



# PORT OF OAKLAND

March 31, 1993

Mr. Paul Smith  
Hazardous Materials Division  
Department of Environmental Health  
Alameda County Health Services Agency  
80 Swan Way, Room 200  
Oakland, CA 94621

**SUBJECT:** Report of the source area primary pathway investigation at *Keep on Trucking*, 370 8th Avenue, Oakland, CA 94606

Dear Mr. Smith:

Enclosed, you will find a copy of the Report of the Source Area Primary Pathway Investigation at Keep on Trucking, 370 8th Avenue, Oakland, California. This report was produced by Uribe and Associates, the Port of Oakland's consultant for this project.

The workplan for the site investigation at KOT, submitted by the Port on 22 January 1993, is extensive with a number of activities that will vary in the amount of time they will take to complete. In order to move the project forward and to supply information to the various agencies in a timely manner, we propose to submit short reports on each aspect of the workplan as they are completed. This report is the first of the series of short reports on the various aspects of the site investigations.

If you have any questions regarding this report or any activities associated with this project, please contact me at (510) 272-1184.

Sincerely,

Jon Amdur  
Environmental Scientist

cc/w report:

Mr. Ray Balcom, SFRWQCB, 2101 Webster Street, 5th Floor, Oakland, CA 94612  
Mr. Rich Hiatt, SFRWQCB, 2101 Webster Street, 5th Floor, Oakland, CA 94612  
Ensign John Park, MER Division, Building 14, Marine Safety Office, San Francisco Bay, Coast Guard Island, Alameda, CA 94501  
Mr. Richard Padovani, Terminal Manager, Keep on Trucking' Co., Inc., 370 8th Avenue, Oakland, CA 94606

Mr. Michael E. Delehunt, Crosby Heafy, Roach and May, 1999 Harrison Street, Oakland, CA  
94612

Ms. Michele Heffes (Legal Department)

cc/wo report:

Mr. Gil Jensen, Alameda County District Attorneys Office of Consumer and  
Environmental Affairs, 7677 Oakport Dr., Suite 400, Oakland, CA 94621

Mr. Dale Wong, CA Department of Fish and Game, Office of Oil Spill Prevention and  
Response, P.O. Box 944209, Sacramento, CA 94244

Captain J.M. MacDonald, U.S. Coast Guard, Marine Safety Office, Building 14,  
Coast Guard Island, Alameda, CA 94591-5100

Mr. Andrew Clark-Clough, Uribe and Associates, 2930 Lakeshore Ave. Suite 200,  
Oakland, CA 94610

Mr. Neil Werner (Environmental Department)

Mr. Dave Adams (Marine Terminals)

*Report of the Source Area*  
*Primary Pathway Investigation at Keep on Trucking*  
*370 8th Avenue, Oakland, California*

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*Report of the Source Area  
Primary Pathway Investigation at Keep on Trucking  
370 8th Avenue, Oakland, California*

## **Introduction**

This report documents the results of Uribe & Associates (U&A) primary pathway investigation activities at Keep on Trucking, 370 8th Avenue, Oakland, California (Figure 1). The site is leased to Keep on Trucking (KOT) by the Port of Oakland (Port) and is used as a trucking yard for transporting steel. KOT owned and operated a diesel dispenser attached to aboveground storage tanks. This dispenser system and the associated underground piping has been identified as the source of a diesel release into the adjacent storm drains and ultimately Clinton Basin and the San Francisco Bay. The system has been removed from service. U&A was contracted by the Port to perform investigations into the source and extent of contamination resulting from the diesel release.

U&A prepared a workplan on January 20, 1993 for site investigations to delineate soil and groundwater contamination resulting from the release. On March 4, 1993, the Port submitted the final Workplan to the Alameda County Health Care Services Agency (ACHCSA). The Workplan incorporated ACHCSA comments and included investigations into the source area, active and inactive storm drain systems, and upgradient areas. Separate reports will be submitted for the subsequent phases of the Workplan.

This report documents the source area primary pathway investigation performed on February 12, 1993. Soils were excavated from around the underground piping leading from the aboveground storage tank to the dispenser island in an attempt to locate the precise location of the leak in the underground piping and to identify primary pathways of diesel migration through the surrounding soil layers to the storm drain lines. The investigation included the following tasks:

- soil excavation,
- pipe pressure test,
- removal of contents of the underground storage tank discovered during excavation,
- soil and water sample collection, and
- sample analysis.

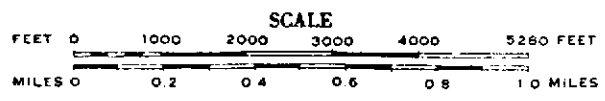
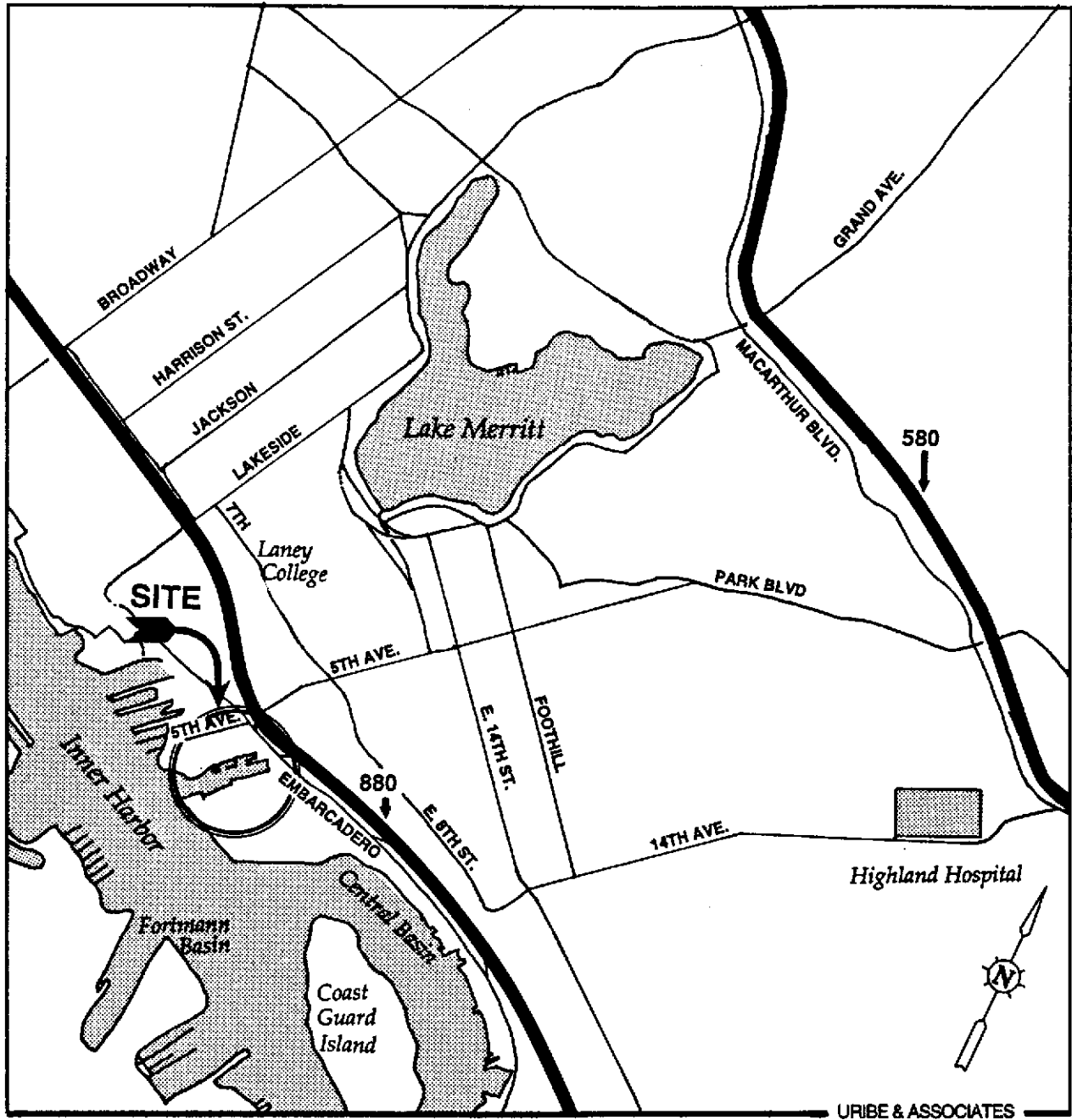


Figure 1: Location Map

## Project History

Diesel contamination was first noticed in the Clinton Basin by the United States Coast Guard in late October, 1992. The Port soon discovered that the diesel was present in the storm drains at the Ninth Avenue Terminal. The remediation of the storm drains began immediately. Subsequent investigations by the Port identified the source of the diesel to be underground piping associated with an aboveground diesel storage tank fueling station located at a trucking business at 370 8th Avenue area called KOT.

The fueling station identified as being the source of the release was removed from service on December 30, 1992. A detailed chronology of the storm drain clean-up and of events leading to the contamination source discovery is provided in the *Source Investigation Summary and Workplan to Delineate Soil and Groundwater Contamination*, prepared by U&A on January 20, 1993. A brief synopsis of events is provided here:

- 10/21/92      Coast Guard notifies Port of a diesel spill into Clinton Basin.
- 11/2/92        Port discovers diesel in storm drains at the Ninth Avenue Terminal.
- 11/6/92        The Port begins removing diesel from storm drains into vacuum trucks, and on 11/19/92 into on-site storage tanks.
- 11/20/92      Testing and Technology conducted a precision tightness test on the KOT fuel line. The test indicated that the system was not leaking. Inventory reconciliation conducted by KOT also indicated no leakage.
- 12/16/92      Investigations into the source discover diesel accumulation in an isolated portion of the storm drain near a fuel dispensing system in the KOT yard.
- 12/29/92      Red dye is introduced into the fuel dispensing system and appears in the storm drain the following day.
- 12/30/92      The system is removed from service.
- 1/20/93        U&A submits Workplan to the Port to verify the source and delineate the extent of contamination.
- 2/12/93        Excavation of the underground piping and source area is conducted.
- 3/4/93         Addendum to Workplan submitted to ACHCSA.

The second pipe observed going underground near the fuel dispenser led to the discovery of a previously unknown underground storage tank (UST). The pipe was apparently a vent line for the UST. An old product line for the UST led to the dispenser but was not connected. The product line was removed; all other pipes were left in place. A port hole on the top of the tank was open, and the tank was full-to-overflowing with diesel. U&A arranged for a vacuum truck to remove the contents (approximately 1000 gallons of diesel product). The top of the UST became the lowest point of the excavation, approximately four feet below the concrete apron. The UST will be removed as part of this investigation; however, a separate report will be submitted documenting its removal.

A total of three 4-foot by 4-foot sections of concrete were removed in addition to the 3-foot by 3-foot fuel dispenser concrete foundation. The excavation ultimately covered approximately 60 square feet to a depth of four feet. The pit will not be backfilled until after the UST has been removed. All excavated soils were stockpiled on-site and covered with visquine or placed in 15-cubic yard capacity waste bins for temporary onsite storage.

Riedel Environmental Services personnel continue to periodically pump fluid which collects in the excavation into the on-site Baker tank.

### Fuel Line Pressure Test

In order to determine the potential volume of diesel released from the pinhole leak discovered in the fuel line, U&A personnel detached the fuel line from the aboveground storage tank. A water hose in its place was connected to the pipe upstream of the detected hole. Water was pumped through the hose into the fuel line. Figure 2 shows the leaking portion of the pipe with a faintly visible water stream emitting from the pinhole. A steady pressure of approximately two to four pounds per square inch was maintained with the water to simulate the hydrostatic pressure assumed if the aboveground storage tank were full of fluid.

### Sampling Activities

Five soil samples were collected from the excavation on February 12, 1998 (Figure 3). In addition, two liquid samples were collected from the contents of the tank. One of the liquid sample containers broke during transportation to the laboratory. The other sample was analyzed and determined to be pure diesel. Table 1 summarizes the

*under tank?*

Further investigations are planned to excavate portions of the storm drain and cannery line to determine possible diesel migration routes. Planned soil borings are intended to determine the degree to which the clay layer has acted as a barrier to the contamination.

### **Site Activities**

This portion of the site investigation consisted of the excavation of soils surrounding the fuel lines beneath the concrete apron at the KOT fueling station. The area is referred to in the Workplan as the "source area primary pathway." The purpose of the excavation was to locate the leak in the underground piping and to evaluate the possible diesel migration pathways toward the storm drain. Soil samples were taken to determine the extent of contamination at the source. During the excavation activities, U&A personnel maintained communications with KOT to avoid disrupting business activities as much as possible.

### **Excavation**

On February 12, 1993, the underground fuel lines connected to the dispenser were excavated. The excavation was designed not to remove all contamination, but rather to keep the piping in place and characterize the source area. Vickers Concrete cutters cut the 9-inch thick reinforced concrete apron into removable 4-foot by 4-foot sections. Bay Area Tank and Marine personnel used a hand-held jackhammer to remove the first section of concrete and a backhoe for the subsequent sections. The soils were excavated with shovels as directed by on-site U&A personnel. The dispenser and surrounding chain-link fence were removed by Bay Area Tank and Marine personnel to gain access to the targeted area. Excavated soils were placed on visquine adjacent to the pit and covered at the end of the day. The pit was also covered at the end of the day with wooden boards, trench plates, and visquine anchored with sand bags.

Riedel Environmental Services personnel broke up the removed concrete sections into rubble on March 5 with a jackhammer attached to a backhoe, and removed it from the site on March 11. The excavated soil was placed in a waste bin and temporarily stored on site.

Two pipes were observed going into the ground at the source location. One was the 2-inch diameter fuel line for the dispenser which ran 1 to 2 feet underground for a distance of approximately 10 feet. A pinhole leak was observed midway between the fuel line's entry into the ground and the dispenser. No other leaks were observed.





**Figure 2: Photographs of Leak in Exposed Underground Dispenser Line**

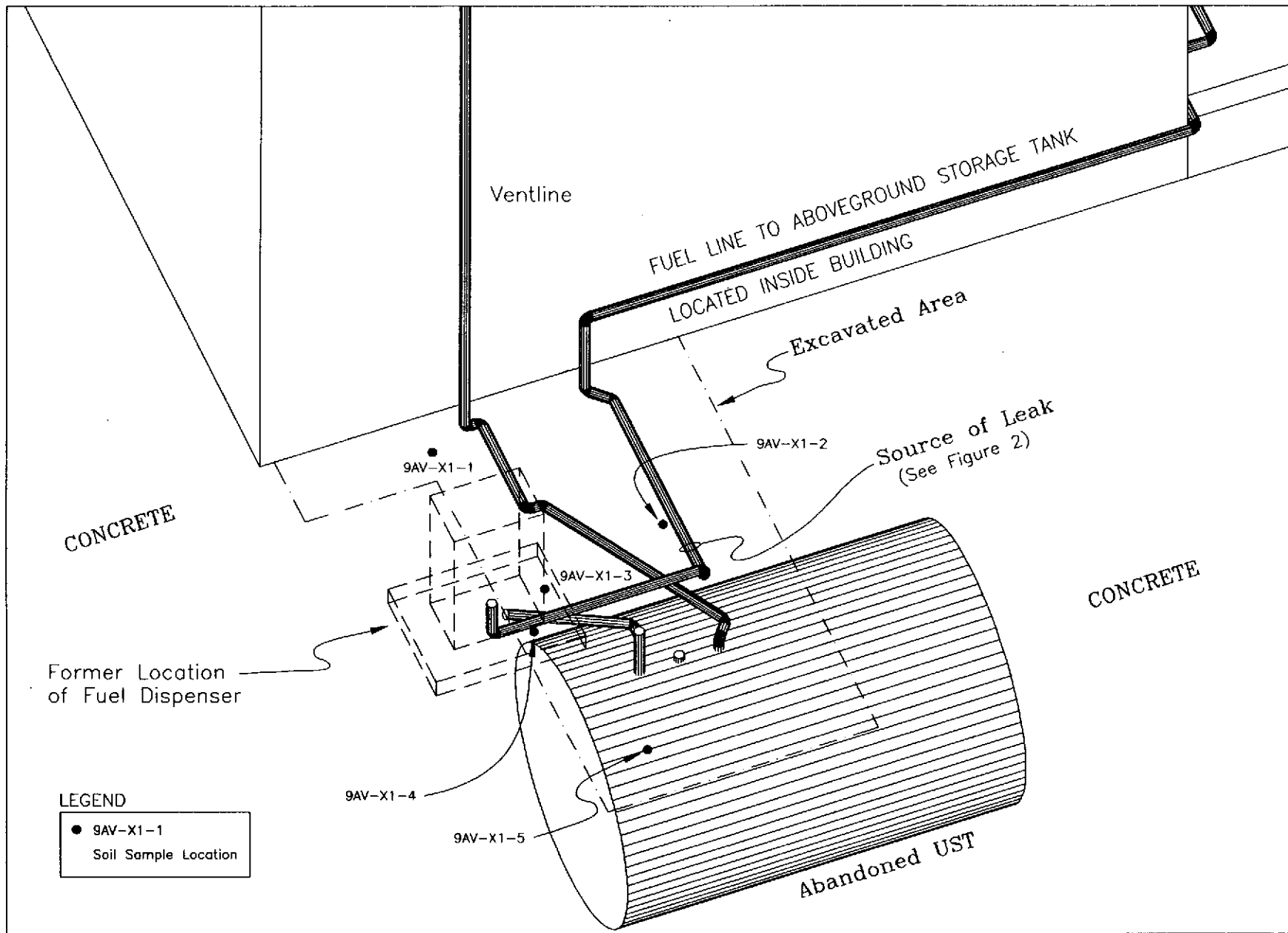


Figure 3: Extent of Excavation and Sample Locations

analysis results. Table 2 provides sample location and soil type information for each sample. Original Laboratory Data Sheets are included in Appendix A.

## Results

### Sampling Activities

Visibly contaminated soils were observed from directly beneath the concrete apron to the bottom of the excavation. Soil sample 9AV-X1-4 taken from the sand and clay directly beneath the dispenser contained the highest levels of diesel (130,000 mg/kg) and BTEX (85 mg/kg p,m-xylenes) found in the soil. **The contents of the UST were analyzed as 1,000,000 mg/kg diesel (i.e., pure diesel).** Complete sample results are contained in Table 1. Sample locations are shown in Figure 2 and described in Table 2. Groundwater samples were not collected during this phase of the investigation.

### Excavation

A layer of brown gravelly fill was observed beneath the concrete apron to approximately 2 to 2.5 feet deep. This layer was underlain by a greenish-gray clay continuing to the base of the excavation. Sand was observed surrounding the pipe fittings beneath the dispenser. As part of the search for the source of the diesel release, a red dye was placed in the underground piping. The exposed sand was stained red from this dye testing. Much of the excavated soil excluding the relatively impermeable clay was stained red from the dye test and had a heavy hydrocarbon smell.

**Table 1: Summary of Results for Samples  
Collected on 2/12/93  
Concentrations in mg/kg**

Sample Number	Diesel	Benzene	Toluene	Ethylbenzene	p,m-xylenes	o-xylenes
<i>Soil</i>						
9AV-X1-1	36,000	2.0	12	4.4	13	6.2
9AV-X1-2	3,800	0.78	5.7	1.6	9.8	4.9
9AV-X1-3	600	0.93	8.8	3.1	18	8.9
9AV-X1-4	130,000	9.8	81	30	85	44
9AV-X1-5	48,000	1.8	14	4.4	13	7.0
<i>Liquid</i>						
9AV-UST-2	1,000,000	NA	NA	NA	NA	NA
<p><i>Sample 9AV-UST-2 was also tested for salinity (EPA 120.1). The results were &lt;1 practical salinity scale (pss). NA = Not Analyzed</i></p>						

**Table 2: Location and Soil Type of Soil Samples  
Collected on 2/12/93**

Sample Number	Sample Location	Soil Type
9AV-X1-1	Surface directly below concrete southwest of dispenser	brown gravelly dirt
9AV-X1-2	1' - 1.5' below surface near product line near dispenser	brown gravelly dirt
9AV-X1-3	0.5' below dispenser	sand
9AV-X1-4	1.5' - 2.5' below the product line	sand with clay
9AV-X1-5	3' depth 2' north of dispenser	mud, sand, and silt

### **Fuel Line Pressure Test**

Fuel line pressure tests conducted with water produced a steady stream emanating from a pinhole leak approximately four feet from the wall of the building which houses the aboveground storage tanks. The pinhole leak was verified as the only contamination source through volume/rate calculations performed by U&A personnel. A pressure gauge was attached to the garden hose, and a steady pressure of two to four pounds per square inch was maintained on the pipe. At this pressure, three gallons of fluid were collected in an hour from the leak. This would allow approximately 72 gallons to be released per day.

The steady pressure of two to four pounds per square inch was based on a calculation of the maximum and minimum hydrostatic pressure exerted by the diesel fueling system [pressure (force per unit area) is equivalent to the height of the diesel fluid multiplied by the specific weight of the diesel]. The maximum pressure of approximately four pounds per square inch was calculated assuming that the AST was full of diesel. The minimum pressure of approximately 1.5 pounds per square inch was calculated by assuming that the AST was empty but the underground fuel line remained full from the tank outlet to the dispenser.

Approximately 100 gallons per day of diesel were collected from the storm drain during the search for the source of the release. This amount corresponds within a reasonable margin of error to the amount collected from the single pinhole leak found in the fuel line. This information, coupled with the presence of the red dye, identified the leak as the sole source of diesel release.

### **Conclusions**

The source area primary pathway investigation verified the leak in the underground piping of the fuel dispensing system at KOT. The soils surrounding the underground piping were saturated with red dye and diesel. Volume/rate calculations verified that enough diesel could have escaped the fuel dispensing system from this one hole to match the volume of diesel accumulated during the clean-up activities. These calculations characterized the pinhole leak as the sole source of diesel release.

In addition, the investigation discovered a previously unknown UST approximately four feet below the concrete apron which was full-to-overflowing with diesel. A bung was

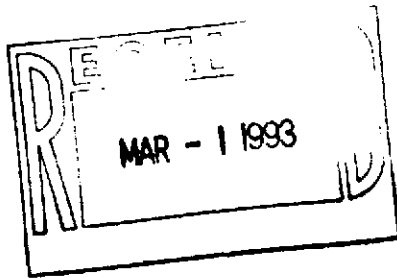
open on the top of the UST allowing it to act as a catch basin for the diesel leaking from the fuel line until it filled completely. The UST is not suspected as a source for the diesel release. *why?*

The excavation exposed heterogeneous layers of clay and sand around the underground piping and in the storm drain trench. The sand was stained red from the dye used to verify the release source, suggesting that diesel may have used the sand in the surface fill as a conduit for migration toward the storm drain. The underlying greenish clay layer appeared not to be stained with red dye and may have acted as a partial barrier to vertical migration. The exact migration pathway is still undetermined.

**Appendix A**

**Laboratory Reports and Chain of Custody Forms**

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



**Clayton**  
ENVIRONMENTAL  
CONSULTANTS

February 26, 1993

Mr. Alan White  
URIBE & ASSOCIATES  
2930 Lakeshore Avenue, Ste. 200  
Oakland, CA 94610

Client Ref. 96-203  
Clayton Project No. 93021.86

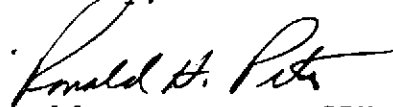
Dear Mr. White:

Attached is our analytical laboratory report for the samples received on February 16, 1993. BTEX results are not provided for sample 9AV-UST-2 due to the high concentration of diesel present in this sample. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

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

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

Sincerely,

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

RHP/caa  
Attachments



Results of Analysis  
for  
Uribe & Associates/ Port of Oakland

Client Reference: 96-203  
Clayton Project No. 93021.86

Sample Identification:	9AV-X1-1	Date Sampled:	02/12/93
Lab Number:	9302186-01A	Date Received:	02/16/93
Sample Matrix/Media:	SOIL	Date Extracted:	02/18/93
Extraction Method:	EPA 5030	Date Analyzed:	02/24/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
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BTEX

Benzene	71-43-2	2.0	0.005
Toluene	108-88-3	12	0.005
Ethylbenzene	100-41-4	4.4	0.005
p,m-Xylenes	---	13	0.005
o-Xylene	95-47-6	6.2	0.005

<u>Surrogates</u>	Recovery (%)	QC Limits (%)	
		LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	107	50 - 150

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

Results of Analysis  
for  
Uribe & Associates/ Port of Oakland

Client Reference: 96-203  
Clayton Project No. 93021.86

Sample Identification:	9AV-X1-2	Date Sampled:	02/12/93
Lab Number:	9302186-02A	Date Received:	02/16/93
Sample Matrix/Media:	SOIL	Date Extracted:	02/18/93
Extraction Method:	EPA 5030	Date Analyzed:	02/24/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
---------	-------	--------------------------	----------------------------------

BTEX

Benzene	71-43-2	0.78	0.005
Toluene	108-88-3	5.7	0.005
Ethylbenzene	100-41-4	1.6	0.005
p,m-Xylenes	---	9.8	0.005
o-Xylene	95-47-6	4.9	0.005

<u>Surrogates</u>	Recovery (%)	QC Limits (%)	
		LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	97	50 - 150

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

Results of Analysis  
for  
Uribe & Associates/ Port of Oakland

Client Reference: 96-203  
Clayton Project No. 93021.86

Sample Identification:	9AV-X1-3	Date Sampled:	02/12/93
Lab Number:	9302186-03A	Date Received:	02/16/93
Sample Matrix/Media:	SOIL	Date Extracted:	02/18/93
Extraction Method:	EPA 5030	Date Analyzed:	02/24/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>BTEX</u>			
Benzene	71-43-2	0.93	0.005
Toluene	108-88-3	8.8	0.005
Ethylbenzene	100-41-4	3.1	0.005
p,m-Xylenes	---	18	0.005
o-Xylene	95-47-6	8.9	0.005

<u>Surrogates</u>	CAS #	<u>Recovery (%)</u>	<u>QC Limits (%)</u>	
			LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	103	50 - 150	

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

Results of Analysis  
for  
Uribe & Associates/ Port of Oakland

Client Reference: 96-203  
Clayton Project No. 93021.86

Sample Identification:	9AV-X1-4	Date Sampled:	02/12/93
Lab Number:	9302186-04A	Date Received:	02/16/93
Sample Matrix/Media:	SOIL	Date Extracted:	02/18/93
Extraction Method:	EPA 5030	Date Analyzed:	02/25/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
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BTEX

Benzene	71-43-2	9.8	0.005
Toluene	108-88-3	81	0.005
Ethylbenzene	100-41-4	30	0.005
p,m-Xylenes	---	85	0.005
o-Xylene	95-47-6	44	0.005

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>	
			LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	110	50 - 150	

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

Results of Analysis  
for  
Uribe & Associates/ Port of Oakland

Client Reference: 96-203  
Clayton Project No. 93021.86

Sample Identification:	9AV-X1-5	Date Sampled:	02/12/93
Lab Number:	9302186-05A	Date Received:	02/16/93
Sample Matrix/Media:	SOIL	Date Extracted:	02/18/93
Extraction Method:	EPA 5030	Date Analyzed:	02/24/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
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BTEX

Benzene	71-43-2	1.8	0.005
Toluene	108-88-3	14	0.005
Ethylbenzene	100-41-4	4.4	0.005
p,m-Xylenes	---	13	0.005
o-Xylene	95-47-6	7.0	0.005

<u>Surrogates</u>	CAS #	<u>Recovery (%)</u>	<u>QC Limits (%)</u>	
			LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	103	50 - 150	

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

Results of Analysis  
for  
Uribe & Associates/ Port of Oakland

Client Reference: 96-203  
Clayton Project No. 93021.86

Sample Identification: METHOD BLANK  
Lab Number: 9302186-08A  
Sample Matrix/Media: SOIL  
Extraction Method: EPA 5030  
Analytical Method: EPA 8020  
Date Sampled: --  
Date Received: --  
Date Extracted: 02/18/93  
Date Analyzed: 02/24/93

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

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

Results of Analysis  
for  
Uribe & Associates/ Port of Oakland

Client Reference: 96-203  
Clayton Project No. 93021.86

Sample Matrix/Media: SOIL  
Preparation Method: EPA 3550  
Analysis Method: EPA 8015

Date Received: 02/16/93  
Date Prepared: 02/18/93  
Date Analyzed: 02/22/93

Lab Number	Sample Identification	Date Sampled	Diesel (mg/kg)	Detection Limit (mg/kg)
01A	9AV-X1-1	02/12/93	36,000	1
02A	9AV-X1-2	02/12/93	3,800	1
03A	9AV-X1-3	02/12/93	600	1
04A	9AV-X1-4	02/12/93	130,000	1
05A	9AV-X1-5	02/12/93	48,000	1
08A	METHOD BLANK	--	ND	1

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

Results are reported on a wet weight basis, as received

Results of Analysis  
 for  
 Uribe & Associates/ Port of Oakland

Client Reference: 96-203  
 Clayton Project No. 93021.86

Sample Matrix/Media: LIQUID                      Date Received: 02/16/93  
 Preparation Method: EPA 3580                      Date Prepared: 02/22/93  
 Analysis Method: EPA 8015                      Date Analyzed: 02/22/93

Lab Number	Sample Identification	Date Sampled	Diesel (mg/kg)	Detection Limit (mg/kg)
07A	9AV-UST-2	02/12/93	1,000,000	50
09A	METHOD BLANK	--	ND	50

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







URIBE & ASSOCIATES  
 293 KESH AV  
 SUITE TWO HUNDRED  
 OAKLAND, CALIFORNIA 94610  
 510-832-2233  
 FAX 510-832-2237

CHAIN OF CUSTODY RECORD

9302186

PROJ. NO.		PROJECT NAME					NC. OF CONTAINERS	ANALYSIS			REMARKS	CHECK IF RUSH
96-203 (U&A)		9th Avenue Investigation						TPH Diesel EPA 8015 modified	BTEX EPA 8020	SALINITY EPA 8010		
SAMPLERS: (Signature)												
Gary Hoodemote												
NO	DATE	TIME	COMP	GRAB	SAMPLE I.D.							
1	2/12/93	11:10am		K	9AV-X1-1 F	1 brass	X	X	X		Soil	
2	2/12/93	11:45		X	9AV-X1-2	1 brass	X	X	X		Soil	
3	2/12/93	12:45		X	9AV-X1-3	1 brass	X	X	X		Soil	
4	2/12/93	12:46		X	9AV-X1-4	1 brass	X	X	X		Soil	
5	2/12/93	2:10		X	9AV-X1-5	1 brass	X	X	X		Soil	
* 6	2/12/93	4:30		X	9AV-VST-1	1 brass	X	X	X		Called Kilduff Tues. AM - Liquid	
7	2/12/93	4:30		X	9AV-VST-2 (Dup.)	1 glass	X	X	X		Called Kilduff Tues. AM - Liquid	
						1 glass					concerning additional analyses on liquids	
* BROKE IN THE LOBBY @ URIBE ASSOC.												

~~CHAIN OF CUSTODY~~  
 DATE/TIME 2/16/93 3:20pm  
 RECEIVED BY: Terry Salas  
 RELEASED BY: [Signature]

Relinquished by: (Signature) Gary Hoodemote ①	Date/Time 2/12/93 5:10pm	Received by: (Signature) [Signature] ②	Relinquished by: (Signature) Jim Mitchell ⑦	Date/Time 2/16/93 1516	Received by: (Signature) [Signature] ⑧
Relinquished by: (Signature) [Signature] ③	Date/Time 2/14/93 14:15	Received by: (Signature) [Signature] ④	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature) [Signature] ⑤	Date/Time 2/16/93 14:16	Received by: (Signature) Jim Mitchell ⑥	Date/Time 2/16/93 14:16	NAME EDKILDUFF URIBE ASSOCIATES ADDRESS 2930 LAKE SHORE AVE, OAKLAND CA PHONE NO 510 832 2237	



10-12-94 REMOVAL OF  
STD 3335 OVER 1' S



10-12-94 STOCKPILE  
STD 3335 APPROX 20 YD<sup>3</sup>



10-12-94 TANK IN PLACE W/  
STD 3335 SITING  
RWESTON