Date : 9/30/93 4:28 AM  
 Time of Injection: 9/30/93 3:53 AM  
 Low Point : 28.76 mV  
 High Point : 78.76 mV  
 Plot Scale: 50 mV

Response [mV]



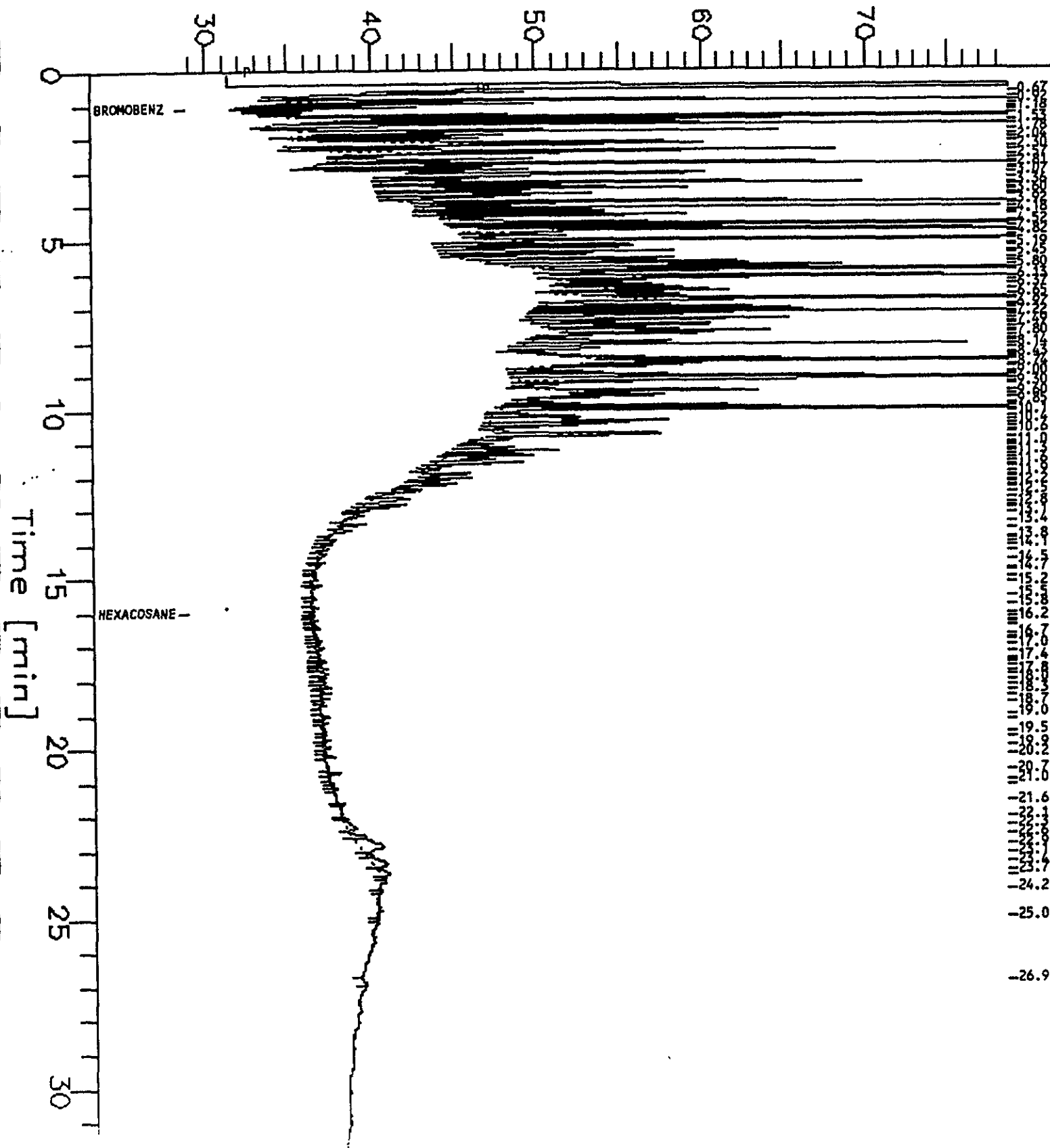


Sample Name : 112439-002 W-2  
FileName : g:\gc13\cha\272a016.raw  
Method : TEH\_CHA.ins  
Start Time : 0.00 min  
Scale Factor: -1

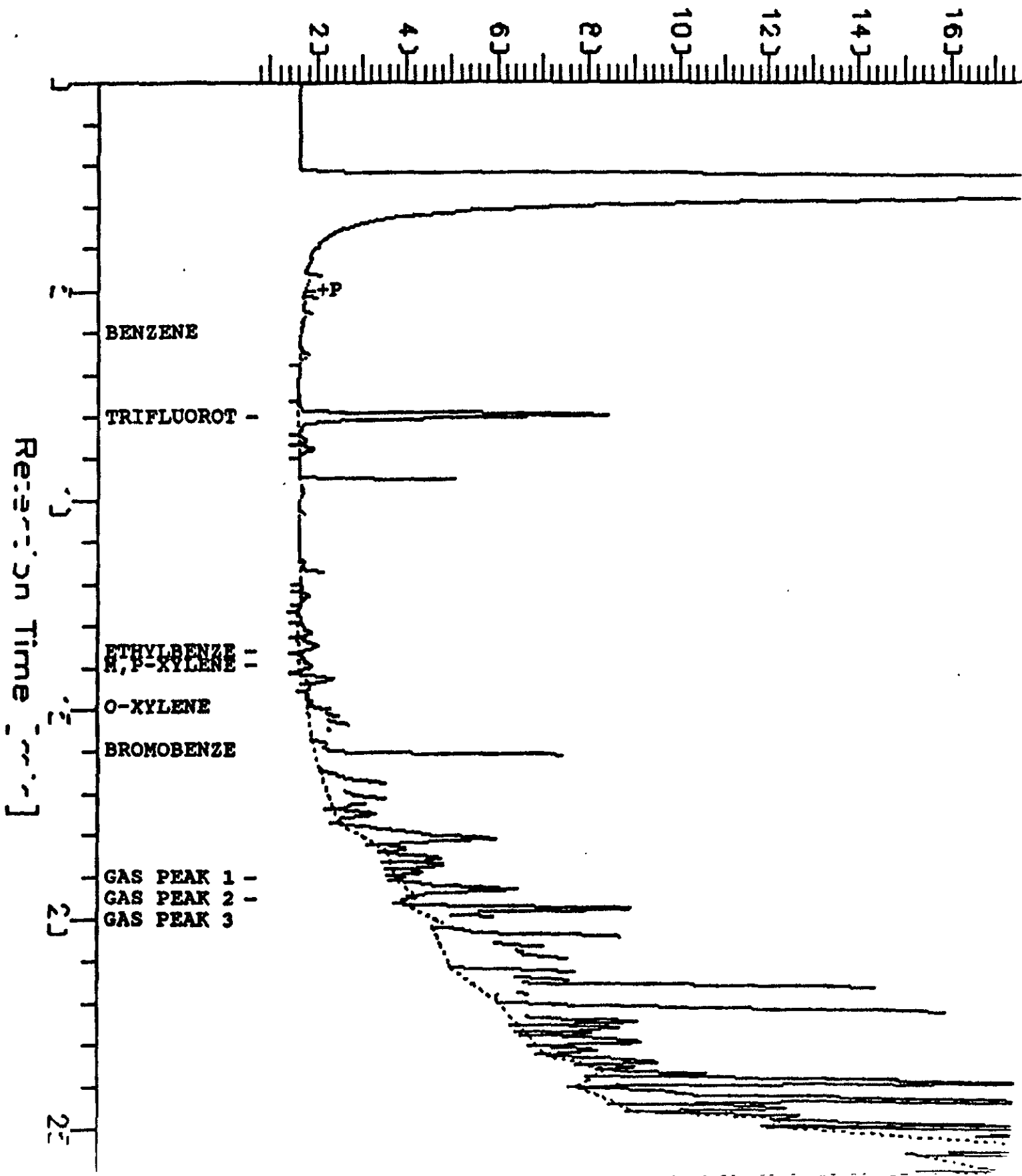
End Time : 31.92 min  
Plot Offset: 29 mV

Sample #: fingerprint  
Date : 9/30/93 5:10 AM  
Time of Injection: 9/30/93 4:35 AM  
Low Point : 28.80 mV  
Plot Scale: 50 mV  
High Point : 78.80 mV

### Response [mV]



# Response [mV]



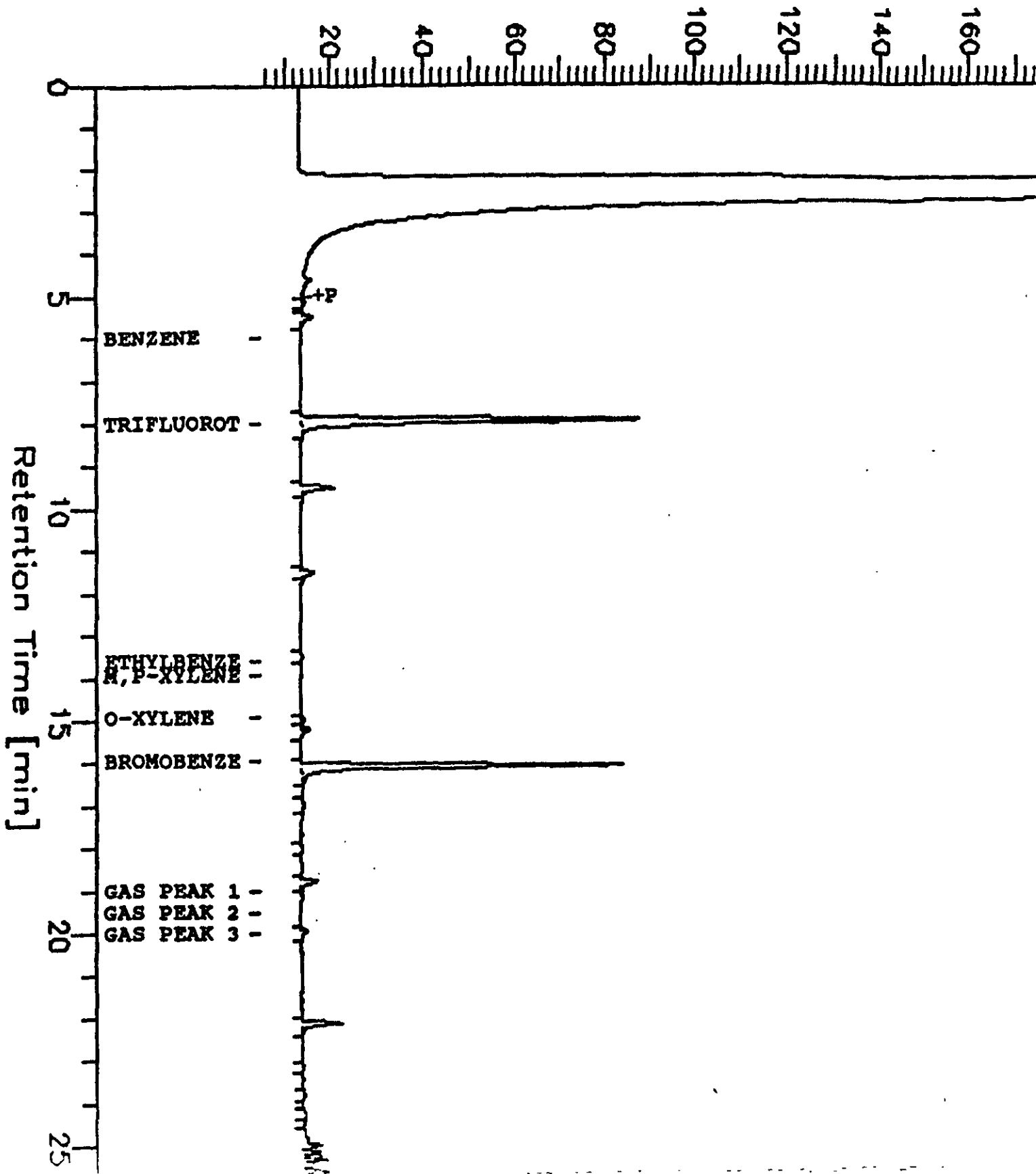
FileName : G:\GC10\322A016.raw  
Start Time : 0.00 min  
Scale Factor: -1

End Time : 26.00 min  
Plot Offset: 4 mV

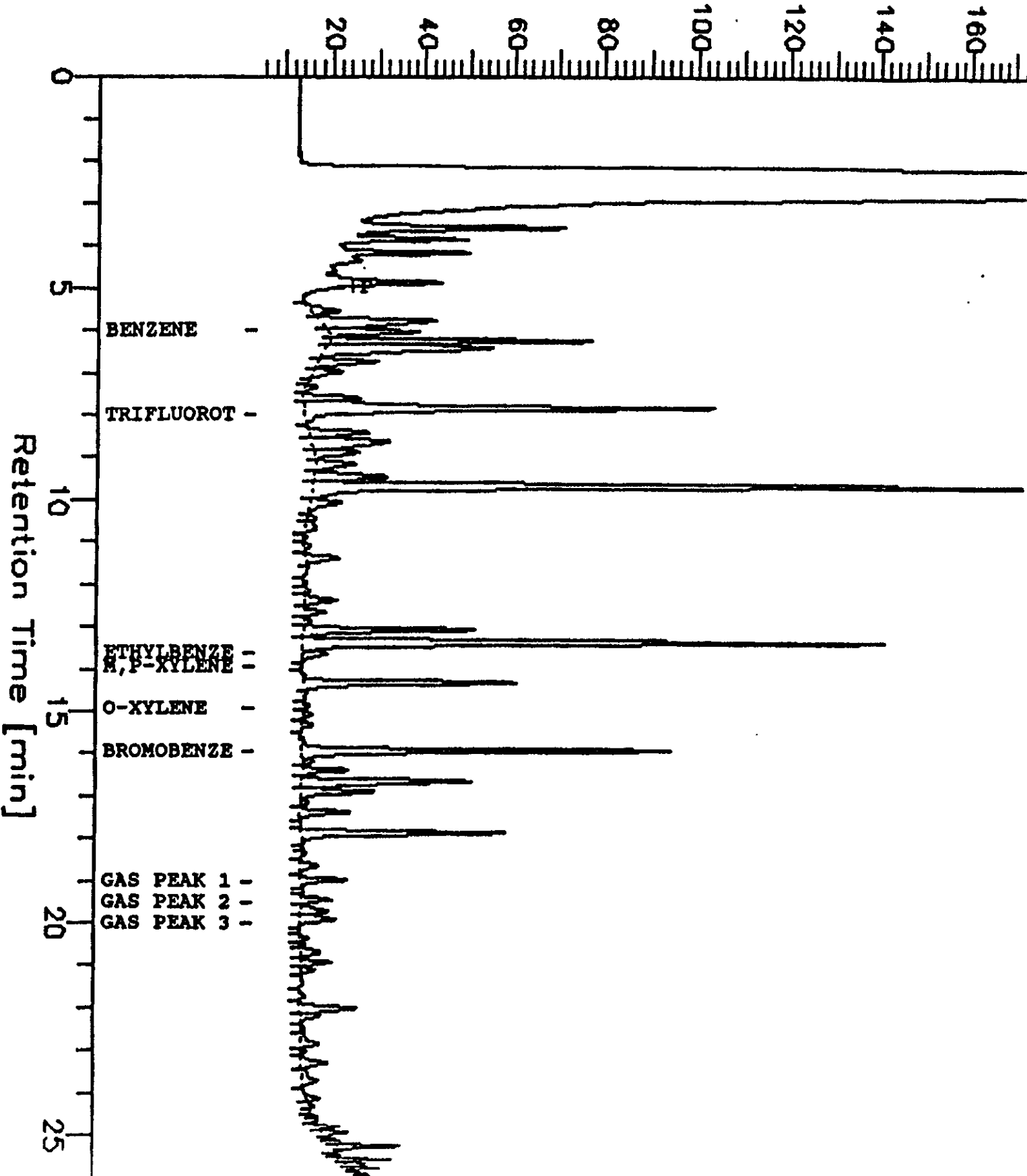
Date : 11/19/93 3:19 AM  
Low Point : 4.43 mV  
Plot Scale: 175 mV

Page 1 of 1  
High Point : 179.43 mV

Response [mV]



# Response [mV]

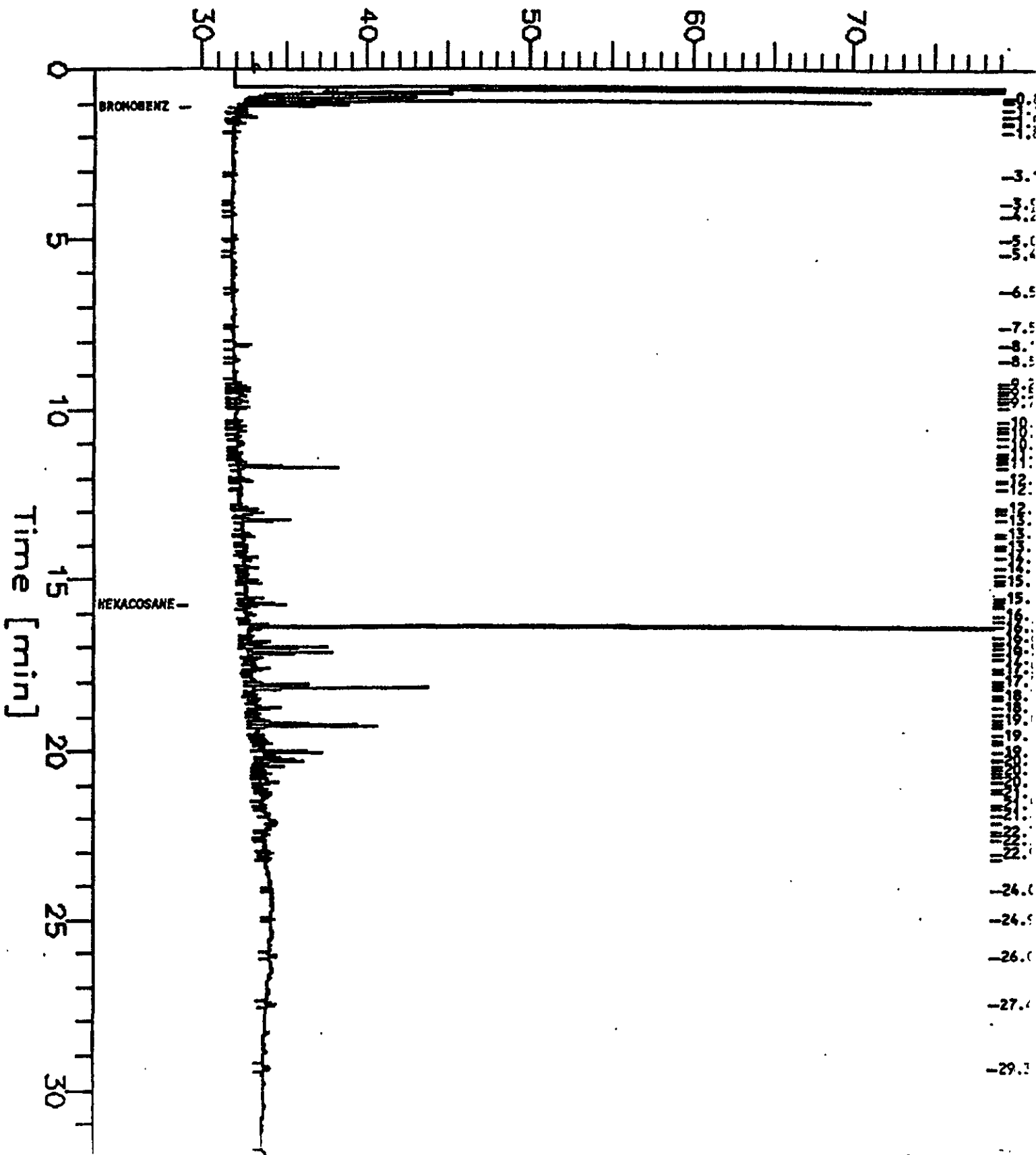


113189-001 50:50  
g:\gc13\cha\321A016.raw  
TEK.ins  
Start Time : 0.00 min  
Scale Factor: -1

End Time : 31.92 min  
Plot Offset: 29 mV

Sample #: 11475  
Date : 11/18/93 4:16 AM  
Time of Injection: 11/18/93 3:42 AM  
Low Point : 29.26 mV  
Plot Scale: 50 mV  
High Point : 79.26 mV

# Response [mV]

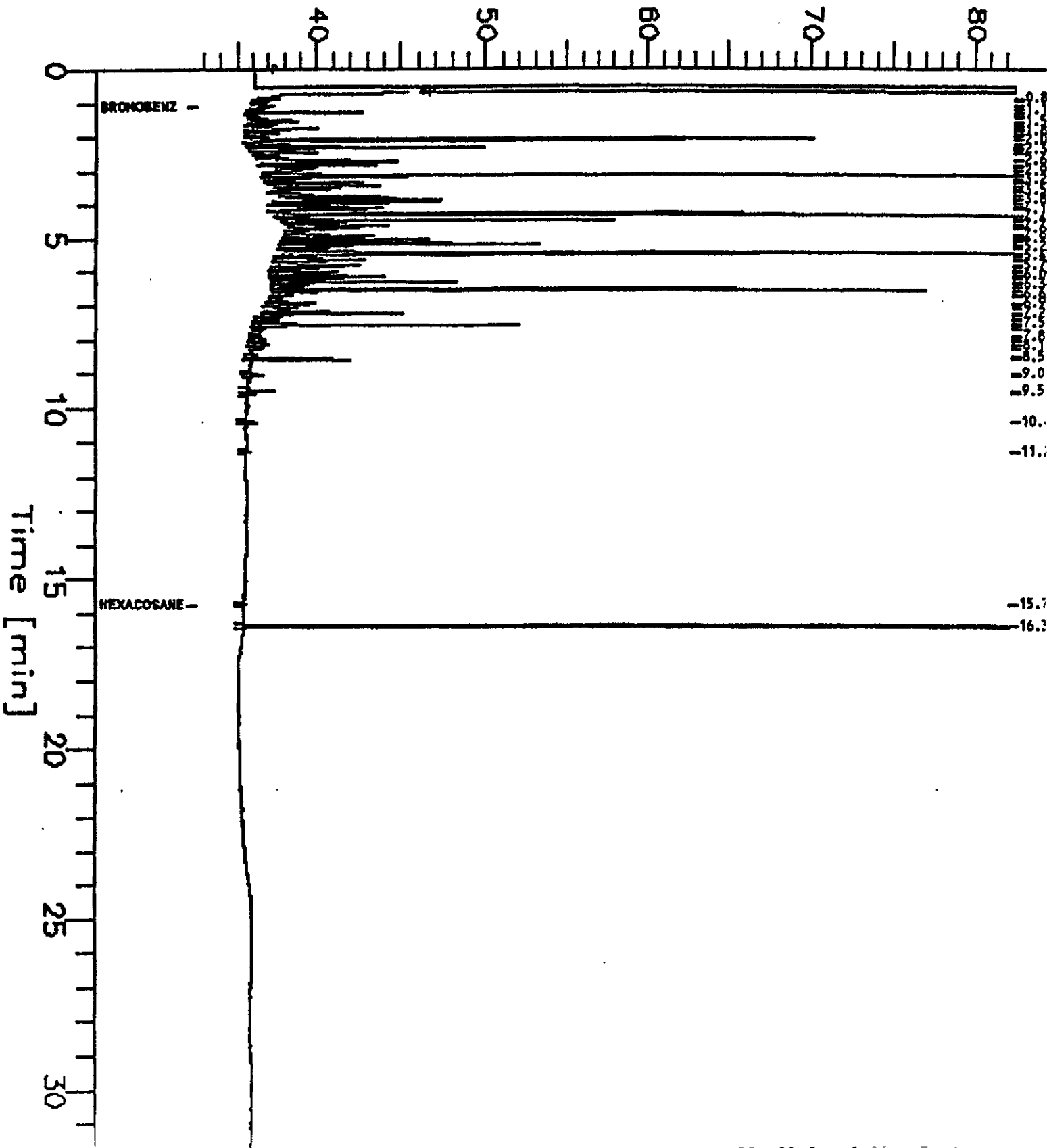


Sample Name : Kerosene 235mg/L  
FileName : g:\gc13\che\321A002.raw  
Method : TEH.ins  
Start Time : 0.00 min  
Scale Factor : -1

End Time : 31.92 min  
Plot Offset: 53 mV

Sample #: 93ms6097  
Date : 11/17/93 6:07 PM  
Time of Injection: 11/17/93 5:33 PM  
Low Point : 32.61 mV  
Plot Scale: 50 mV

### Response [mV]

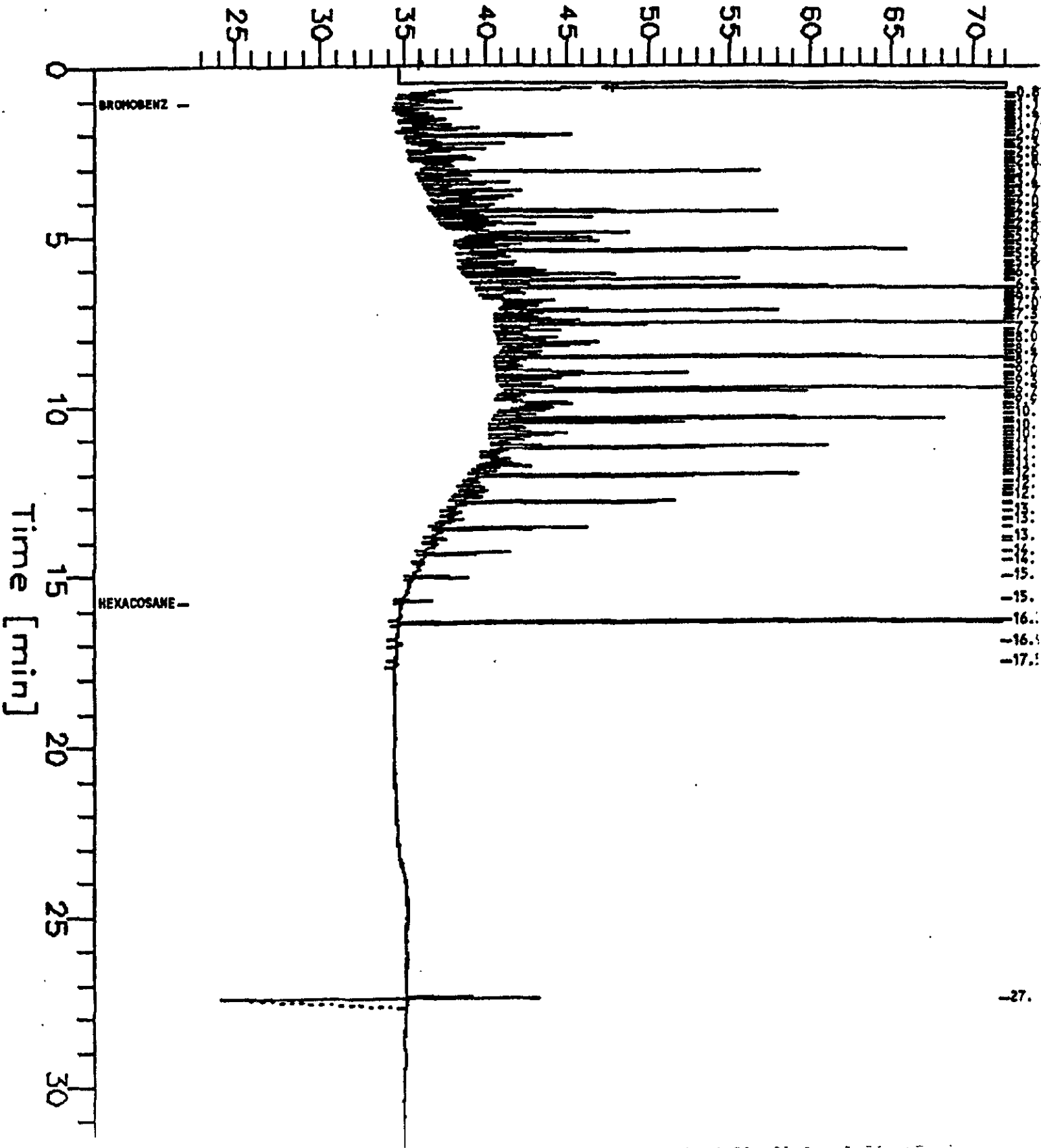


Sample Name : Diesel 513mg/L  
FileName : g:\gc13\cha\321A003.raw  
Method : TEH.ins  
Start Time : 0.00 min  
Scale Factor: -1

End Time : 31.92 min  
Plot Offset: 22 mV

Sample #: 93wa6107  
Date : 11/17/93 6:51 PM  
Time of Injection: 11/17/93 6:17 PM  
Low Point : 22.12 mV  
Plot Scale: 50 mV  
High Point : 72.12 mV

### Response [mV]

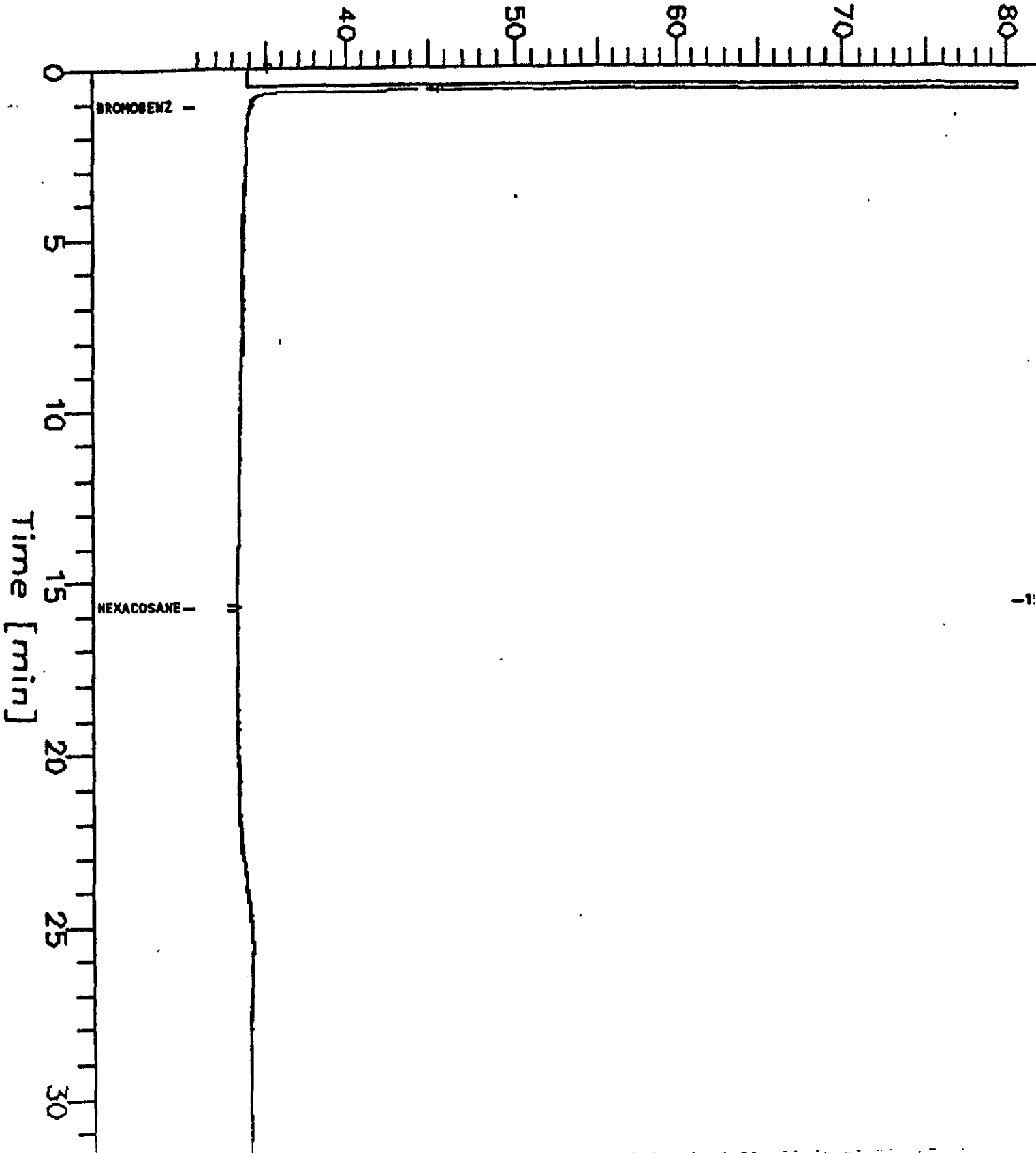


Sample Name : blank  
FileName : g:\pc13\che\321A004.raw  
Method : TEH.1ms  
Start Time : 0.00 min  
Scale Factor : -1

End Time : 31.92 min  
Plot Offset: 31 mV

Sample #:   
Date : 11/17/93 7:33 PM  
Time of Injection: 11/17/93 7:00 PM  
Low Point : 30.75 mV  
High Point : 80.75 mV  
Plot Scale: 50 mV

Response [mV]





**Appendix G**

**Work Plan for Additional Site Characterization Activities**

**Work Plan for Site Characterization Activities  
at Port of Oakland Building C-401  
2277 7th Street, Oakland, California**

February 23, 1994

Prepared by

Uribe & Associates  
Oakland, California

Prepared for

Port of Oakland  
Oakland, California

**Work Plan for Site Characterization Activities  
at Port of Oakland Building C-401  
2277 7th Street, Oakland, California**

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**Certification**

**Work Plan for Site Characterization Activities**

**Port of Oakland Building C-401**

**2277 7th Street**

**Oakland, California**

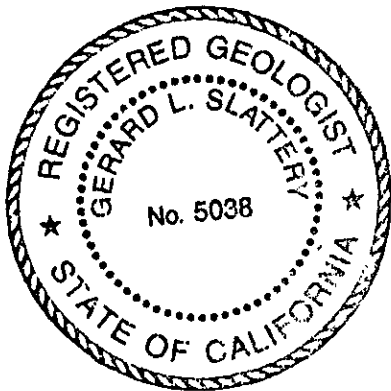
I certify that, to the best of my knowledge, the information presented in this document was produced in accordance with professional standards and that the data contained here are true and accurate.

*Gerard L. Slattery*

*2/23/94*

Gerard L. Slattery  
California Registered Geologist No. 5038

Date



## 1.0 Introduction

This Work Plan proposes site characterization activities to be conducted at Port of Oakland Building C-401 located at 2277 7th Street, Oakland (Figure 1). (Note: In some prior documents, this site has been referred to as the "Shippers Imperial" site, a name that is no longer applicable.) The characterization will include drilling up to twelve soil borings at the site. Nine soil borings will be drilled initially. Three of these initial borings will be converted into groundwater monitoring wells. Up to three additional soil borings may be drilled along the down-gradient edge of the property depending on the results obtained from the initial nine borings. The objectives of the activities proposed herein are to:

- 1) Investigate groundwater quality in the vicinity of the former underground storage tank (UST) locations adjacent to Building C-401; ✓
- 2) Evaluate groundwater gradients in the area of Building C-401; *good*
- 3) Further characterize the nature of the contamination migrating toward Building C-401 from up-gradient sources; and ✓
- 4) Assess the down-gradient extent of petroleum hydrocarbons in soil and groundwater near Building C-401. ✓

## 2.0 Site Description

Dongary Investments leases land from the Port of Oakland (Port) which they in turn sublease to three companies; Sealand Services (Sealand), ANR Freight (ANR), and NW Transport Services (RAMCON, 1993). Building C-401 is located on the Sealand sublease, along with one other building and a railroad spur (Figure 2).

In 1993, four Port-owned USTs were removed from adjacent to Building C-401 on the Sealand sublease (Figure 2). A fifth UST on the Sealand sublease and eight other USTs on the ANR sublease were owned by Dongary Investments (Figure 2). As discussed in the Neighboring Facilities section of this Work Plan, these nine tanks were removed by Dongary Investments between 1990 and 1992.

### 2.1 Soils

The following soil conditions were encountered during excavation of the Port-owned USTs. Fill material consisting of angular gravel with sand and silt exists from ground

level to approximately seven feet below ground surface (bgs). In some areas, vertical wood beams were located beneath the surface suggesting that old pier/dock pilings may have been buried in place. Bay Mud underlies the fill material and extends to at least 12 feet bgs, the bottom of the tank excavation.

## **2.2 Groundwater Gradient**

At the time the Port-owned USTs were excavated, groundwater was observed at approximately 11 feet bgs. In February 1994, groundwater in the open tank excavations southeast of Building C-401 was observed at approximately 6 feet bgs.

The groundwater flow direction in the Building C-401 area is assumed to be toward the north-northwest based upon a study conducted at Southern Pacific, located across 7th Street. This flow direction is consistent with contaminant distribution data from a site investigation performed on the Sealand and ANR subleases by RAMCON (a contractor to Dongary Investments) in 1992 (see Section 3.3). These activities identified a contaminant plume apparently migrating northwestward from the former UST area on the ANR sublease (RAMCON, 1993). However, using data collected on January 15, 1993 from three monitoring wells installed during the investigation, RAMCON calculated a westward groundwater gradient direction. RAMCON indicated in their site investigation report that the groundwater flow direction may fluctuate seasonally depending on rainfall and that tidal influences may affect the groundwater flow direction from hour to hour.

## **3.0 Site Background**

### **3.1 Underground Storage Tank Removal**

On September 23, 1993, U&A supervised the removal of four Port-owned USTs located adjacent to Building C-401 (Figure 2). Two of the tanks (CF-17 and CF-18) were 10,000-gallon steel tanks which apparently had contained gasoline. One 500-gallon tank (CF-19) had contained fresh motor oil and one 285-gallon tank (CF-20) had contained waste oil.

An Alameda County Department of Environmental Health (ACDEH) representative witnessed the tank removals. Approximately 250 cubic yards of soil were removed along with the tanks. At the time the tanks were excavated, U&A personnel observed hydrocarbon contamination on the groundwater. U&A personnel collected soil samples from the pit bottoms and sidewalls and Curtis & Tompkins Laboratory analyzed the

samples for total petroleum hydrocarbons as diesel (TPH-diesel), total petroleum hydrocarbons as gasoline (TPH-gasoline), and benzene, toluene, ethylbenzene, and xylenes (BTEX). Some of these samples contained diesel (up to 5,500 milligrams per kilogram [mg/kg]), gasoline (up to 1,700 mg/kg), and BTEX (up to 6.7 mg/kg benzene, 8.5 mg/kg toluene, 11 mg/kg ethylbenzene, and 51 mg/kg xylene).

### **3.2 Additional Soil Removal**

Because hydrocarbon contamination was observed at the time the tanks were excavated, U&A supervised the removal of approximately 200 cubic yards of additional soil from the perimeter of the UST excavation pit on October 5, 1993. Confirmation soil samples were collected from the sidewalls of the enlarged excavation at a depth of nine feet. Some of the samples contained TPH-diesel (up to 6,700 mg/kg), TPH-gasoline (up to 1,500 mg/kg), and BTEX (up to 5.7 mg/kg benzene, 36 mg/kg toluene, 22 mg/kg ethylbenzene, and 82 mg/kg xylene). Analysis of additional soil samples collected along the excavation perimeter on October 15, 1993 at depths of two feet reported no hydrocarbon concentrations above the detection limits. ACDEH personnel approved the backfilling of the pit on October 29, 1993. The excavation was backfilled on December 13, 1993.

### **3.3 Neighboring Facilities**

Site investigation and/or tank removal activities have taken place on the Sealand sublease where Building C-401 is located and on two neighboring sites, the ANR sublease and the Southern Pacific site across 7th Street. These activities are discussed below.

#### *ANR Sublease: Tank Removals and Subsequent Site Investigation*

Eight USTs owned by Dongary Investments were removed from the ANR sublease southeast of Building C-401 (Figure 2). The first of these tanks was removed in March 1990 after it failed a tank integrity test the previous year. The remaining seven tanks were excavated in July 1992. At the time the seven tanks were excavated, free floating hydrocarbon contamination was observed on groundwater in the tank pit. As a result of the contamination observed at the time the tanks were removed, the tank pit has not yet been backfilled.

Subsequent to the 1992 tank removals, RAMCON conducted a site investigation to assess the extent of the diesel contaminant plume apparently originating from the

former tank area. As part of this investigation soil borings were drilled and groundwater monitoring wells were installed on both the ANR and Sealand subleases. RAMCON's report on this investigation depicted a diesel plume extending toward Building C-401 and the former location of the Port-owned USTs. The northwestern limit of the plume was not characterized in the RAMCON study. This plume is a suspected source for some or all of the TPH-diesel detected during the excavation of the Port-owned USTs.

Because the tanks removed from the ANR sublease had reportedly contained diesel or motor oil, limited analyses for TPH-gasoline or BTEX were performed during the site investigation conducted by RAMCON. However, as presented in Uribe & Associates (U&A) *Report of Underground Storage Tank Removal* (U&A, 1994), there is evidence that these tanks had stored gasoline in the past. Consequently, these tanks may also be a source of gasoline and BTEX contamination detected during removal of the Port-owned USTs at Building C-401. To further assess this possibility, a soil sample was collected from the tank removal pit at the ANR sublease by U&A personnel on November 11, 1993. Laboratory analysis of this sample detected gasoline (18 mg/kg).

#### *Sealand Sublease: Dongary-Owned Tank Removal*

In August 1992 Dongary Investments removed their waste oil tank located on the Sealand sublease south of Building C-401 (Figure 2). The groundwater that recharged into the excavation pit for this tank was reportedly covered with a hydrocarbon sheen (RAMCON, 1992). To date, this tank pit has not been backfilled.

#### *Southern Pacific: Site Investigation*

A part of a unrelated site investigation at Southern Pacific, U&A personnel drilled four soil borings to depths of five feet along 7th Street in November 1992. These borings were located approximately 300 feet north of Building C-401. Soil samples collected from the borings were analyzed for gasoline, diesel and BTEX. No petroleum hydrocarbons were reported above detection limits for these analyses.

## **4.0 Proposed Site Activities**

### **4.1 Introduction**

U&A will supervise the drilling of up to twelve soil borings around Building C-401 to further characterize the extent of fuel hydrocarbons in soil and groundwater in the



vicinity of Building C-401. Figure 2 shows the locations of the initial nine borings that will be completed. Three of these borings will be converted into groundwater monitoring wells. The remaining three borings are optional (as discussed below).

Groundwater samples will be collected from each of the monitoring wells. A water sample will also be collected from each boring that will not be converted into a monitoring well using a temporary well screen placed in the borehole. After the groundwater wells have been installed, the groundwater gradient will be calculated based upon groundwater level measurements.

Drilling permit applications will be submitted to the Alameda County Flood Control District, Zone 7. Underground Services Alert as well as Port Utilities will be notified to perform underground utility surveys before drilling begins. A site safety plan is included in Attachment A.

#### **4.2 Boring and Monitoring Well Locations**

Figure 2 presents the proposed locations of the nine initial soil borings. These locations were selected based on data from the site investigation activities discussed above and the results of the tank excavation sampling conducted during removal of the Port-owned tanks adjacent to Building C-401.

Three of the borings (MW-1, MW-2, and MW-3) will be drilled around the former location of the Port-owned USTs. These three borings will be converted into groundwater monitoring wells. One well (MW-1) is proposed within ten feet of the excavation in a down-gradient direction as required by the California Leaking Underground Fuel Tank (LUFT) Manual Guidelines for water quality investigations. Two additional wells (MW-2 and MW-3) are proposed around the excavation to provide groundwater quality and elevation data.

Two soil borings (SB-1 and SB-2) will be drilled southeast of Building C-401. Data from these borings will be used to further assess the nature of the contaminants originating from the former UST area on the ANR sublease.

Four borings (SB-3 through SB-6) will be drilled on the north side of Building C-401 to assess the northwestern extent of the contaminants detected in the area of the Port-owned USTs. If contaminants are detected in samples from these borings, up to three additional borings may be drilled to further assess the down-gradient extent of contaminants. These locations of these three optional borings (not shown on Figure 2)

will be selected after field and laboratory data are available from the initial nine borings. However, if these borings are installed, they will likely be located along the northern property boundary of the Sealand sublease. Drilling these three additional borings will be contingent on review of field and laboratory data and on approval by the Port.

#### 4.3 Soil Boring Installation and Soil Sampling/Analysis

The soil borings will be cored using a truck-mounted, hollow-stem auger. A U&A geologist under the direction of a California Registered Geologist will record the boring logs and collect soil samples approximately every five feet with six-inch brass sleeves. The eight-inch diameter borings will be drilled to a depth of approximately 15 feet below ground surface. The hollow-stem auger will be decontaminated after each boring using a steam cleaner. The rinsate from the steam cleaner will be stored in 55-gallon drums on site. Each boring that will not be converted into a groundwater monitoring well will be backfilled with cement to the surface.

Each unsaturated soil sample collected from SB-1, SB-2, MW-1, MW-2, and MW-3 will be analyzed at a state-certified laboratory. To minimize analytical costs, initially only the sample from immediately above the water table from borings SB-3 through SB-6 (and SB-7 through SB-9, if drilled) will be analyzed. If hydrocarbons are detected in these samples, then the shallower samples collected from these borings will also be analyzed. Soil samples will be analyzed for TPH-diesel, TPH-gasoline, and BTEX ✓ *ok*

#### 4.4 Borehole Water Sampling

Water samples will be collected in each boring that will not be converted into a monitoring well using a four-inch diameter temporary well screen. After each boring has been drilled to approximately 15 feet bgs, the well screen will be placed into the boring. When groundwater has adequately recharged through the screened interval, a two-inch Teflon bailer will be lowered into the well screen to collect a sample. The water samples will be analyzed for TPH-gasoline, TPH-diesel, and BTEX. After the water samples have been collected, the well screen will be removed and decontaminated using a steam cleaner. ✓

#### 4.5 Well Installation Procedures

Three eight-inch diameter soil borings will be drilled to a depth of approximately 15 feet bgs. The well casing installed in these borings will be two-inch PVC with ten-foot screened intervals (0.010 or 0.020 inch slots). The screened intervals will be set from

nine feet below to one foot above the first water-bearing soils. The sand pack will consist of #2 or #3 sand (depending on site conditions) from total depth to one foot above the top of the screened interval. A bentonite seal will be placed one foot above the top of the screen, and the well annulus will be filled with cement grout from the top of the seal to the surface. Protective well covers will be placed over the wells and cemented in place. Soil cuttings will be stockpiled in 55-gallon drums pending laboratory analysis and proper disposal. The hollow-stem auger will be decontaminated after each boring using a steam cleaner. The rinsate from the steam cleaner will be stored in 55-gallon drums on site.

follow up

#### 4.6 Well Development

After the cement grout is allowed to cure in the well for a minimum of 24 hours, the wells will be surged with a surge block to remove fine-grained sediment from the gravel pack and promote representative sampling.

72 hrs.

#### 4.7 Elevation Survey

The well heads will be surveyed by a licensed surveyor for elevation relative to the Port of Oakland Datum (Mean Low Lower Sea Level). This information will be used to calculate the groundwater gradient.

#### 4.8 Groundwater Gradient Evaluation

After the wells have been installed, U&A will evaluate local groundwater flow conditions. At a minimum, groundwater elevation data from the three newly installed wells will be used to estimate the groundwater gradient. If groundwater elevation data is available concurrently from the wells installed during the ANR site investigation, then these data will be incorporated into the groundwater gradient evaluation for the Building C-401 area.

good

#### 4.9 Monitoring Well Groundwater Sampling

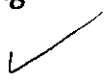
24hr.

Water samples will be collected during the initial well development and will follow quarterly thereafter. Prior to each sampling event, approximately three well volumes will be bailed from the well using a two-inch Teflon bailer. The purged water will be stored in 55-gallon drums pending laboratory analysis and proper disposal. Water samples will be then collected with two-inch Teflon bailers and analyzed at a state-certified laboratory for TPH-diesel, TPH-gasoline, and BTEX.

follow up


## 5.0 Report Preparation

At the conclusion of the project, U&A will submit a monitoring well installation report to the Port. U&A will also submit the Driller's Reports for each well to the Alameda County Flood Control District, Zone 7. The monitoring well installation report will include the wellhead elevations, groundwater gradient evaluation for the Building C-401 area, and sample analysis results. Quarterly reports summarizing the sampling results will be submitted following each round of sampling.



## 6.0 Schedule

U&A can begin implementing the site investigation activities discussed herein within two weeks of approval of this Work Plan, pending a utility check by Underground Services Alert (USA) and by the Port Utilities.



## 7.0 References

RAMCON, March 18, 1993. Soil and Groundwater Site Assessment: Dongary Investments - Oakland.

Uribe and Associates, February 23, 1993. Building C-401, 2277 7th Street, Oakland, Report of Underground Storage Tank Removals

Figures

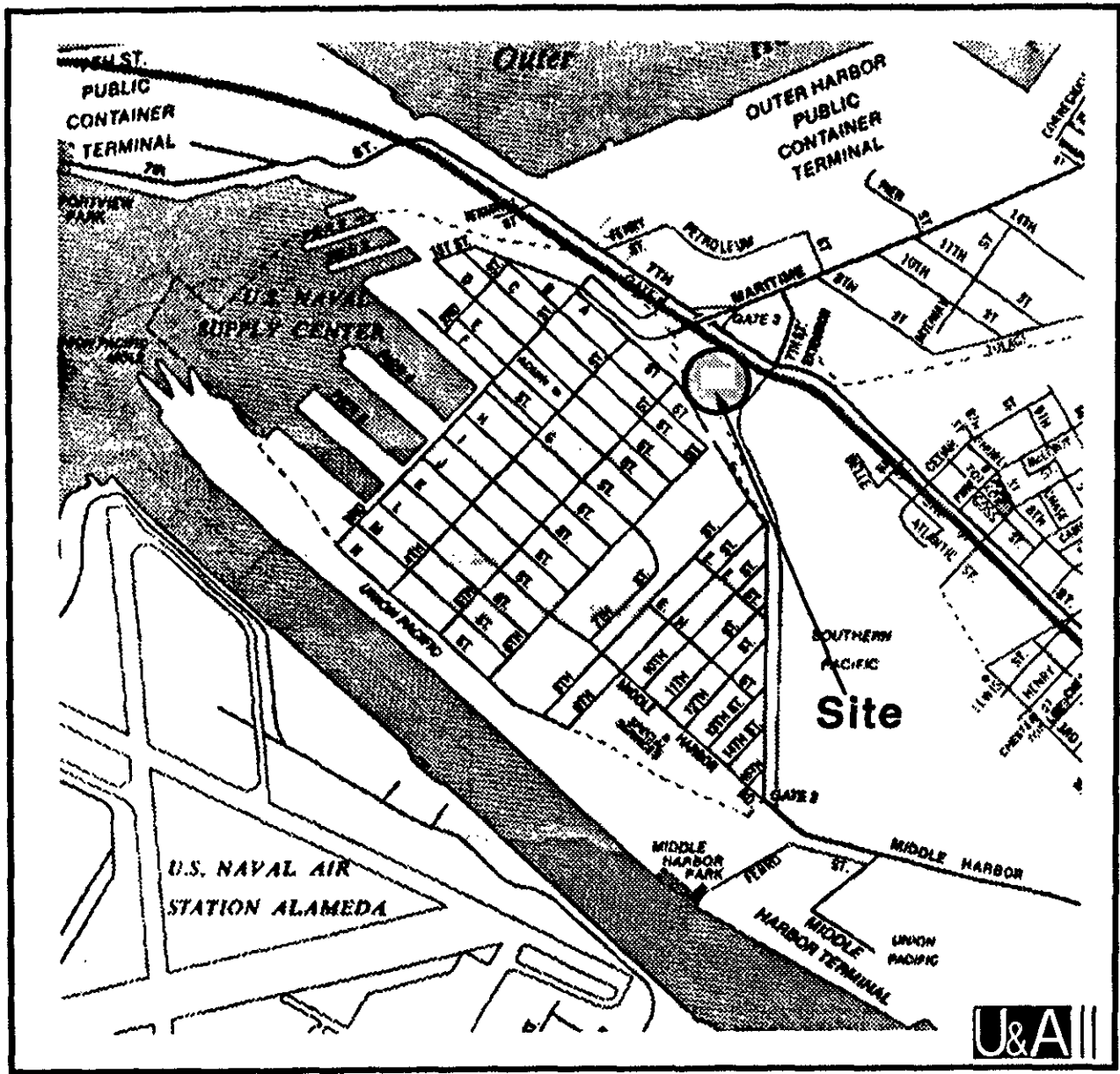




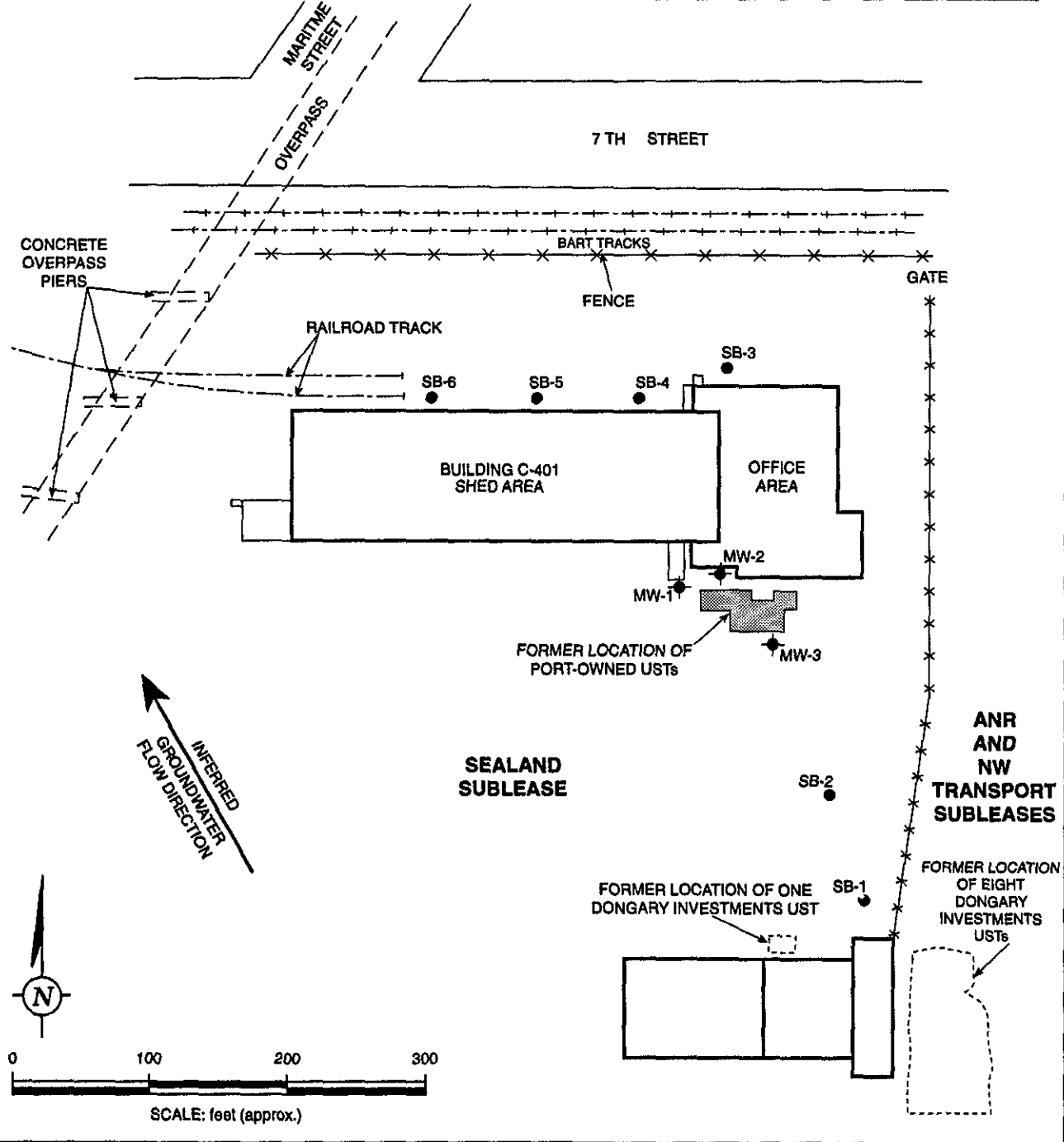
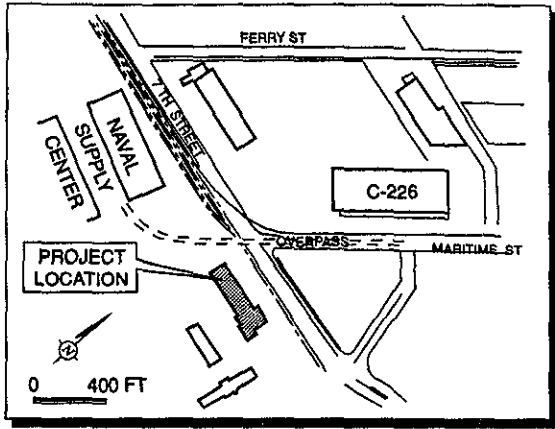


Figure 1: Site Location Map

**LEGEND**

- MW-1  Monitoring Well Location (Proposed)
- SB-1  Soil Boring Location (Proposed)
-  Open UST Excavation
-  Backfilled Former UST Excavation



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URIBE & ASSOCIATES

Figure 2: Plot Plan

**ATTACHMENT A**  
**SITE SAFETY PLAN**



# SITE SAFETY PLAN FOR \_\_\_\_\_

## A. SITE DESCRIPTION

Date: 2/23/94 Location: 2277 7th Street, Oakland

Hazards: Diesel, Gasoline, BTEX, Drill rig

Area Affected: \_\_\_\_\_

Surrounding Population: Industrial, Port of Oakland

Topography: Flat

Weather Conditions: \_\_\_\_\_

Additional Information: \_\_\_\_\_

B. **ENTER OBJECTIVES** - The objectives of the initial entry to the contaminated area is to  
Drill borings, install monitoring wells, collect soil samples, collect water samples

C. **ONSITE ORGANIZATION AND COORDINATION** - The following personnel are designated to carry out the stated job functions on site.

Project Team Leader: John Borrego

Site Safety Officer: John Borrego

Field Team Leader: John Borrego

Field Team Members: \_\_\_\_\_

Local Agency Reps: Jenifer Eberle, Alameda County DEH

All personnel arriving or departing the site should log in and out with the Recordkeeper. All activities on site must be cleared through the Project Team Leader.

**D. HAZARD EVALUATION**

The following substance(s) are known or suspected to be on site. The primary hazards of each are identified.

Substances Involved	Concentration (If known)	Primary Hazards
Diesel		
Gasoline		
BTEX		Carcinogen

The following additional hazards are expected on site: \_\_\_\_\_

Hazardous substance information form(s) for the involved substance(s) have been completed and are attached.

**E. PERSONAL PROTECTIVE EQUIPMENT**

Based on evaluation of potential hazards, the following levels of personal protection have been designated for the applicable work areas or tasks:

Location	Job Function	Level of Protection
2277 7th Street	Drilling, Soil Sampling	A B C D Other
		A B C D Other
		A B C D Other
		A B C D Other

Specific protective equipment for each level of protection is as follows:

- Level A: Fully-encapsulation suit SCBA (disposable coveralls)
- Level B: Splash gear (type) SCBA
- Level C: Splash gear (type) Full-face canister respirator
- Level D:
- Other:

**F. ONSITE WORK PLANS**

Work party(s) consisting of 1 persons will perform the following tasks:

<b>Project Team Leader</b>	<b>Tasks</b>
<u>John Borrego</u>	<u>Soil Sampling, Boring Logs</u>

Work Party #1 \_\_\_\_\_

Work Party #2 \_\_\_\_\_

The work party(s) were briefed on the contents of this plan at date: \_\_\_\_\_ time: \_\_\_\_\_

**G. COMMUNICATION PROCEDURES**

- Hand gripping throat ..... Out of air, can't breathe
- Grip partner's wrists or both hands around waist ..... Leave area immediately
- Hands on top of head ..... Need assistance
- Thumbs up ..... OK, I'm all right, I understand
- Thumbs down ..... No, negative

Telephone communication to the Command Post should be established as soon as practicable. The phone number is (510) 832-2233.

**H. DECONTAMINATION PROCEDURES**

Personnel and equipment leaving the site shall be thoroughly decontaminated. The standard level decontamination protocol shall be used with the following decontamination stations:

- (1) 1 (2) \_\_\_\_\_ (3) \_\_\_\_\_ (4) \_\_\_\_\_ (5) \_\_\_\_\_
- (6) \_\_\_\_\_ (7) \_\_\_\_\_ (8) \_\_\_\_\_ (9) \_\_\_\_\_ (10) \_\_\_\_\_

Other \_\_\_\_\_

The following decontamination equipment is required: Bucket with Simple Green and disposable towels

Simple Green will be used as the decontamination solution.

**I. SITE SAFETY AND HEALTH PLAN**

1. John Borrego is the designated Site Safety Officer and is directly responsible to the Project Team Leader for safety recommendations on site.

2. Emergency Medical Care

John Borrego is the qualified EMTs on site. Highland Hospital at \_\_\_\_\_, phone \_\_\_\_\_

is located 15 minutes from this location.

Local ambulance service is available from at phone 911.

Their response time is 15 minutes. Whenever possible, arrangements should be made for onsite standby.

First-aid equipment is available is available on site at the following locations:

First-aid kit \_\_\_\_\_ Team Leader's Vehicle \_\_\_\_\_

Emergency medical information for substances present:

Substance	Exposure Symptoms	First-Aid Instructions
<u>Diesel</u>	<u>dizziness</u>	<u>remove from site, rest</u>
<u>Gasoline</u>	<u>dizziness</u>	<u>remove from site, rest</u>
<u>Benzene</u>	<u>dizziness</u>	<u>remove from site, rest</u>
_____	_____	_____

List of Emergency phone numbers:

Agency/Facility	Phone #	Contact
Police <u>911</u>		
Fire <u>911</u>		
Hospital <u>911</u>		

3. Environmental Monitoring

The following environmental monitoring instruments shall be used on site (cross out if not applicable) at the specified intervals.

Combustible Gas Indicator	Continuous	<u>hourly</u>	daily	other
CO <sub>2</sub> Monitor	Continuous	hourly	daily	other
Colormetric Tubes (type) _____	Continuous	hourly	daily	other
<hr/>				
HNU/OVA	Continuous	<u>hourly</u>	daily	other
Other _____	Continuous	hourly	daily	other
_____	Continuous	hourly	daily	other

4. Emergency Procedures (should be modified as required for incident)

The following standard emergency procedures will be used by onsite personnel. The Site Safety Officer shall be notified of any onsite emergencies and be responsible for ensuring that the appropriate procedures are followed.

Personnel Injury: Upon notification of an injury, the Site Safety Officer will call an ambulance. The rescue team will remove the injured person to the hotline. The Site Safety Officer and Project Team Leader should evaluate the nature of the injury, and the affected person should be decontaminated to the extent possible prior to movement to the Support Zone. The onsite EMT shall initiate the appropriate first aid, and contact should be made for an ambulance and with the designated medical facility (if required).

Personnel Injury in the Support Zone: Upon notification of an injury, the Project Team Leader and Site Safety Officer will assess the nature of the injury. If the cause of the injury or loss of the injured person does not affect the performance of site personnel, operations may continue.

Personal Protective Equipment Failure: If any site worker experiences a failure or alternation of protective equipment that affects the protection factor, that person and his/her buddy shall immediately leave the site. Re-enter shall not be permitted until the equipment has been repaired or replaced.

Other Equipment Failure: If any other equipment on site fails to operate properly, the Project Team Leader and Site Safety Officer shall be notified and then determine the effect

of this failure on continuing operations on site. If the failure affects the safety of personnel or prevents completion of the Work Plan Tasks, all personnel shall leave the site until the situation is evaluated and appropriate actions taken.

The following emergency escape routes are designated for use in those situations where egress from the site cannot occur through the main exit.

In all situations, when an onsite emergency results in evacuation, personnel shall not re-enter until:

1. The conditions resulting in the emergency have been corrected.
2. The hazards have been reassessed.
3. The Site Safety Plan has been reviewed.
4. Site personnel have been briefed on any changes in the Site Safety Plan.

5. Personal Monitoring

The following personal monitoring will be in effect on site: Personal exposure sampling:

Medical monitoring: The expected air temperature will be \_\_\_\_\_. If it is determined that heat stress monitoring is required (mandatory if over 70 degrees F) the following procedures shall be followed: drink sport's drink, rest more often, use sunblock

All site personnel have read the above plan and are familiar with its provisions.

	Name	Signature
Site Safety Officer	_____	_____
Project Team Leader	_____	_____
Other Site Personnel	_____	_____
	_____	_____
	_____	_____
	_____	_____
	_____	_____
	_____	_____
	_____	_____