Submitted to
Port of Oakland
530 Water Street, Oakland, California 94607

Source Investigation Summary and Workplan to Delineate Soil and Groundwater Contamination

January 20, 1993

Prepared by

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Port of Oakland
Ninth Avenue Terminal

Keep on Tracking
370 8th Ave, Oakland 94606

Source Investigation Summary

and

Workplan to Delineate Soil and Groundwater Contamination

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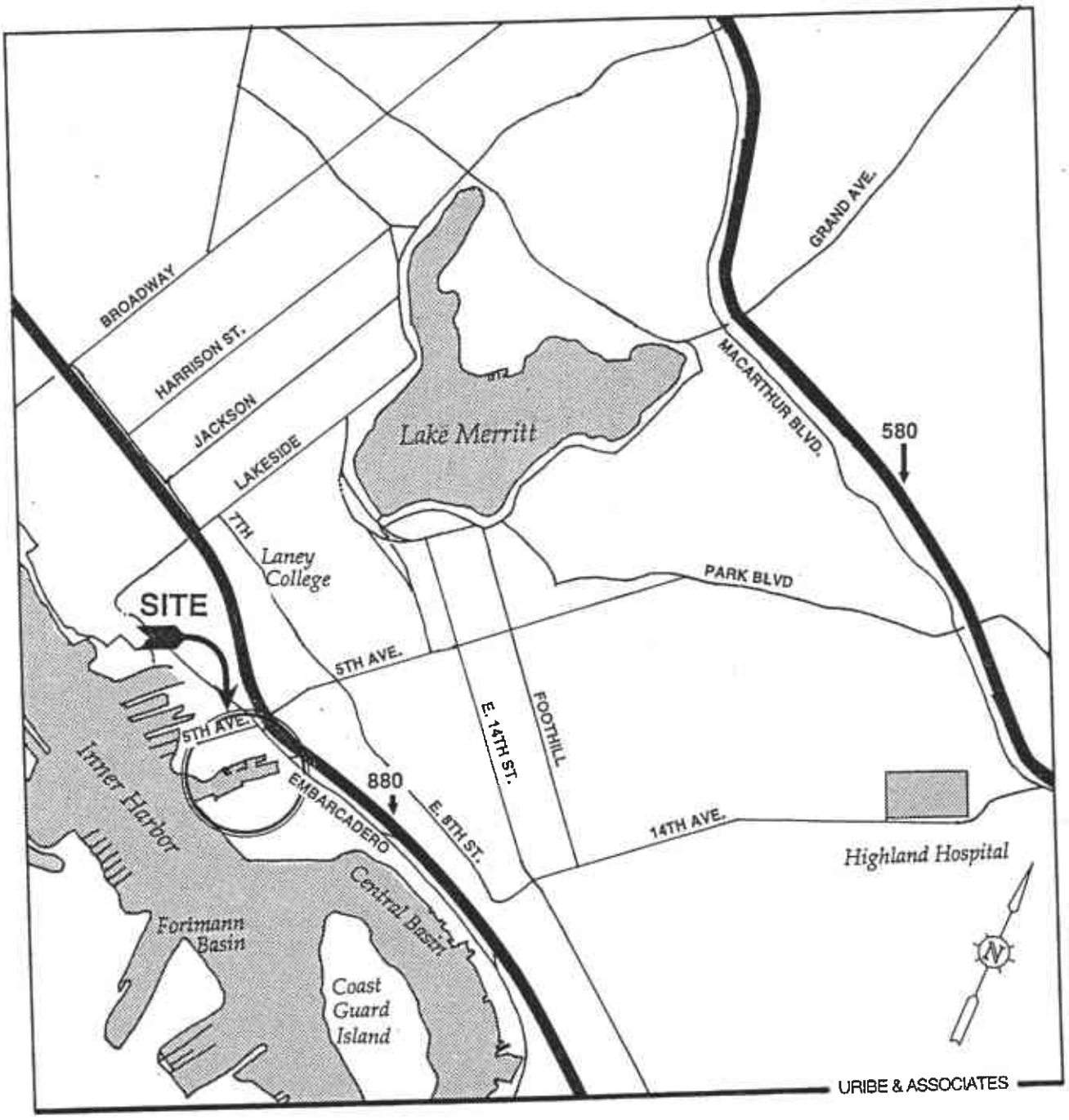


Figure 1: Location Map

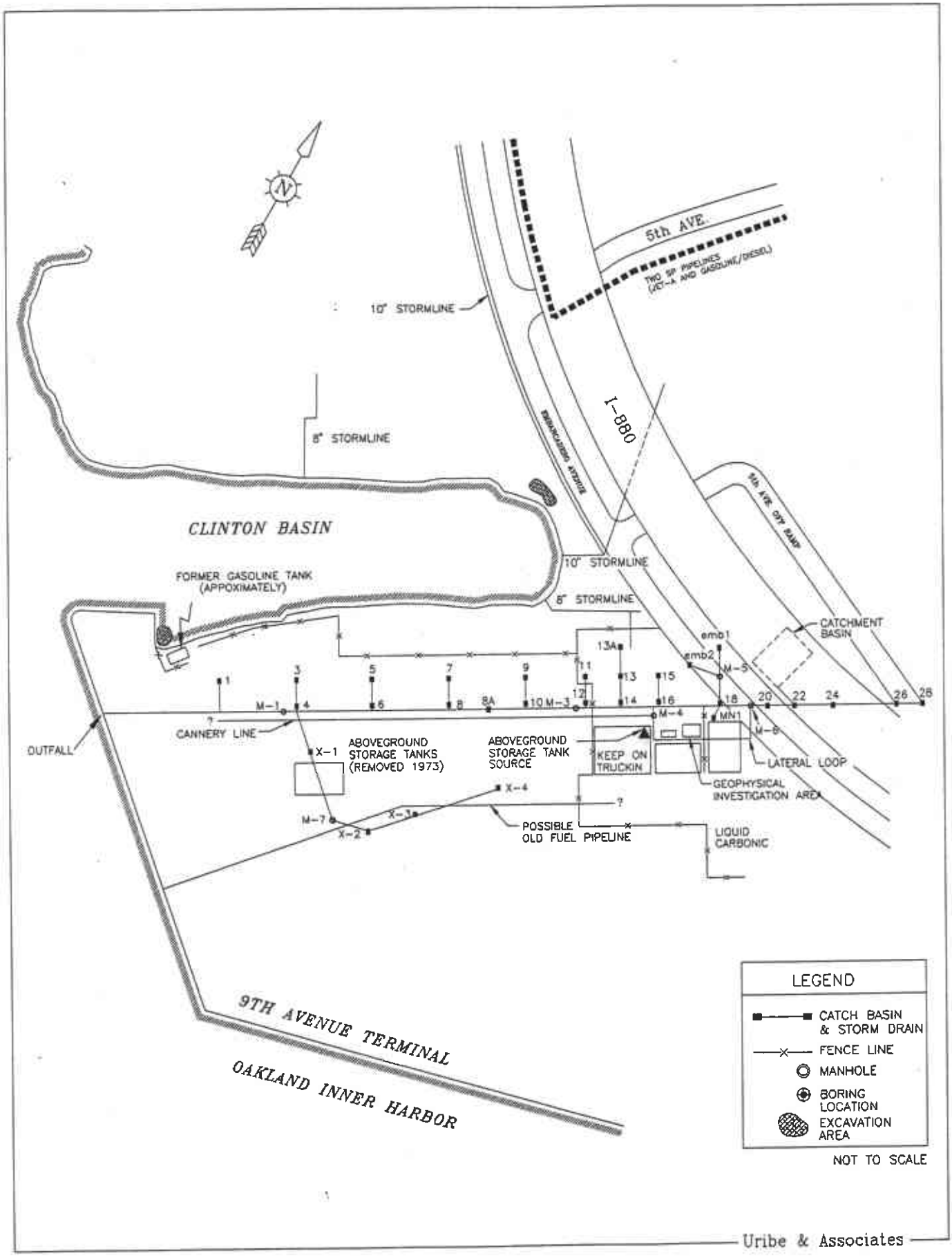


Figure 1-2: Detailed Map of Project Area

EXECUTIVE SUMMARY

The Port of Oakland has conducted an investigation into the source of diesel contamination found in the Oakland Inner Harbor near the Ninth Avenue Terminal. The diesel contamination in the estuary was first noticed in late October, 1992. The Port soon discovered that the diesel was present in storm drains at the Terminal, and subsequent investigation by the Port has shown that the source of the diesel is an aboveground storage tank and underground piping associated with a fueling system at a trucking business in the Ninth Avenue Terminal area. The business is called *Keep on Truckin'*, located at 370 8th Avenue. KOT is a tenant of the Port of Oakland, and it owns and operates its own fueling system. The fueling system was removed from service by KOT on December 30, the same day that the results of a dye test indicated that it was the source.

At this time, diesel (10 milligrams/kilogram maximum) has been encountered in one of twelve borings conducted by the Port and has not been detected in the groundwater. The Port is planning a thorough investigation of the soils and groundwater in the area to assess the levels and extent of contamination that may have occurred as a result of the diesel release. The Port's continuing investigation will include additional surveys of storm drains, further excavations, and cone penetrometer surveys (or borings). For both soil and groundwater, the Port will use concentrations of diesel to assess whether the release has impacted the area. Diesel concentrations in soil and concentrations of benzene, toluene, ethylbenzene, and xylene in water will be compared to guidance from the 1990 Leaking Underground Fuel Tank (LUFT) Manual to determine the extent and severity of contamination, if present.

1.0 Introduction

This document presents the current findings of an investigation being conducted at the Ninth Avenue Terminal at the Port of Oakland. In addition, it specifies further investigation measures that are needed at the site. One of the objectives of the investigation to date has been to identify the source of hydrocarbon contamination entering the Oakland Inner Harbor near the Ninth Avenue Terminal. Laboratory results obtained by both the Coast Guard and the Port of Oakland confirmed that the hydrocarbon entering the estuary was diesel. Subsequent investigation showed that diesel was entering the estuary from the storm drains at the Ninth Avenue Terminal. The source of the diesel leaking into the storm drain has now been identified as the fueling system at a truck yard adjacent to Terminal. The focus of this investigation will now become determining the extent of soil and groundwater contamination.

Figure 1-1 shows the general project area. Figures 1-2 and 1-3 provide more detail on the area, particularly on the storm drain system in Ninth Avenue Terminal. The findings and further investigation plans for this project are presented in this document in the following order:

- Chapter 2: Source Investigation Summary - provides a detailed description of the events and data involved in identifying the source of the diesel contamination. The source is underground piping from an aboveground storage tank (AST) located at a trucking business called *Keep on Truckin'* (KOT). This business lies adjacent to the Ninth Avenue Terminal. KOT leases its property from the Port of Oakland, and operates its own fueling system.

- Chapter 3: Workplan to Delineate Soil and Groundwater Contamination - identifies the objectives to guide further investigation at the site and outlines the steps and procedures that are planned for determining the areal extent and levels of soil and groundwater contamination resulting from the release of diesel fuel from the KOT site.

In addition, a full project chronology is located in Appendix A. Laboratory results, boring permits, and boring logs are shown in additional appendices.

This workplan has been prepared on behalf of the Port of Oakland by Uribe & Associates (U&A), a Port contractor. U&A, along with other Port of Oakland contractors, assisted personnel from the Port of Oakland in investigating the source of the diesel contamination; however, this workplan will use the word "Port" to refer to all investigation work conducted by personnel from the Port of Oakland or its contractors.

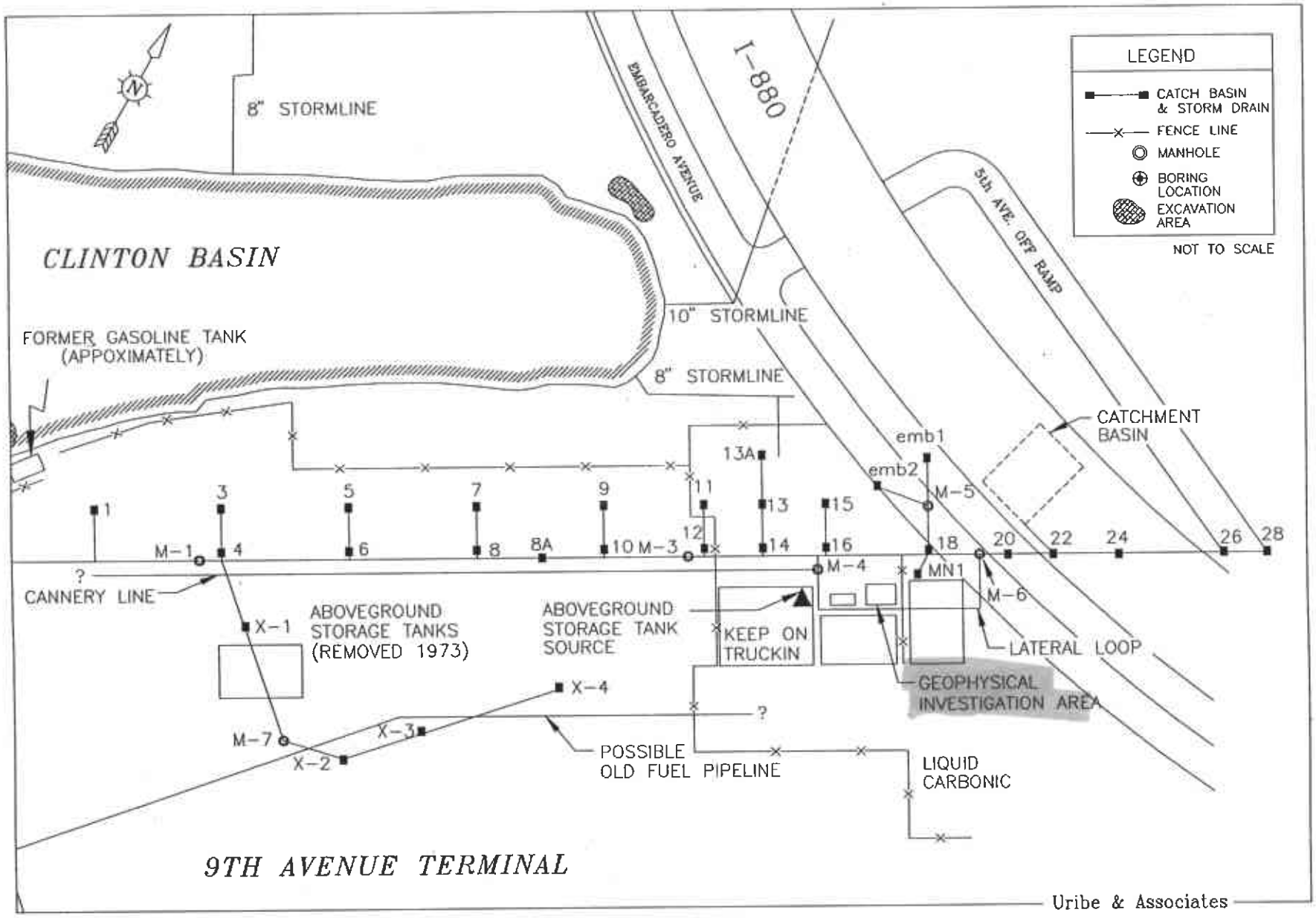


Figure 1-3: Detailed Map of Keep on Trucking Area

2.0 Source Investigation Summary

During the investigation of the Ninth Avenue Terminal, the Port performed the following tasks:

- Excavated two areas of the Clinton Basin shoreline to investigate suspected source areas.
- Drilled 12 borings and collected soil and groundwater samples in an effort to locate the diesel source and collect data on possible subsurface hydrocarbon transport pathways.
- Performed a geophysical survey to investigate a possible hydrocarbon source in the KOT truck yard where abandoned underground storage tanks (USTs) were believed to be located.
- Cleaned and video taped storm drains to assess the general condition of the drains and identify possible locations where the diesel was entering.
- Conducted a dye trace test on the AST at KOT to confirm that it was releasing diesel into an adjacent storm drain lateral.

2.1 Summary of Findings

The major finding of the investigation has been that the source of the diesel contamination is the AST and underground fuel line located at the KOT site. The fuel line was removed from service by KOT on December 30. Based upon current investigation data, the diesel contamination of the soil and groundwater does not appear to be extensive. Diesel was detected in the soil near the source, but has not been detected elsewhere. The following subsections describe the source in more detail and also describe the results of borings conducted during the investigation.

2.1.1 Source Details

Early in the Ninth Avenue investigation, the AST at the KOT site had been a suspected source for the diesel contamination. However, the Port eliminated it from suspicion when the AST and associated underground fuel line passed a precision tightness test on November 20, 1992. On December 16, the Port again began to suspect the AST fuel system when the storm drain lateral (lateral loop) near the AST was investigated. During cleaning, the lateral loop appeared to contain a large concentration of diesel. In addition, fresh diesel appeared to be entering the line. Videos of the lateral loop taken on December 16 showed a break in the line and fluid entering the drain from the break and from joints in the drain pipe.

Dye testing of the KOT fuel system conducted on December 29 and 30 indicated that KOT's diesel fuel was entering the storm drain. The Port added red xylene-based dye to KOT's AST at 16:00 on Tuesday, December 29. KOT continued to operate normally during the remainder of that day. At 8:00 the following morning, 16 hours after the dye had been introduced to the tank, Port contractors noticed the red dye in the storm drains. KOT was notified of this finding at 11:00, and at 13:00 (Wednesday, December 30, 1992), KOT isolated the diesel tank from the underground fuel line by closing a valve leading to the line. The fuel line has remained off except for a brief period during the afternoon of December 30 when the Port collected a diesel sample from the fuel pump. The diesel remained in the AST until Tuesday, January 12, 1993 when it was removed by a mobile pump truck and used by KOT to fuel its trucks.

The fuel line at KOT has not yet been excavated. To ensure that other sources are not present, the Port is visually monitoring the estuary and the storm drains. In addition, the Port has isolated the lateral loop from the storm drain main so that it can continue to be pumped and its contents evaluated in an on-site tank. The volume of diesel collected from the lateral loop is measured from the tank by using fluid level indicators and water indicating paste. Since the time when KOT ceased fueling from its AST, the amount of diesel collected from the lateral loop has decreased substantially (down to less than 10 gallons/week from an approximate maximum of 100 gallons/day). This data indicates that the KOT leak is probably the only diesel source and that the continuing collection of small amounts of fuel in the drain is due to the slow release of diesel from the storage capacity of the surrounding soils. The diesel that continues to collect is red, and no other active supplies of diesel fuel are in the immediate vicinity of the lateral loop or the Ninth Avenue area.

The Port collected samples from the lateral loop that show the results of the dye test. Figure 2-1 shows a picture of three samples of diesel. One sample in Figure 2-1 shows the dyed diesel obtained from the fuel pump at KOT. Another sample, taken from the lateral loop, also shows the red dye and clearly matches the fuel pump sample. The third sample in the photograph shows the natural golden brown color of un-dyed diesel. It was also collected from the lateral loop at the same time as the red sample. The brown sample, however, was collected in a different section of the lateral loop. It probably entered the drain prior to the dye test and had not yet mixed with the red diesel that entered the lateral loop during the test.

Given the results of the dye test, it is unclear why the precision tightness test conducted on KOT's fuel system on November 20 failed to indicate a leak. A copy of the tightness test results are provided in Appendix B. Figure 2-2 indicates the location of the lateral loop and the location of the AST at KOT.

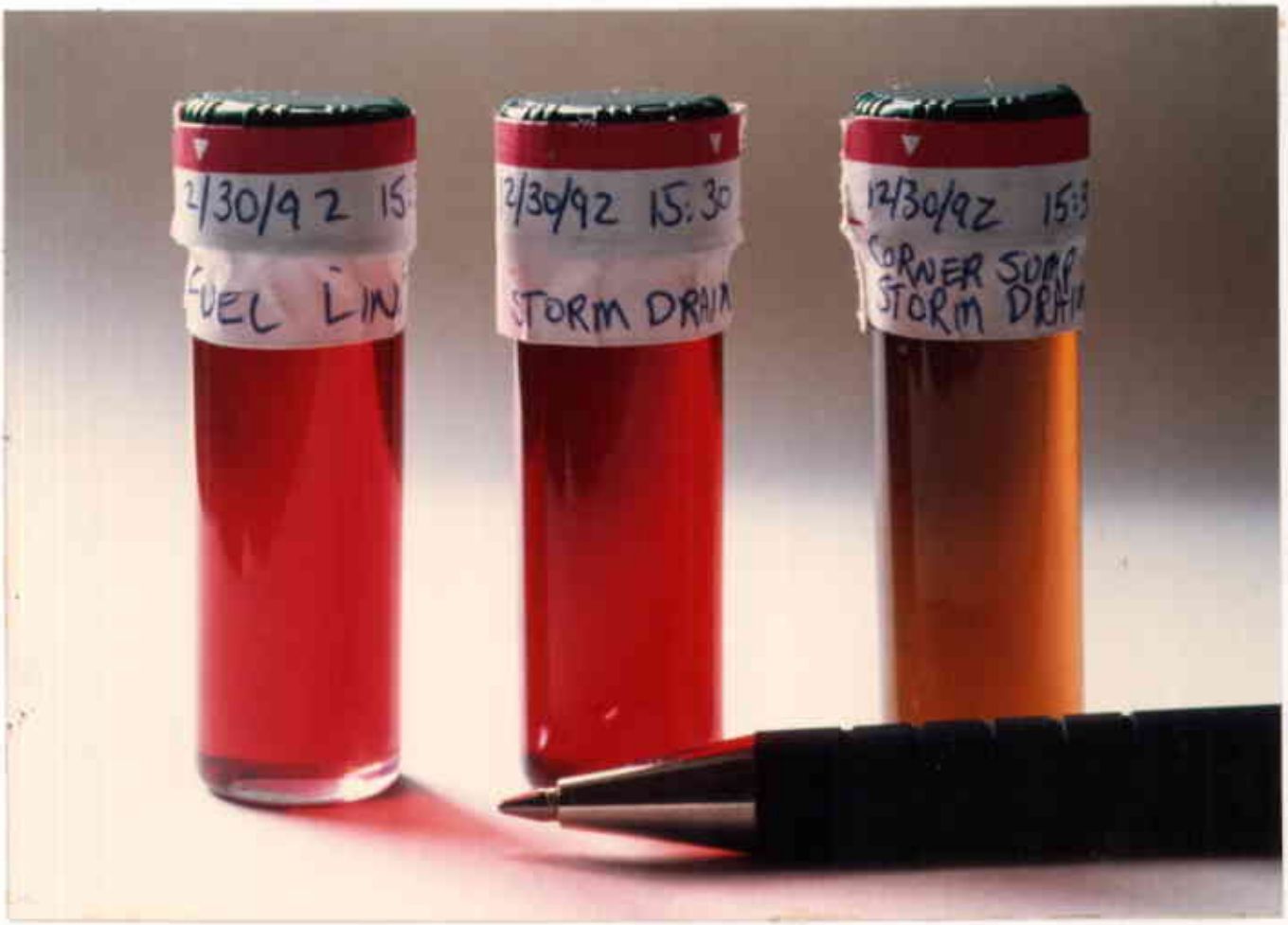


Figure 2-1: Photograph of Diesel Samples Collected from Storm Drains

From left to right:

Left: Red sample of diesel fuel obtained from KOT fuel line

Middle: Red sample of diesel fuel from storm drain (lateral loop)

Right: Un-dyed sample of diesel fuel obtained from storm drain (natural diesel color)

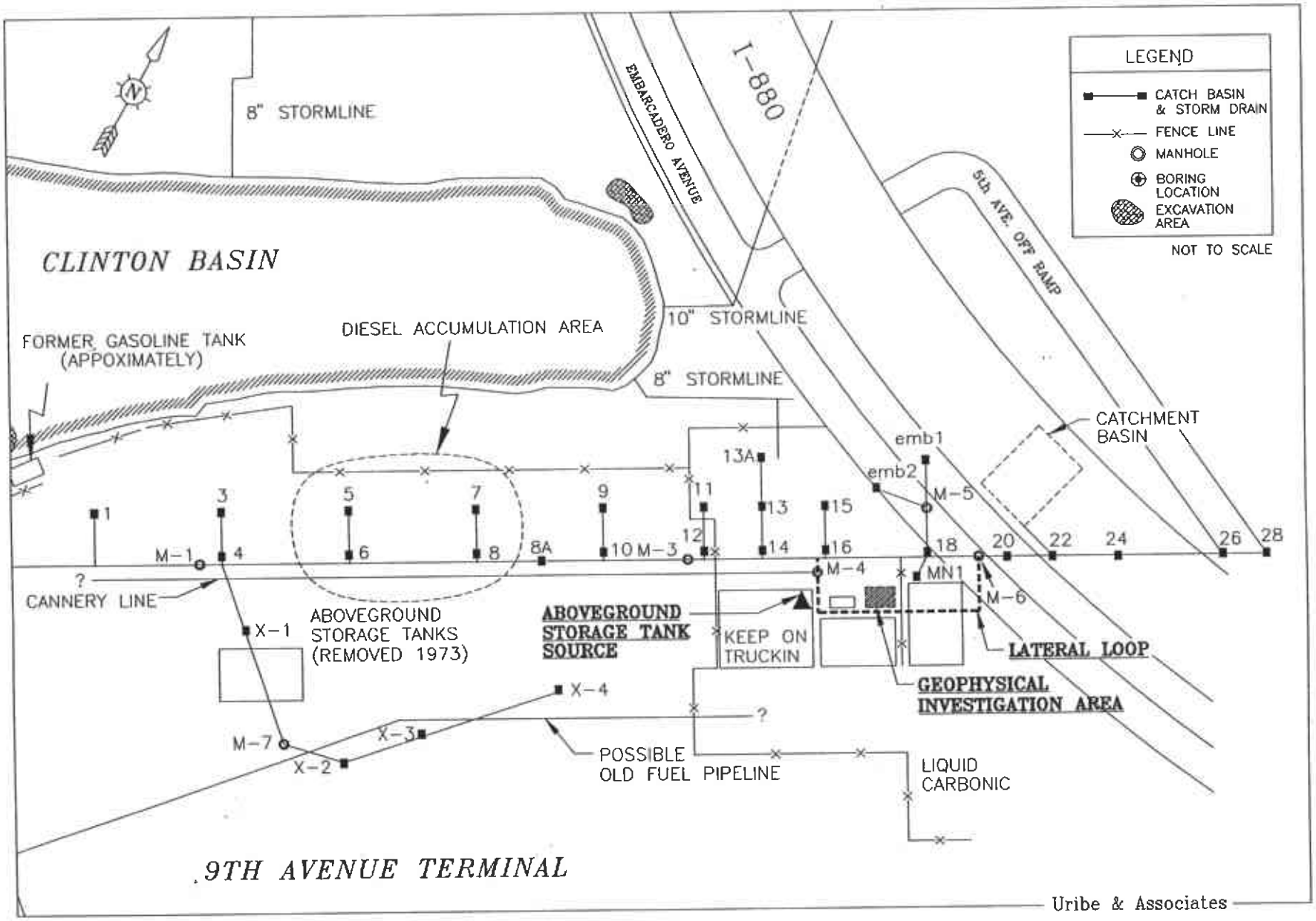


Figure 2-2: Location of Lateral Loop

Figure 2-2 also shows the location of a geophysical survey conducted at the KOT truck yard. It is shown on this figure because it lies near the lateral loop, and at one time it was a primary target of the investigation. After the precision tightness test on the AST, the Port investigated this area when maps indicated that abandoned USTs may be present in the KOT truck yard. Geophysical results indicate that an abandoned UST may be present, but there is no evidence of constituents other than fresh diesel entering the storm drain line. Consequently, the abandoned UST, if present, is not contributing to the release, and as a result, it is not specifically targeted for further investigation in this workplan.

2.1.2 Soil and Groundwater Contamination

During the source investigation, the Port drilled 12 boreholes to collect soil samples. Where groundwater was encountered, water samples were also collected. The laboratory results for these samples for concentrations of diesel and total recoverable petroleum hydrocarbons (TRPH) are shown in Table 2-1. Figure 2-3 shows the location of the borings.

The laboratory results show that diesel contamination in the soil has been found only near the source. No diesel contamination of groundwater has been encountered. Maximum TRPH readings of 640 mg/kg have been recorded in the soil, but this finding may be unrelated to the diesel release or any other release. Some of the detection limits for diesel were above the standard detection limit because of interferences.

2.2 Current Status/Description of Site

Currently, the only storm drains that are plugged (with inflatable packers) and isolated from the main storm drain line are the lateral loop and the cannery line. These lines are indicated on Figure 2-4. The contents of the lateral loop are regularly pumped (every other day), and the lateral loop will continue to be pumped until the flow of diesel into that line has ceased. At that time, the Port will request the Regional Water Quality Control Board (RWQCB) to allow it to remove the packers that isolate the loop from the storm drain main. The cannery line will remain plugged until it can be investigated. At this time, there is no apparent inflow into the cannery line and no known outfall. The storm drain main is open and storm flow from the main and all laterals, except for the lateral loop and the cannery line, discharges into the estuary.

At the Ninth Avenue Terminal yard there are seven 21,000 gallon temporary storage tanks. Four of the seven tanks at the Terminal yard are filled only with storm water runoff that was collected from the storm drain main. A fifth tank, which is also filled with fluid collected from

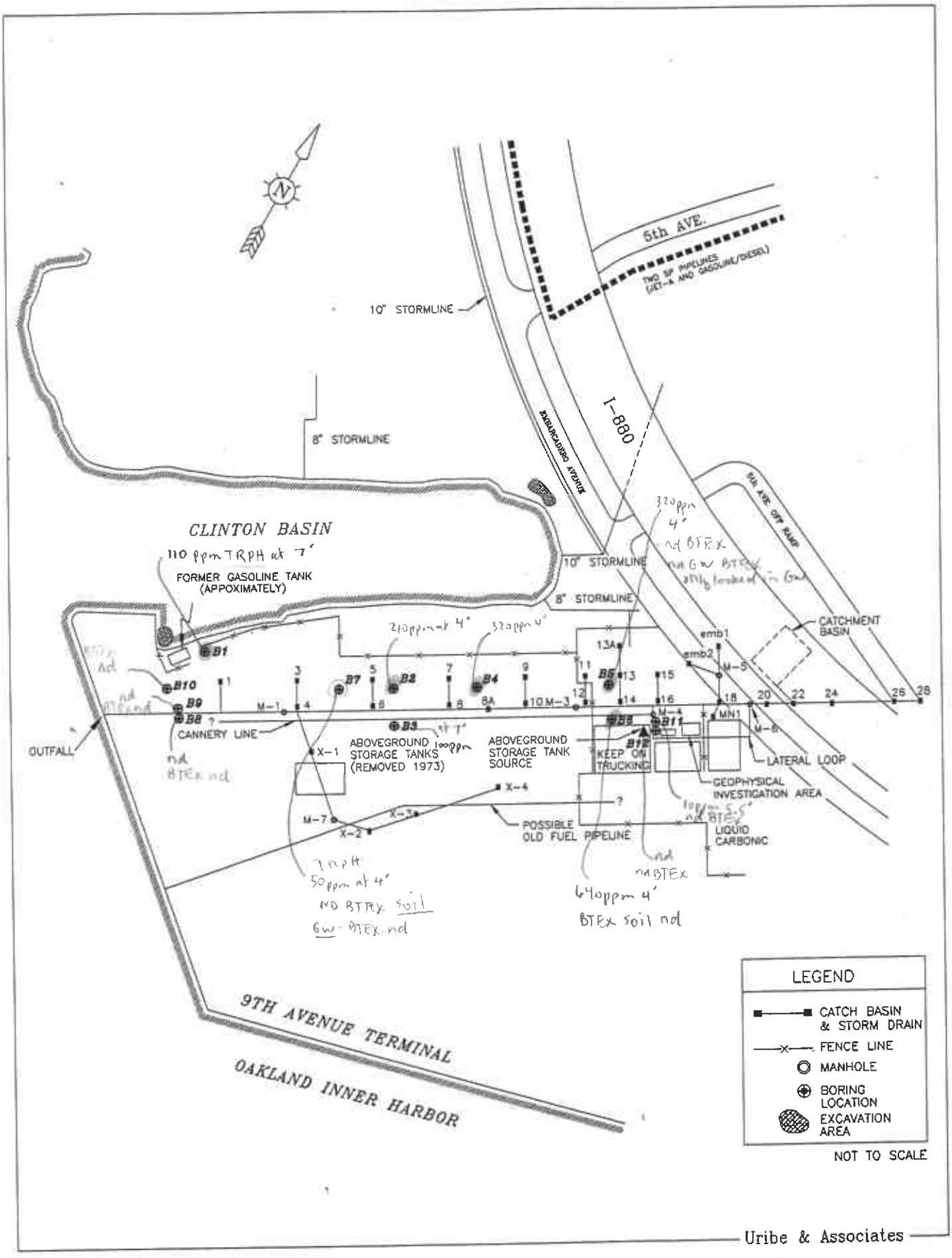


Figure 2-3: Location of Borings in Project Area

Table 2-1

SUBSURFACE INVESTIGATION SAMPLING RESULTS

(Summary of TRPH and Diesel Detection in Soils/Groundwater)

Borehole-Matrix	Depth (feet)	Sample ID	Analysis	Result (mg/L)[1] (mg/kg)[2]	Detection Limit (mg/L)[1] (mg/kg)[2]
B1-Soil	4	9AV-B1-4	TRPH	60[2]	30[2]
B1-Soil	4	9AV-B1-4	Diesel	ND[2]	1[2]
B1-Soil	7	9AV-B1-7	TRPH	110[2]	30[2]
B1-Soil	7	9AV-B1-7	Diesel	ND[2]	1[2]
B1-Water	N/A	9AV-B1-W1	Diesel	ND[1]	1000[1]
B2-Soil	4	9AV-B2-4	TRPH	210[2]	30[2]
B2-Soil	4	9AV-B2-4	Diesel	ND[2]	10[2]
B2-Soil	7	9AV-B2-7	TRPH	ND[2]	30[2]
B2-Soil	7	9AV-B2-7	Diesel	ND[2]	1[2]
B3-Soil	5	9AV-B3-5	TRPH	30[2]	30[2]
B3-Soil	5	9AV-B3-5	Diesel	ND[2]	2[2]
B3-Soil	7	9AV-B3-7	TRPH	100[2]	30[2]
B3-Soil	7	9AV-B3-7	Diesel	ND[2]	2[2]
B3-Water	N/A	9AV-B3-W1	Diesel	ND[1]	500[1]
B4-Soil	4	9AV-B4-4	TRPH	320[2]	30[2]
B4-Soil	4	9AV-B4-4	Diesel	ND[2]	5[2]
B4-Soil	7	9AV-B4-7	TRPH	ND[2]	30[2]
B4-Soil	7	9AV-B4-7	Diesel	ND[2]	1[2]
B5-Soil	4	9AV-B5-4	TRPH	320[2]	30[2]
B5-Soil	4	9AV-B5-4	Diesel	ND[2]	5[2]
B5-Soil	7	9AV-B5-7	TRPH	ND[2]	30[2]
B5-Soil	7	9AV-B5-7	Diesel	ND[2]	5[2]
B5-Water	N/A	9AV-B5-W1	Diesel	ND[1]	100[1]
B6-Soil	4	9AV-B6-4	TRPH	640[2]	30[2]
B6-Soil	4	9AV-B6-4	Diesel	ND[2]	300[2]
B6-Soil	7	9AV-B6-7	TRPH	30[2]	30[2]
B6-Soil	7	9AV-B6-7	Diesel	ND[2]	5[2]

Continued on next page

Table 2-1 (continued)
SUBSURFACE INVESTIGATION SAMPLING RESULTS
(Summary of TRPH and Diesel Detection in Soils/Groundwater)

Borehole-Matrix	Depth (feet)	Sample ID	Analysis	Result (mg/L)[1] (mg/kg)[2]	Detection Limit (mg/L)[1] (mg/kg)[2]
B7-Soil	4	9AV-B10-4	TRPH	50[2]	30[2]
B7-Soil	4	9AV-B10-4	Diesel	ND[2]	5[2]
B7-Soil	10	9AV-B10-10	TRPH	50[2]	30[2]
B7-Soil	10	9AV-B10-10	Diesel	ND[2]	1[2]
B7-Water	N/A	9AV-B10-W1	Diesel	ND[1]	800[1]
B8-Soil	5	1217-1-5.0	TCLP-Diesel	ND[1]	0.5[1]
B8-Soil	10	1217-1-10.0	TCLP-Diesel	ND[1]	0.5[1]
B8-Soil	16	1217-1-16.0	TCLP-Diesel	ND[1]	0.5[1]
B9-Soil	5.5	1217-2-5.5	TCLP-Diesel	ND[1]	0.5[1]
B9-Soil	10.5	1217-2-10.5	TCLP-Diesel	ND[1]	0.5[1]
B9-Soil	16	1217-2-16.0	TCLP-Diesel	ND[1]	0.5[1]
B10-Soil	5.0	1217-3-5.0	TCLP-Diesel	ND[1]	0.5[1]
B10-Soil	10.0	1217-3-10.0	TCLP-Diesel	ND[1]	0.5[1]
B10-Soil	15.5	1217-3-15.5	TCLP-Diesel	ND[1]	0.5[1]
B11-Soil	4.0	1217-4-4.0	TCLP-Diesel	0.5[1]	0.5[1]
B11-Soil	5.5	1217-4-5.5	TCLP-Diesel	10[1] ← this M high	0.5[1]
B11-Soil	7.5	1217-4-7.5	TCLP-Diesel	0.8[1]	0.5[1]
B12-Soil	4.5	1217-5-4.5	TCLP-Diesel	ND[1]	0.5[1]
B12-Soil	6.0	1217-5-6.0	TCLP-Diesel	ND[1]	0.5[1]
B12-Soil	8.0	1217-5-8.0	TCLP-Diesel	ND[1]	0.5[1]

ND: indicates a non-detect
TRPH: Total recoverable petroleum hydrocarbons.
Diesel: Total petroleum hydrocarbons measured as diesel.
TCLP: Indicates that the test is run on the liquid extract from the Toxicity Characteristic Leaching Procedure
Additional laboratory results for other analyses are provided in Appendix C.
Boring Logs are provided in Appendix D and copies of drilling permits are in Appendix E.

the storm drain main, contains mostly storm water with approximately 600 gallons of diesel floating on top. The sixth and seventh tanks at the Terminal yard contain liquid removed from the storm drains during cleaning. Each of these tanks is about seventy percent full. Four containers of waste solids are also present at the Terminal yard. Two contain primarily diesel-soaked rags, absorbent pads, and other material used by Port project staff during the investigation. The third and fourth containers are filled with solids removed from the drains during cleaning.

At the KOT site, there is one 21,000 gallon temporary storage tank being used to hold liquid removed from the lateral loop. It is only about thirty five percent full and contains approximately 1,000 gallons of diesel and 6,500 gallons of water. In addition, there are three drums of debris and soil excavated from one area of the lateral loop.

Lastly, at both the Terminal yard and the KOT site there are several small piles of drill cuttings resulting from the borings conducted in the area. The cuttings are stored on and covered by plastic sheeting.

Laboratory results are shown in Table 2-2 that indicate the constituents found in the storm water runoff, the sludge cleaned from the drains, and the material cleaned from the corner sump. Based on these results the Port is arranging and/or requesting the following:

- Recycling of the diesel contained in each of the two tanks holding a diesel-water mixture (one tank located at the Terminal yard and one at KOT).
- RWQCB approval to discharge to the estuary the storm water contained in four tanks at the Terminal yard, the liquid cleaned from the storm drains (two tanks), and the water remaining in the two tanks where the diesel will be removed by the recyclers.
- Disposal of the solids cleaned from the drains (two containers) and the solids stored in drums at the KOT site to a Class III landfill.
- Disposal of the diesel-soaked material (two containers) to a Class I disposal site, and

In addition, the Port is assessing the proper disposal method for the soil from the site borings. Once this assessment is completed, the Port will arrange for the disposal of the cuttings.

Table 2-2
CHARACTERIZATION OF WASTE STORED ON SITE

Description	Sample ID	Analysis	Result (mg/L)	Detection Limit (mg/L)	LUFT Action Levels[1] (mg/L)
Corner Sump Solids at KOT	1217-drums	TCLP-Diesel	0.5	0.5	100
		TCLP-Benzene	ND	0.02	0.0007
		TCLP-Toluene	ND	0.02	0.1
		TCLP-Ethylbenzene	ND	0.02	0.68
		TCLP-Xylene	ND	0.02	0.62
Storm Drain Sludge	1217-sludge	TCLP-Diesel	0.6	0.5	100
		TCLP-Benzene	ND	0.02	0.0007
		TCLP-Toluene	ND	0.02	0.1
		TCLP-Ethylbenzene	ND	0.02	0.68
		TCLP-Xylene	ND	0.02	0.62
Collected Storm Runoff Liquid	1217-water T-1	Diesel	0.09	0.05	100
		Benzene	ND	0.0004	0.0007
		Toluene	0.0011	0.0003	0.1
		Ethylbenzene	0.0019	0.0003	0.68
		Total Xylenes	0.011	0.0004	0.62

ND: indicates a non-detect.
TRPH: Total recoverable petroleum hydrocarbons.
Diesel: Total petroleum hydrocarbons measured as diesel.
TCLP: Indicates that the test is run on the liquid extract from the Toxicity Characteristic Leaching Procedure
[1] - action levels for diesel are for in-situ soil and for BTEX for drinking water (August 10, 1990 LUFT Manual).

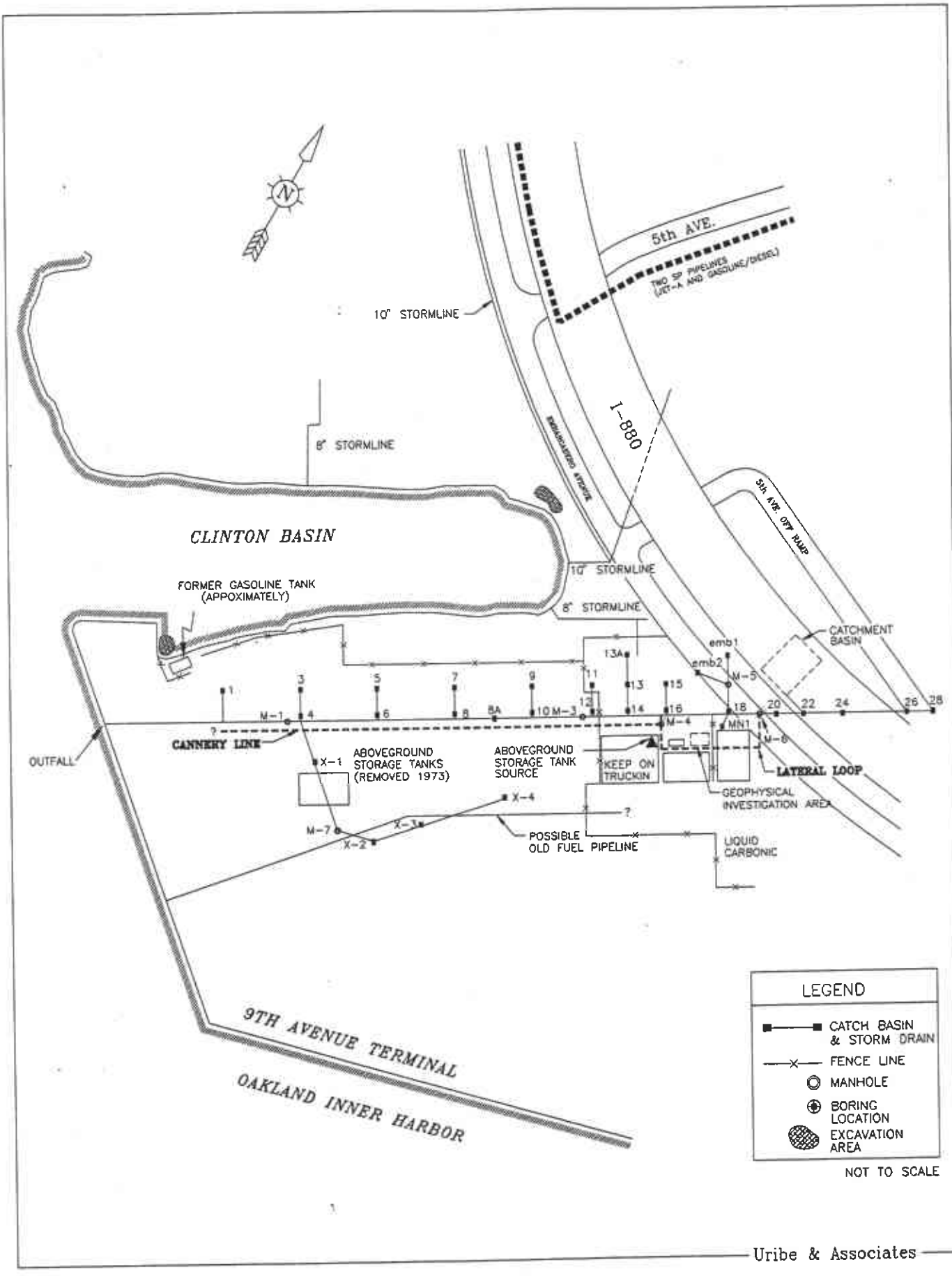


Figure 2-4: Location of Isolated Storm Drain Lines

3.0 Workplan to Delineate Soil and Groundwater Contamination

This section describes the further investigation measures being proposed by the Port for the Ninth Avenue area. The objective of the additional investigation is to identify the extent of soil and groundwater contamination resulting from the diesel release at the KOT site. To do this, the Port is proposing the following investigation strategy:

- Investigate the primary transport pathways (the storm drains and their trenches) to understand their role in spreading the diesel to the soil and groundwater. Primary pathways, as used in this workplan, refer to all storm drain lines that are downgradient from the source. This includes the main storm drain line and outfall (the storm drain main), the cannery line, and the downgradient portion of the lateral loop. Are there any other conduits present in this area?
- Investigate secondary transport pathways from the source (e.g. transport through the native soils via channels), and
- Investigate upgradient soil and groundwater to determine whether they have been affected by the diesel release.

The last section of this chapter proposes a schedule for the workplan investigation and describes the submittals that will result from the investigation.

3.1 Primary Transport Pathway Investigation

This section describes the details of plans to investigate the storm drains near the source area, the cannery line, and the storm drain main. Investigation of the primary transport pathways will include the following:

- Investigation of the source area. This will include excavation of the underground piping and determination of the precise location of the leak.
- Investigation of the cannery line. ?
- Investigation of the storm drain main.
- Cone penetrometer survey or borings to investigate areas of suspected contamination leading from the storm drains.

3.1.1 Source Area Primary Pathway Investigation

The source area will be excavated to determine the precise location of the leak in the underground piping. The excavation will enable the Port to identify the precise pathway leading from the leak to the lateral loop. The red dye used in the dye test may assist this part of the investigation, as it may be visible in the soils. The excavation of the source area will also include excavation of the section of lateral loop closest to the fuel pump. This will provide information on whether the gravel/sand in the storm drain trench, in addition to the storm drain, played a role in transporting the released diesel. Figure 3-1 shows the location of the source area excavation and the section of lateral loop that will be excavated.

Soil samples (and groundwater, if encountered) will be collected from the excavation and analyzed for diesel concentration (TPH-diesel). The Port will use diesel concentration (TPH-diesel) as the index constituent for both the soil and groundwater investigation. The Port will use the information obtained from all soil samples to identify the 100 part per million contour for the soil contamination (LUFT Manual, 1990, diesel action level). Where groundwater contains detectable levels of diesel, the Port will analyze the water for BTEX (benzene, toluene, ethylbenzene, and xylene). The Port will identify those groundwater samples and areas where BTEX concentrations exceed the DHS Action Levels for drinking water given below (LUFT, 1990):

- Benzene - 0.7 part per billion (ppb)
- Toluene - 100 ppb
- Ethylbenzene - 620 ppb
- Xylene - 680 ppb

3.1.2 Cannery Line Investigation

The cannery line will first be tracked and then cleaned to remove any remaining diesel that may be present and to prepare the line for video taping. The line will then be video taped and smoke tested to determine likely sections that may have leaked diesel into surrounding soils. The cannery line will be excavated at a minimum of one location to provide data on whether the storm drain trench for the cannery line acted as a transport pathway. However, the line may need to be excavated in as many as three places to assist in properly cleaning and tracking the line. Soil samples will be collected from the excavation. Figure 3-2 shows the location along the line that is targeted for excavation. Figure 3-3 illustrates how a storm drain trench, in addition to the storm drain, may act as a transport pathway.

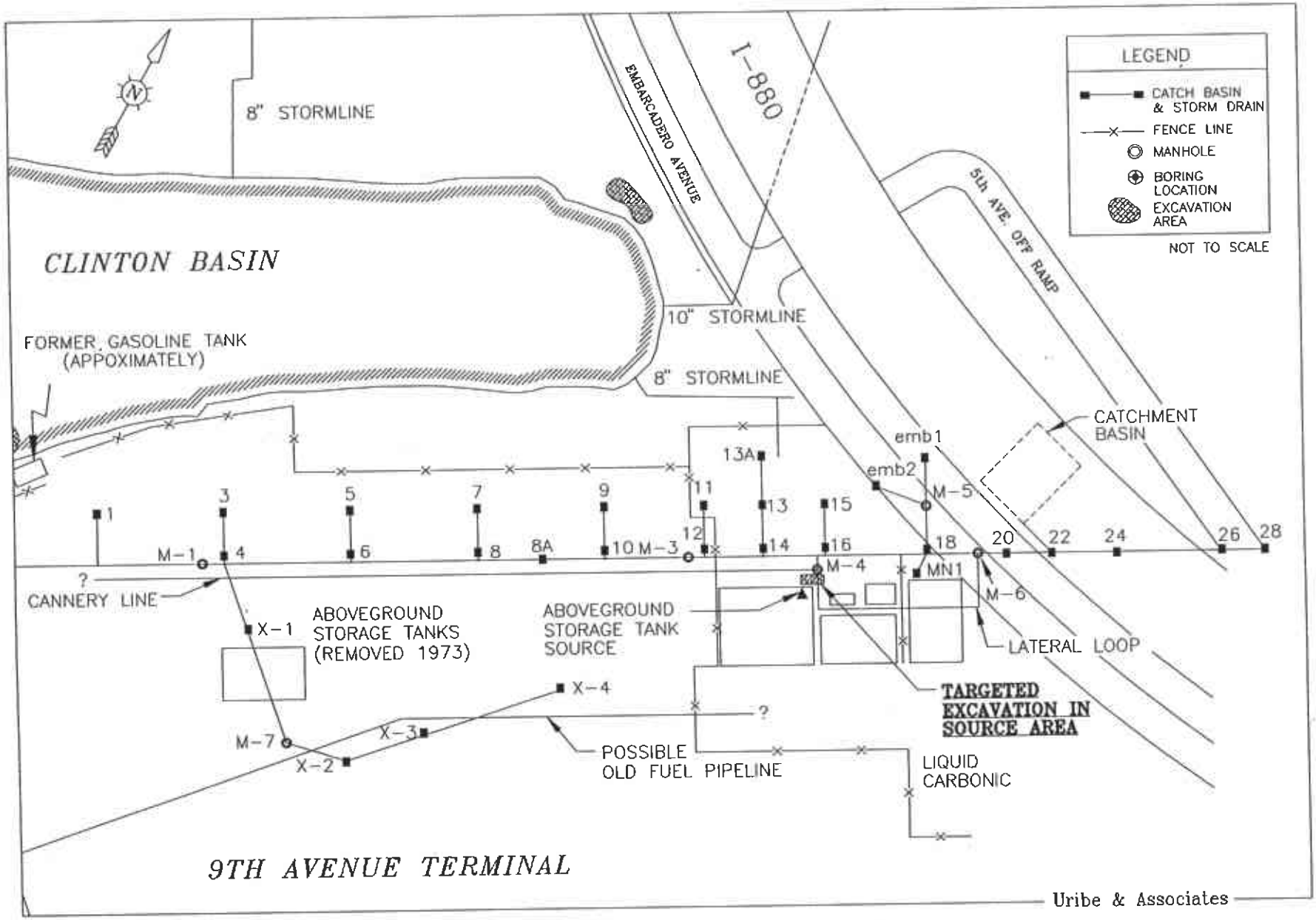


Figure 3-1: Location of Planned Source Area Excavation

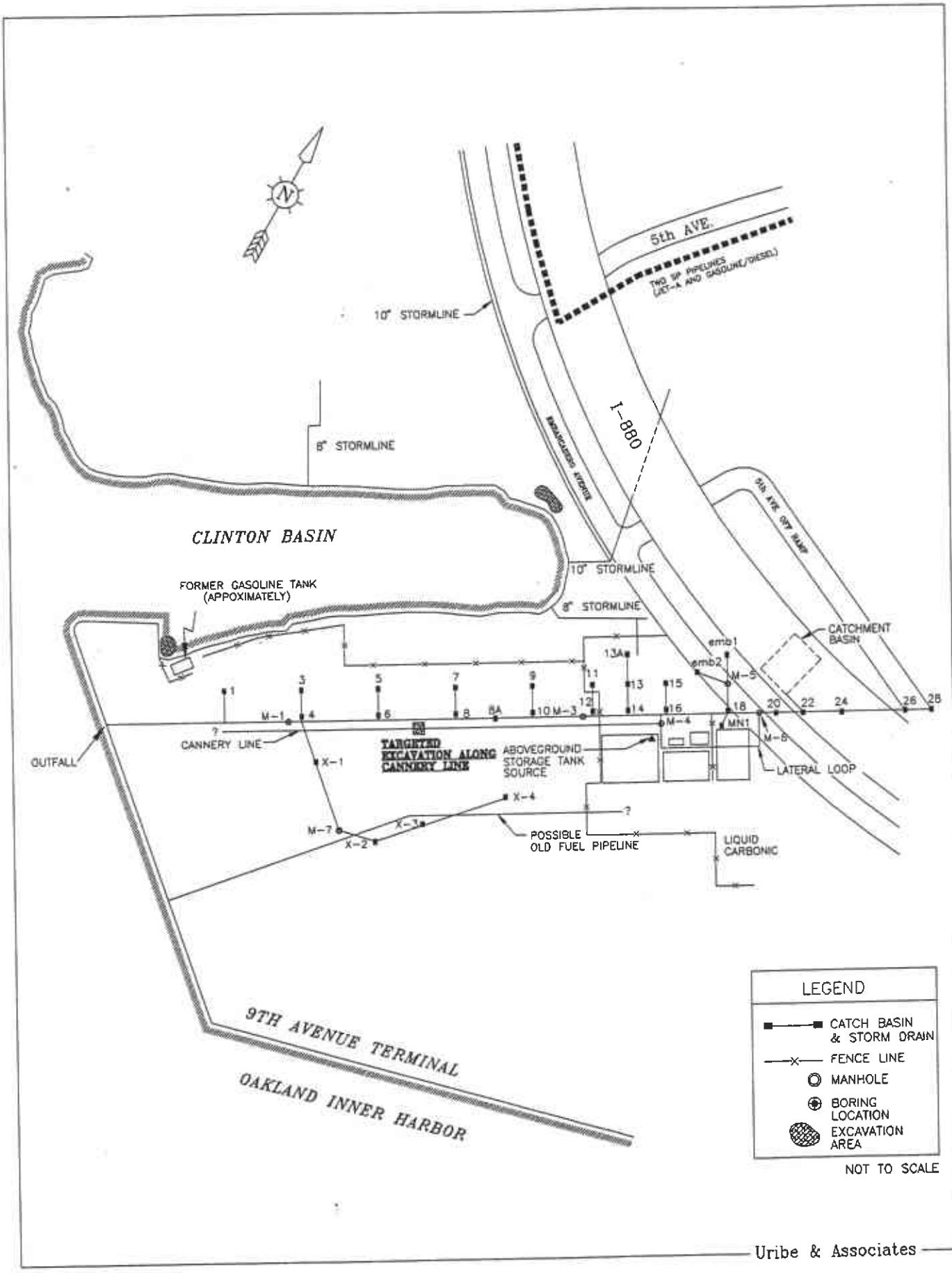


Figure: 3-2: Planned Excavation Along Cannery Line

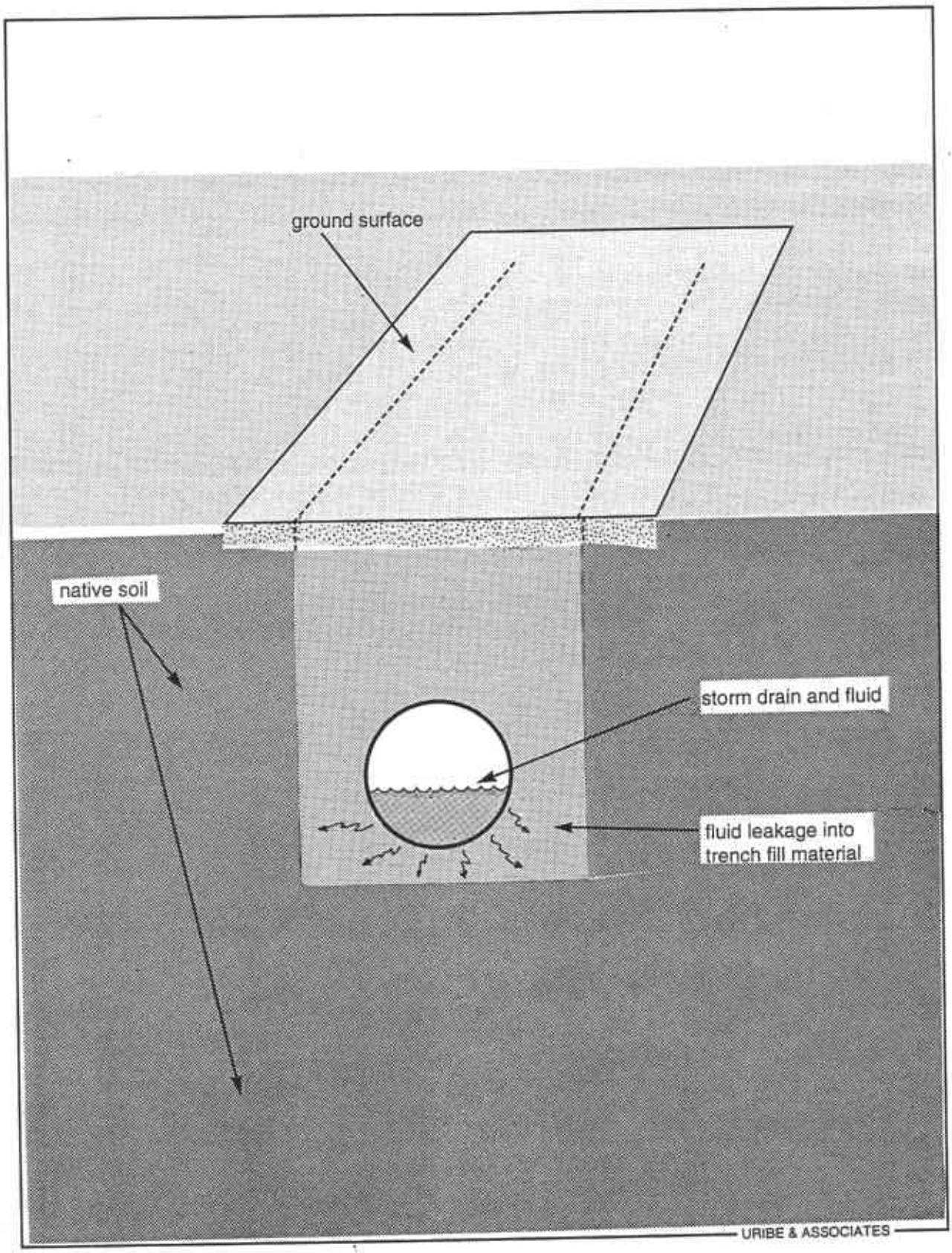


FIgure 3-3: Schematic of Possible Diesel Transportation in Trench

3.1.3 Storm Drain Main Investigation

The storm drain main, whose major portion has already been cleaned to remove contamination, may need further cleaning to prepare the line for video taping. The line will then be video taped and smoke tested to determine those sections likely to have leaked diesel into surrounding soils. The line will also be tracked to accurately determine the exact location at which it intersects the firewall near the shoreline. The main line will be excavated at three locations to provide data on (1) whether the storm drain trench acted as a transport pathway and (2) whether the firewall influenced transport of the diesel. Figure 3-4 shows the locations along the main that are targeted for excavation, and Figure 3-5 illustrates how the firewall may have influenced contaminant transport in the trench. Soil samples will be collected from the excavations.

3.1.4 Cone Penetrometer/Boring Investigation of Primary Pathway

At locations identified by the storm drain investigations, the Port will conduct a subsurface investigation using cone penetrometers and/or borings to assess the lateral and vertical extent of soil and groundwater contamination. Soil samples will be taken, and groundwater will also be sampled.

3.2 Secondary Transport Pathway Investigation

This section describes the details of plans to investigate the storm drains near the source area, the cannery line, and the storm drain main. Investigation of the secondary transport pathway (storm drain and trench) will include the following:

- Excavation of the source area and identification of lithologic units that may have influenced transport of the diesel through the soils.
- Cone penetrometers and borings will then be used to investigate the possible secondary transport areas identified during excavation.

3.2.1 Source Area Secondary Pathway Investigation

As mentioned in section 3.1.1, the source area will be excavated to determine the precise location of the leak in the underground piping. During this excavation, the Port will look for evidence of the diesel migrating in other directions than towards the lateral loop. The dye used in the dye test may again be useful in identifying secondary diesel transport pathways.

3.1.1 Source Area Primary Pathway Investigation

The source area will be excavated to determine the precise location of the leak in the underground piping. The excavation will enable the Port to identify the precise pathway leading from the leak to the lateral loop. The red dye used in the dye test may assist this part of the investigation, as it may be visible in the soils. The excavation of the source area will also include excavation of the section of lateral loop closest to the fuel pump. This will provide information on whether the gravel/sand in the storm drain trench, in addition to the storm drain, played a role in transporting the released diesel. Figure 3-1 shows the location of the source area excavation and the section of lateral loop that will be excavated.

Soil samples (and groundwater, if encountered) will be collected from the excavation and analyzed for diesel concentration (TPH-diesel). The Port will use diesel concentration (TPH-diesel) as the index constituent for both the soil and groundwater investigation. The Port will use the information obtained from all soil samples to identify the 100 part per million contour for the soil contamination (LUFT Manual, 1990, diesel action level). Where groundwater contains detectable levels of diesel, the Port will analyze the water for BTEX (benzene, toluene, ethylbenzene, and xylene). The Port will identify those groundwater samples and areas where BTEX concentrations exceed the DHS Action Levels for drinking water given below (LUFT, 1990):

- Benzene - 0.7 part per billion (ppb)
- Toluene - 100 ppb
- Ethylbenzene - 620 ppb
- Xylene - 680 ppb

3.1.2 Cannery Line Investigation

The cannery line will first be tracked and then cleaned to remove any remaining diesel that may be present and to prepare the line for video taping. The line will then be video taped and smoke tested to determine likely sections that may have leaked diesel into surrounding soils. The cannery line will be excavated at a minimum of one location to provide data on whether the storm drain trench for the cannery line acted as a transport pathway. However, the line may need to be excavated in as many as three places to assist in properly cleaning and tracking the line. Soil samples will be collected from the excavation. Figure 3-2 shows the location along the line that is targeted for excavation. Figure 3-3 illustrates how a storm drain trench, in addition to the storm drain, may act as a transport pathway.

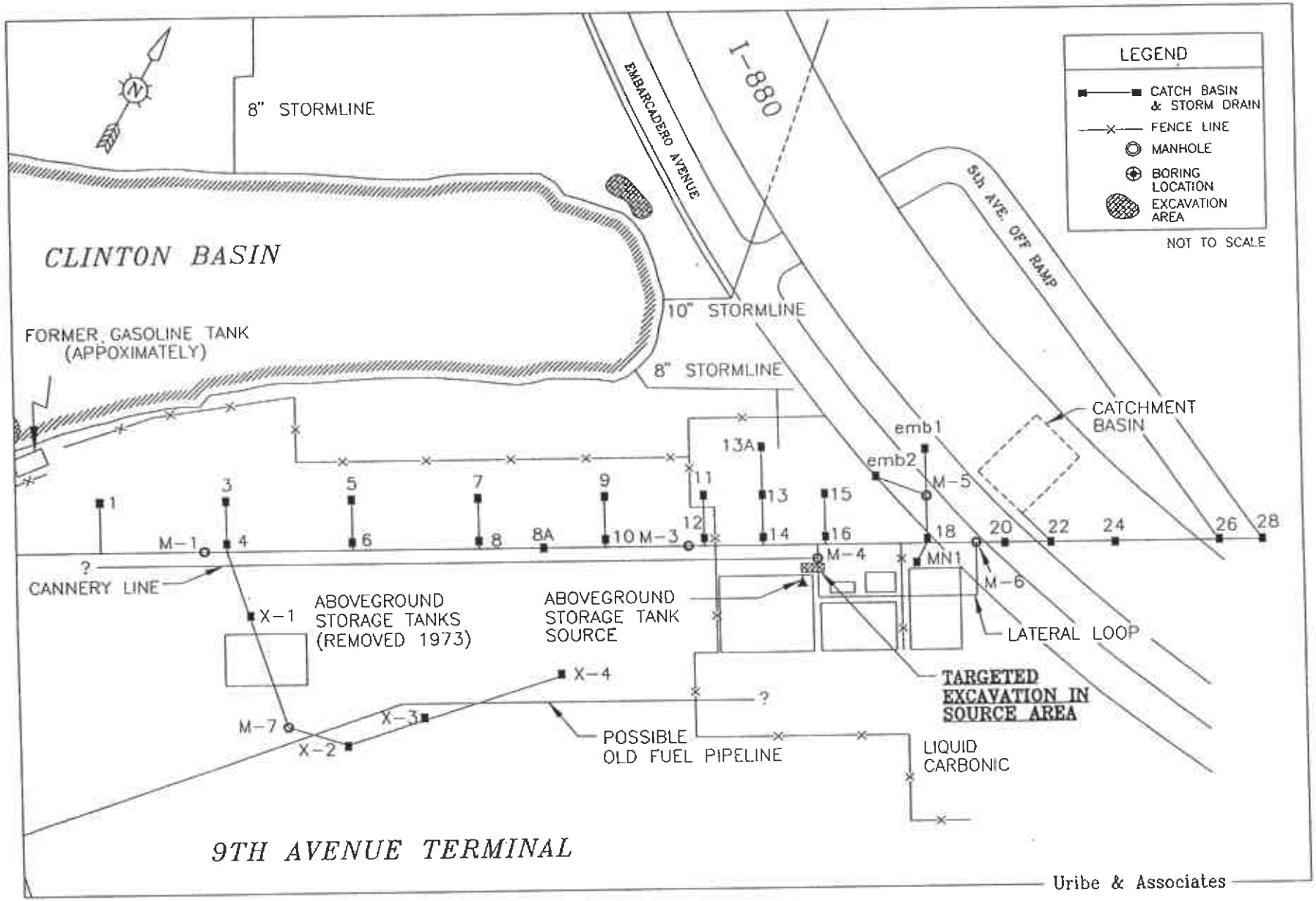


Figure 3-1: Location of Planned Source Area Excavation

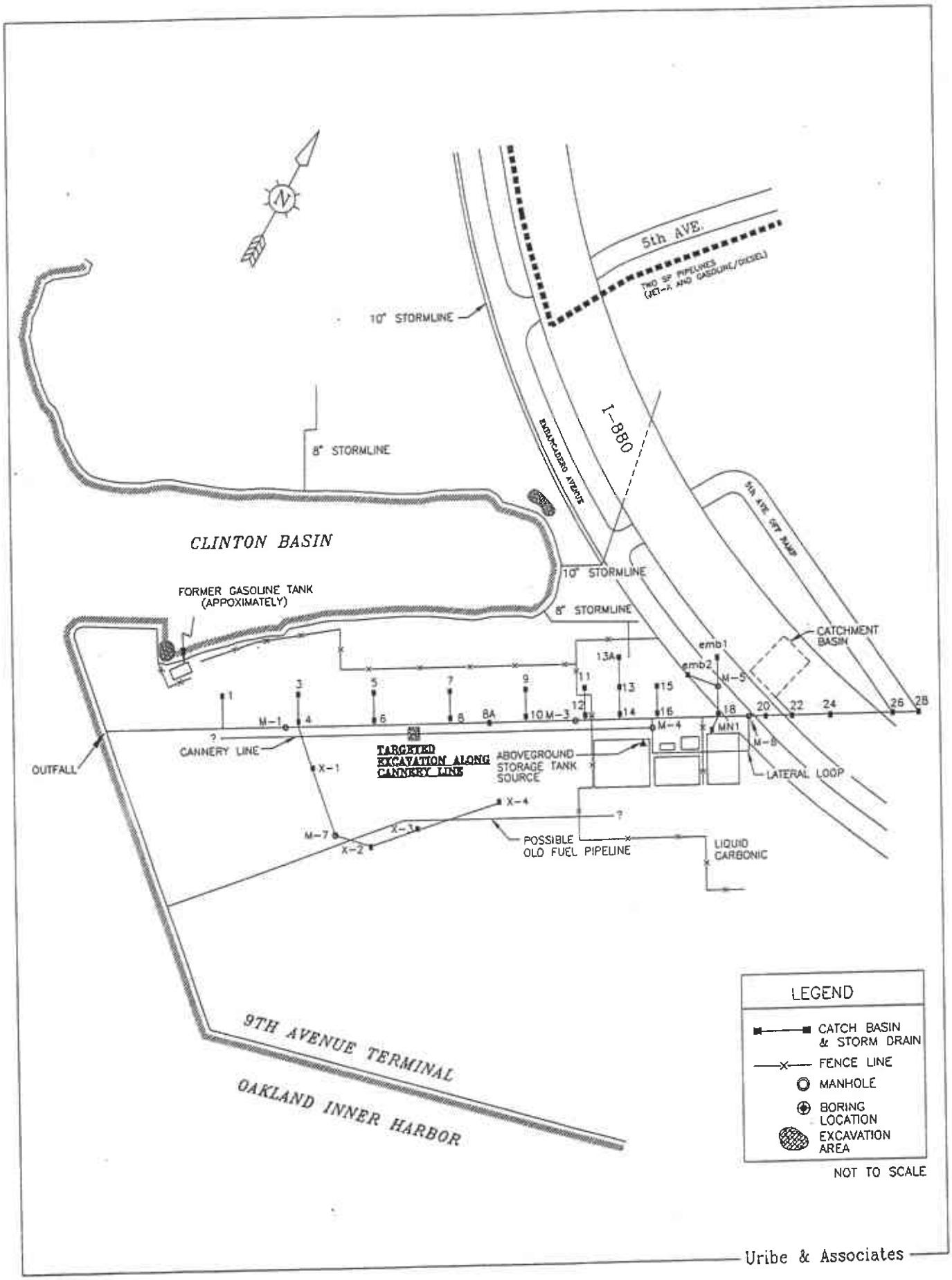
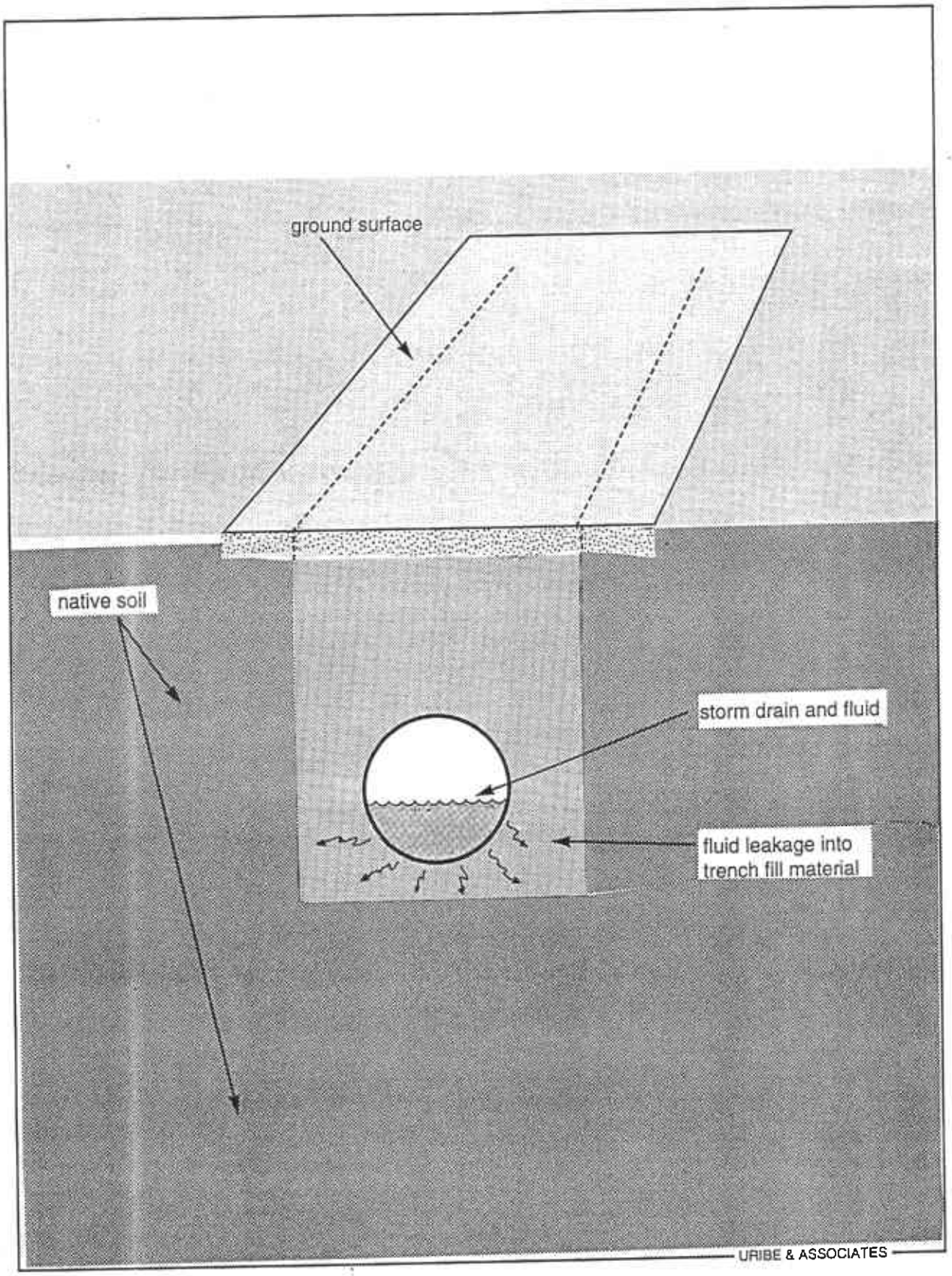


Figure: 3-2: Planned Excavation Along Cannery Line



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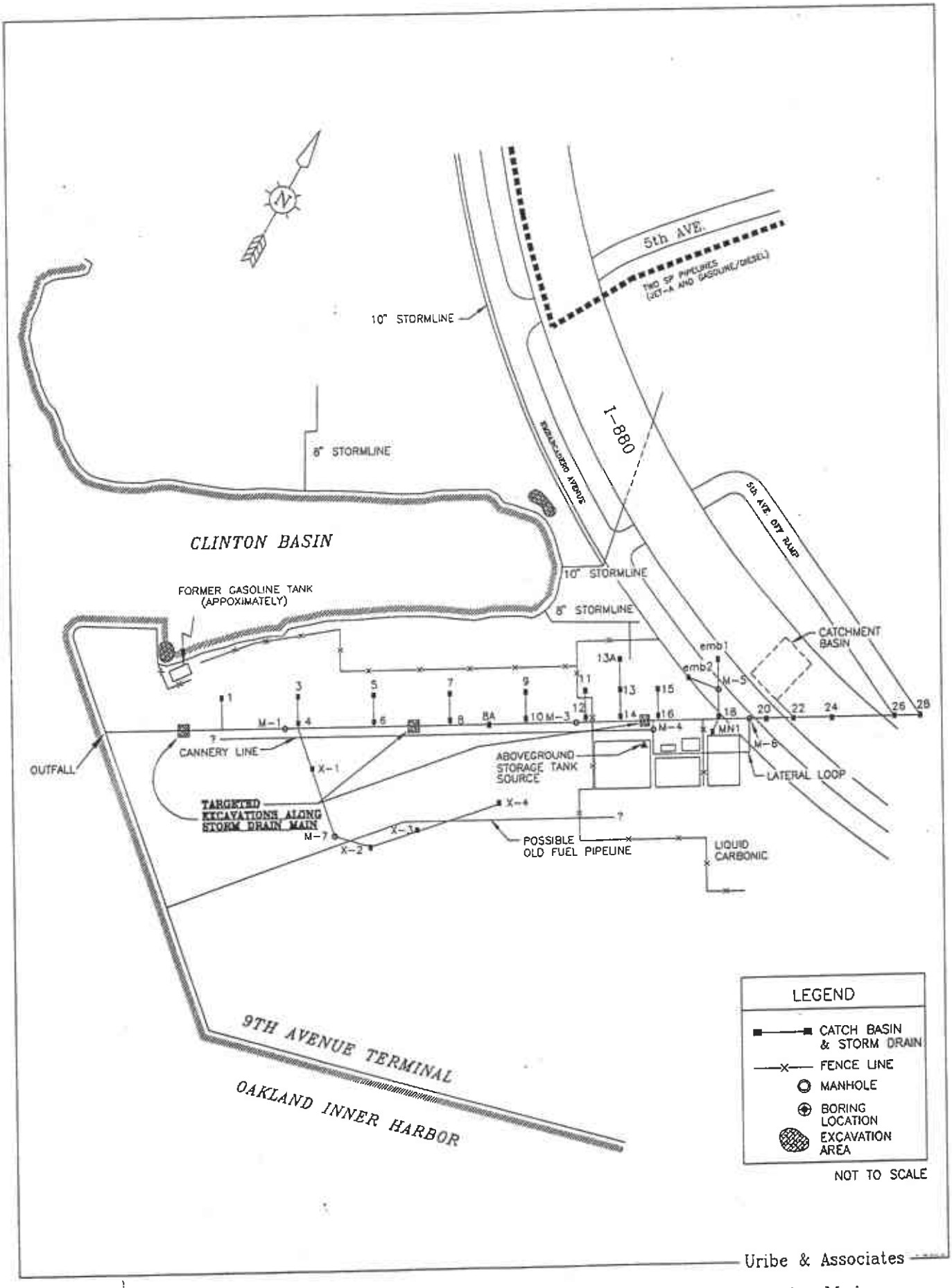


Figure: 3-4: Planned Excavation Locations Along Storm Drain Main

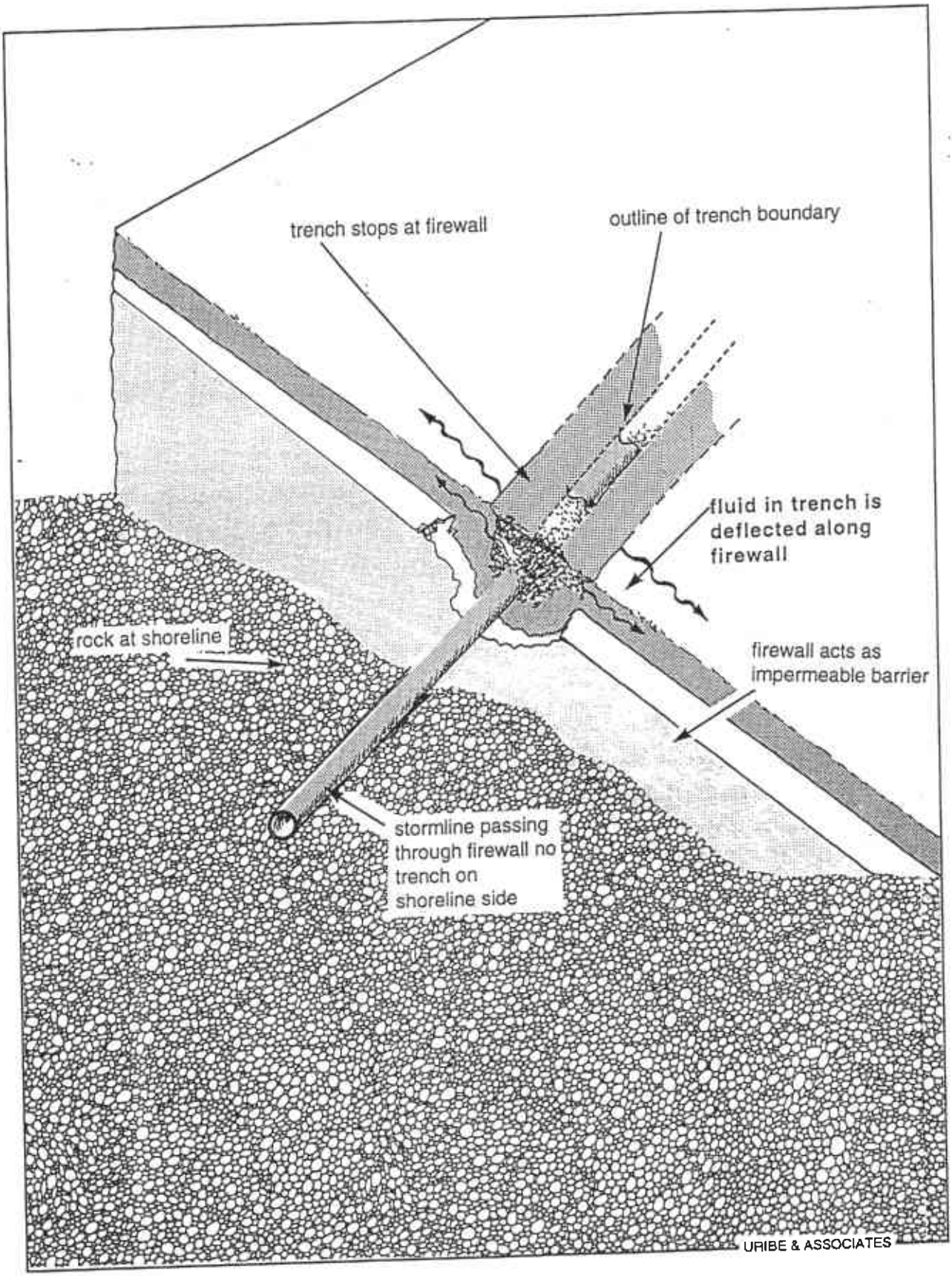


Figure 3-5: Schematic of Possible Influence of Fire Wall in Diesel Transport

3.2.2 Cone Penetrometer Survey/Borings in Source Area

Five initial borings will be placed within a 50-foot circumference of the source to determine whether secondary pathways have contaminated the vicinity of the source. Two borings near the source show maximum diesel concentrations of 10 parts per million (ppm). If diesel concentrations above 100 ppm are encountered, then additional borings will be conducted to delineate the full lateral and vertical extent of the contamination. In addition, if the excavation of the source area identifies specific lithologic units requiring investigation, then borings will be used to determine the trend and extent of those units. Figure 3-6 shows the planned locations for these five borings.

3.3 Upgradient Area Investigation

This investigation will focus on surveying the areas adjacent to the upgradient portions of the lateral loop and the storm drain main. Figure 3-7 shows the upgradient areas where the investigation will focus. The Port will place one boring in each of the three areas to assess the constituents in the soil. If diesel concentrations above 100 ppm are encountered, then additional borings will be made to determine the full lateral and vertical extent of the contamination.

3.3 Investigation Schedule and Submittals

Once the workplan is approved, the Port will revise its current site health and safety plan to incorporate the new planned activities. As the investigation proceeds, detailed sampling plans will be developed to guide the field sampling and subsurface investigation. At the completion of the investigation, the Port will prepare a summary report for submittal to the RWQCB, the Alameda County Health Care Services Agency (ACHCSA), the Coast Guard, and Fish and Game. This report will contain the full investigation findings as well as proposed remediation methods, if necessary. The following list of key dates shows the estimated schedule for the investigation:

- January 25, 1993 - workplan approval.
- February 1, 1993 - removal of waste from site.
- February 7, 1993 - completion of excavation of source area.
- February 22, 1993 - completion of storm drain cleaning, tracking, and video taping.
- February 22, 1993 - completion of borings in source area.
- March 1, 1993 - completion of excavations of storm drains.

- March 15, 1993 - completion of borings in areas of suspected contamination.

Assuming two week turnaround time for laboratory response then the draft and final reports can be submitted on the following dates:

- April 12, 1993 - completion of draft report.
- May 12, 1993 - completion of final report.

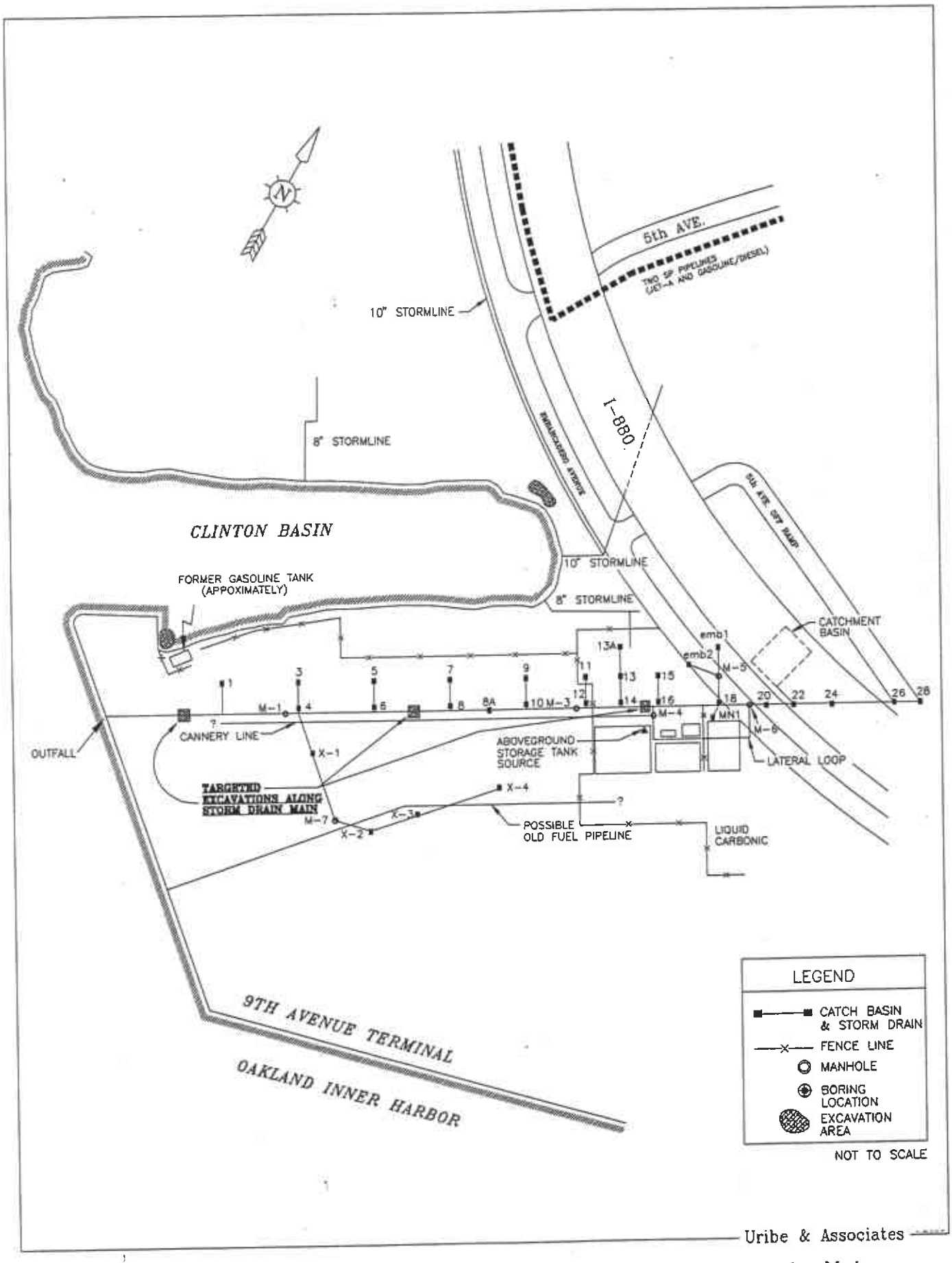
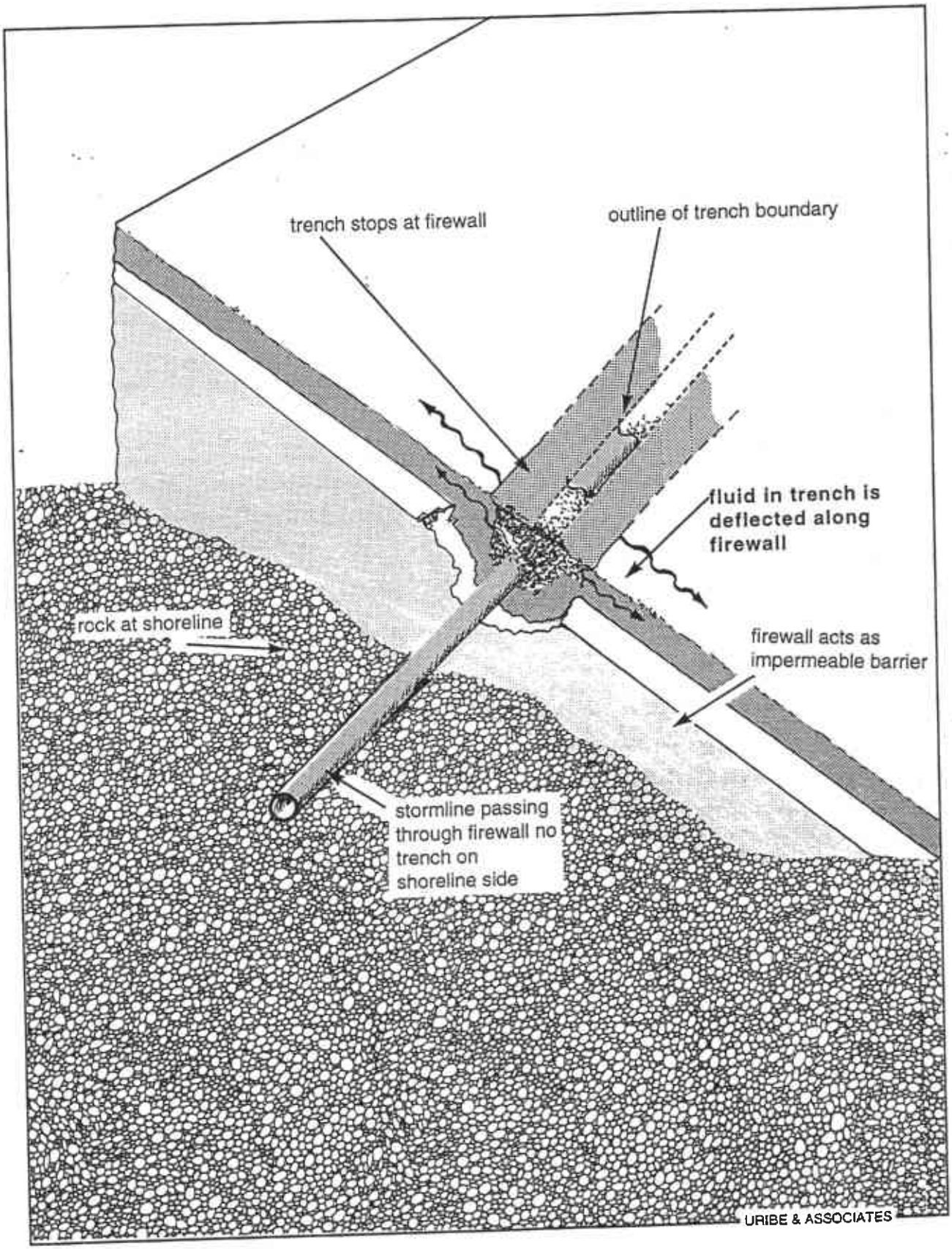


Figure: 3-4: Planned Excavation Locations Along Storm Drain Main



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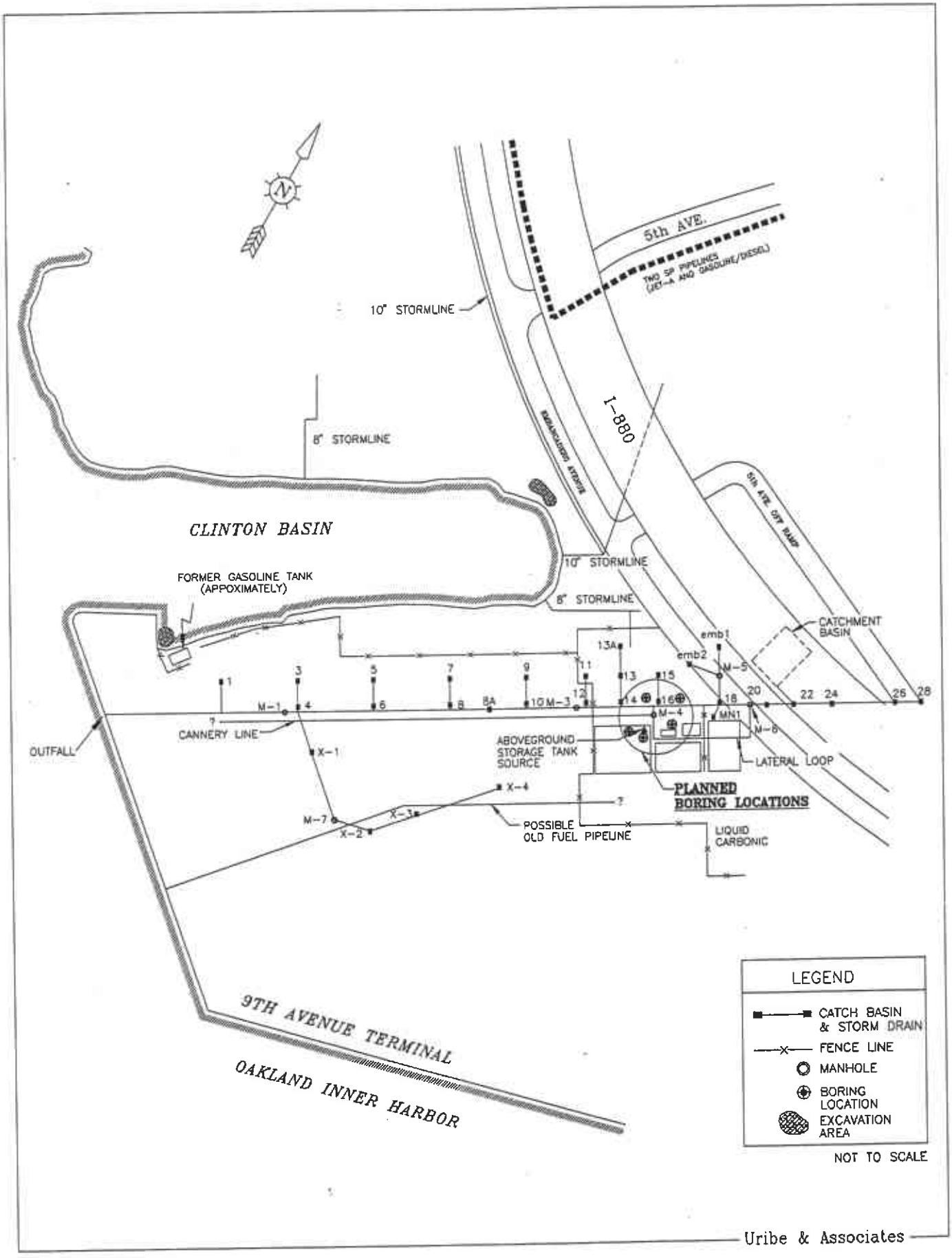


Figure: 3-6: Planned Boring Locations for Source Area

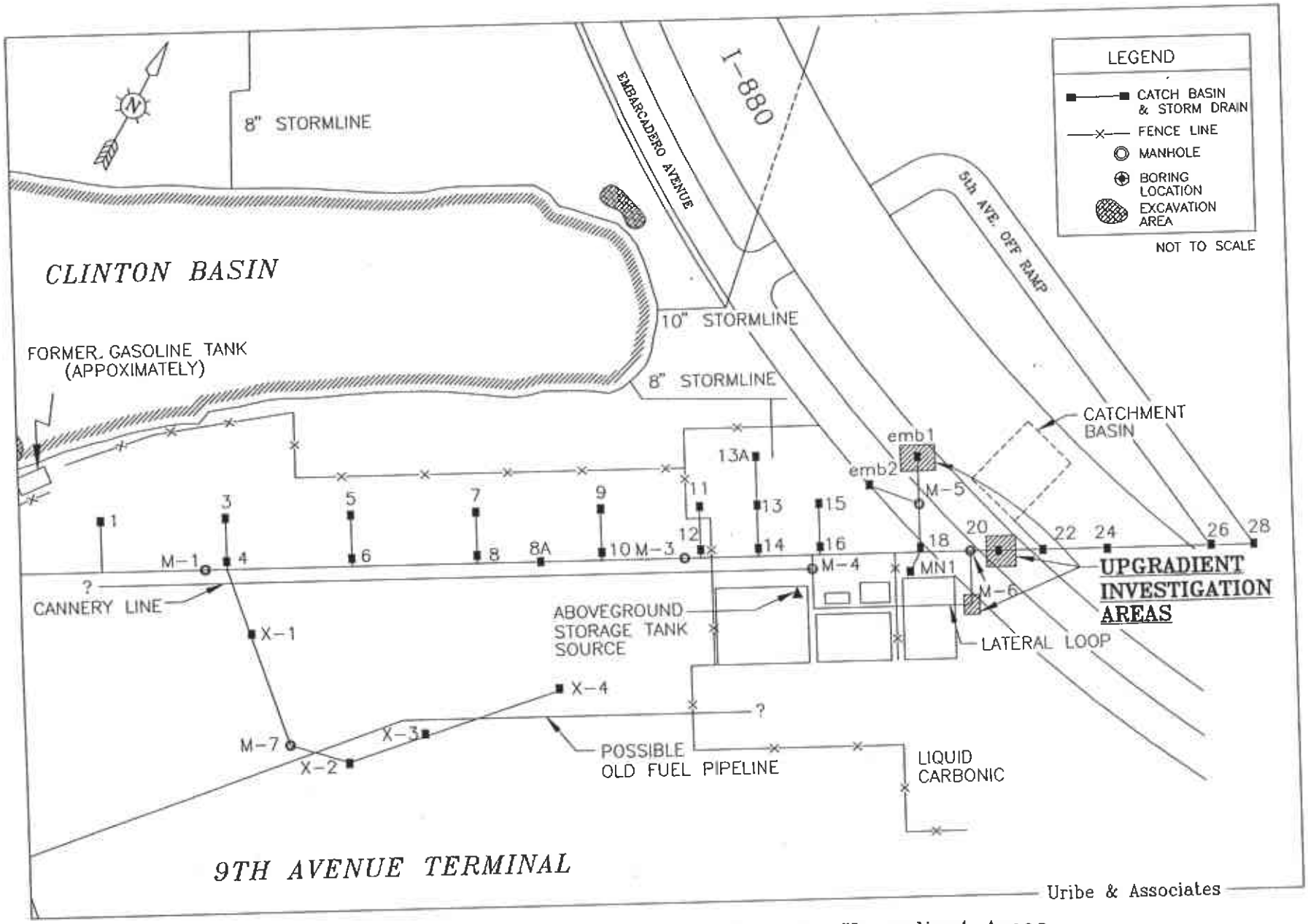


Figure 3-7: Planned Boring Locations for Upgradient Areas

Appendix A

Project Chronology

CHRONOLOGY OF NINTH AVENUE TERMINAL INVESTIGATION

(Revised January 20, 1993)

21 October 1992: Both Port of Oakland Security and the Harbor Master notified the Port Environmental Department of three hydrocarbon spills from unknown sources into the Oakland Inner Harbor. The spills were located in Clinton Basin, Central basin and North Basin Marinas. The Port's spill coordinator was met at the scene of the Clinton Basin spill by representatives of the US Coast Guard (USCG), California Department of Fish and Game (CDFG), Oakland Police and Fire Departments. The USCG cleanup contractor, H & H Environmental, had begun the cleanup.

Neither the Oakland Police Environmental Crimes Division, nor the USCG could find the source of the spill. Due to the potential liability, the Port accepted the responsibility of cleaning up the spills. The Port's contractor, Riedel Environmental, replaced the USCG contractor, H&H Environmental.

The cleanup crews work 24 hours a day for the first two days after the spill to stop the spread of the diesel. At the request of the USCG, the cleanup continued seven days a week. The fuel was new #2 Diesel. We did not believe that any nearby users were the source of the spill. We did not suspect the aboveground tank owned by KOT of being the source because of the small amount of the system that is below ground.

27 October 1992: During a rainstorm, the Port spill coordinator searched the Clinton Basin for signs of additional fuel spills. During this storm, additional fuel was seen entering the Clinton Basin from the 9th Avenue Terminal area. The Port immediately orders Riedel to seal (using flotation booms) the entire Clinton Basin to prevent fuel from spreading into the estuary. The Port notified the USCG, CDFG, and OES of the second spill. The estimated volume of this spill was three thousand gallons. Cleanup activity again began on an emergency basis.

2 November 1992: The Port spill coordinator discovered diesel in the storm drains on the 9th Avenue Terminal. The contractor placed booms around the outfalls and removed diesel from the drains by vacuum truck. The contractor also

collected samples from the drains to find if it was the same product found in the estuary.

6 November 1992: The California Department of Fish and Game did not believe that the 9th Avenue Terminal storm drains were the source of the diesel. At the request of the CDFG, the Port excavates a section of the shoreline in the northeast corner of the Seabreeze Marina parking lot. CDFG believed that there may have been a buried storm drain in this area. We did not find a storm drain in this area and CDFG agreed that this was not the source.

The Port continued to remove diesel from the 9th Avenue storm drains using a vacuum truck. Fresh diesel continued to enter the storm drains. Our contractor was removing about **1,500 gallons of pure diesel from the drains every three to five days.**

Because of the continued discharge of diesel into the drain and the threat of rain, the Port rented several Baker tanks to hold the storm water runoff. Our contractor also constructed a sandbag dam in the 9th Avenue drain to isolate the upland source. The contractor removed both water and diesel from the isolated storm drain system and stored the mixture in the Baker tanks.

10 November 1992: The sandbag dam failed. Our contractor replaced the sandbags with an inflatable drain plug. No diesel entered the bay due to the sandbag dam failure. However, we did remove some diesel from the 9th Avenue storm drain because of the dam failure.

12 November 1992: The contractor conducted a second excavation in the southwest portion of the Clinton Basin shoreline (near the lightship). We had seen a sheen in this area that lead us to believe that there may have been a buried pipe that was discharging diesel. No pipe was found in this area.

19 November 1992: Uribe & Associates drilled seven soil borings on the 9th Avenue Terminal. We believed that the diesel may have come from heavily contaminated soils. The 9th Avenue terminal was once a petroleum terminal with several large storage tanks. We feared that historical practices may have contaminated the site.

A minor amount of contamination was encountered. The amount and type of contamination suggested that it was not the source.

discharged some water that was stored in the Baker Tanks that had no odor or sheen. Apparently the fuel was entering from a lateral line. High flows of water in the main line prevented any fuel from entering the main line.

10 December 1992: A pneumatic pump was stolen from the bypass system installed under highway 880.

15 December 1992: The Port's contractors attempted to video the storm drain lines. There was too much debris in the lines for the video equipment to penetrate. To do the video survey, the contractor began to clean the lines.

16 December 1992: The contractors continue to clean the drains and the video survey began. We found a large amount of diesel in one of the lateral storm drain lines. Fluid was seen flowing into the drain through breaks in the line. We believed that the fluid was diesel. The contaminated storm drain lateral runs by the KOT tank and pump and the fuel was seen entering the line about 20 feet from the pump.

17 December 1992: At the request of the RWQCB, our contractor did three borings along the 9th Avenue Terminal seawall/firewall. The RWQCB feared that diesel may be moving along the drain pipe backfill and then along the seawall/firewall and into the estuary in several places. We now believe that a small amount of fuel was entering the estuary through an old drain that attaches to the contaminated lateral. The old line, or cannery line, enters the Estuary at some unknown point. The Port's contractors also did two borings in the KOT yard near the contaminated storm drain lateral.

18 December 1992: The Port contractor attempted a dye test on the KOT tank. Unfortunately, the dye was too faint to be seen.

21 December 1992: The Port placed inflatable packers in the diesel-containing lateral storm drain to isolate it from the main line. Once we did this, no more fuel entered the main line. This confirmed that the fuel was entering the main line from the lateral drain.

The Port obtained approval to remove the plug in the main storm drain line from the RWQCB. The RWQCB stipulated that once the main storm line was cleaned, the plug could be removed.

22 December 1992: The Port's contractor removed the plug from the main storm line and dismantled the fuel recovery system from the 9th Avenue Terminal. Our contractor then installed a fuel recovery system in the KOT yard to remove fuel from the contaminated lateral line.

23 December 1992: The Port's contractor completed the inspection of the contaminated lateral line. We did not detect any other branches to the system.

29 December 1992: We put a more powerful xylene-based dye (red color) into the KOT tank.

30 December 1992: Dye was found in the storm drain lateral next to the KOT tank and pump. KOT took the tank out of service by shutting the valve to the pump. We then collected samples from the tank and the storm drain. KOT has since removed the remaining fuel from the tank.

Appendix B

KOT Precision Tightness Test

TESTING AND TECHNOLOGY
TEST REPORT PRODUCT LINE TEST

DATE 11/20/92 INVOICE# 1935

CLIENT	KEEP ON TRUCKING
ADDRESS	370 - 8th Avenue, Oakland, CA
PHONE	(510) 893-6011
SITE	KEEP ON TRUCKING
ADDRESS	370 - 8th Avenue, Oakland, CA
PHONE	(510) 893-6011

TANK #	1	PUMP TYPE	Suction
DETECTOR	None	PUMP BRAND	

PRODUCT LEVEL PRIOR TO TEST		AFTER TEST	

TIME	PRESSURE	LINE START	LINE END	+/-	FACTOR	RESULT
2:15 p.m.	50 PSI	62	62	0	X.003	0
2:30 p.m.	50 PSI	62	62	0	X.003	0
2:45 p.m.	50 PSI	62	62	0	X.003	0
3:00 p.m.	50 PSI	62	62	0	X.003	0
					X.003	

PRODUCT LINE TIGHT Yes FINAL RESULT 0

TANK #		PUMP TYPE	
DETECTOR		PUMP BRAND	

PRODUCT LEVEL PRIOR TO TEST		AFTER TEST	

TIME	PRESSURE	LINE START	LINE END	+/-	FACTOR	RESULT
					X.003	
					X.003	
					X.003	
					X.003	
					X.003	

PRODUCT LINE TIGHT FINAL RESULT

TESTER Dave Ryan LICENSE# 93-1273

DEC 14 1992

Appendix C

Laboratory Analytical Results

Soil Sample Analyses From Following Borings:

Boring Number on Figures	Sample ID Prefix
B1	9AV-B1
B2	9AV-B2
B3	9AV-B3
B4	9AV-B4
B5	9AV-B5
B6	9AV-B6
B7	9AV-B10
B8	1217-1
B9	1217-2
B10	1217-3
B11	1217-4
B12	1217-5

Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

December 7, 1992

Mr. John Borrego
URIBE & ASSOCIATES
2930 Lakeshore Ave, Ste. 200
Oakland, CA 94610

Client Ref. 26815
Clayton Project No. 92112.60

Dear Mr. Borrego:

Attached is our analytical laboratory report for the samples received on November 20, 1992. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

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

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

Sincerely,

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

RHP/tb
Attachments

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 26815
Clayton Project No. 92112.60

Sample Matrix/Media: SOIL
Analysis Method: EPA 418.1 (Modified)

Date Received: 11/20/92
Date Analyzed: 12/01/92

Lab Number	Sample Identification	Date Sampled	TRPH* (mg/kg)	Detection Limit (mg/kg)
01A	9AV-B2-4	11/19/92	210	30
02A	9AV-B2-7	11/19/92	ND	30
03A	9AV-B3-5	11/19/92	30	30
04A	9AV-B3-7	11/19/92	100	30
05A	9AV-B4-4	11/19/92	320	30
06A	9AV-B4-7	11/19/92	ND	30
07A	9AV-B10-4	11/19/92	50	30
08A	9AV-B10-10	11/19/92	50	30
09A	9AV-B0-4	11/19/92	250	30
10A	9AV-B1-4	11/20/92	60	30
11A	9AV-B1-7	11/20/92	110	30
12A	9AV-B5-4	11/20/92	320	30
13A	9AV-B5-7	11/20/92	ND	30
14A	9AV-B6-4	11/20/92	640	30
15A	9AV-B6-7	11/20/92	30	30
16A	METHOD BLANK	--	ND	30

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
* Total Recoverable Petroleum Hydrocarbons

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 26815
Clayton Project No. 92112.60

Sample Matrix/Media: SOIL
Preparation Method: EPA 3050
Analysis Method: EPA 6010

Date Received: 11/20/92
Date Prepared: 11/30/92
Date Analyzed: 12/01/92

Lab Number	Sample Identification	Date Sampled	Silver (mg/kg)	Detection Limit (mg/kg)
01A	9AV-B2-4	11/19/92	<0.5	0.5
02A	9AV-B2-7	11/19/92	<0.5	0.5
03A	9AV-B3-5	11/19/92	<0.5	0.5
04A	9AV-B3-7	11/19/92	<0.5	0.5
05A	9AV-B4-4	11/19/92	<0.5	0.5
06A	9AV-B4-7	11/19/92	<0.5	0.5
07A	9AV-B10-4	11/19/92	<0.5	0.5
08A	9AV-B10-10	11/19/92	<0.5	0.5
09A	9AV-B0-4	11/19/92	<0.5	0.5
10A	9AV-B1-4	11/20/92	<0.5	0.5
11A	9AV-B1-7	11/20/92	<0.5	0.5
12A	9AV-B5-4	11/20/92	<0.5	0.5
13A	9AV-B5-7	11/20/92	<0.5	0.5
14A	9AV-B6-4	11/20/92	<0.5	0.5
15A	9AV-B6-7	11/20/92	<0.5	0.5
16A	METHOD BLANK	--	<0.5	0.5

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: 26815
Clayton Project No. 92112.60

Sample Matrix/Media: SOIL
Preparation Method: EPA 7060
Analysis Method: EPA 7060

Date Received: 11/20/92
Date Prepared: 11/30/92
Date Analyzed: 12/01/92

Lab Number	Sample Identification	Date Sampled	Arsenic (mg/kg)	Detection Limit (mg/kg)
01A	9AV-B2-4	11/19/92	1.8	0.4
02A	9AV-B2-7	11/19/92	1.0	0.4
03A	9AV-B3-5	11/19/92	1.0	0.4
04A	9AV-B3-7	11/19/92	1.1	0.4
05A	9AV-B4-4	11/19/92	1.0	0.4
06A	9AV-B4-7	11/19/92	4.0	0.4
07A	9AV-B10-4	11/19/92	1.9	0.4
08A	9AV-B10-10	11/19/92	3.8	0.4
09A	9AV-B0-4	11/19/92	1.9	0.4
10A	9AV-B1-4	11/20/92	1.8	0.4
11A	9AV-B1-7	11/20/92	1.9	0.4
12A	9AV-B5-4	11/20/92	3.4	0.4
13A	9AV-B5-7	11/20/92	1.9	0.4
14A	9AV-B6-4	11/20/92	1.9	0.4
15A	9AV-B6-7	11/20/92	3.3	0.4
16A	METHOD BLANK	--	<0.4	0.4

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: 26815
Clayton Project No. 92112.60

Sample Matrix/Media: SOIL
Preparation Method: EPA 3050
Analysis Method: EPA 6010

Date Received: 11/20/92
Date Prepared: 11/30/92
Date Analyzed: 12/01/92

Lab Number	Sample Identification	Date Sampled	Barium (mg/kg)	Detection Limit (mg/kg)
01A	9AV-B2-4	11/19/92	53	1
02A	9AV-B2-7	11/19/92	20	1
03A	9AV-B3-5	11/19/92	58	1
04A	9AV-B3-7	11/19/92	80	1
05A	9AV-B4-4	11/19/92	160	1
06A	9AV-B4-7	11/19/92	21	1
07A	9AV-B10-4	11/19/92	62	1
08A	9AV-B10-10	11/19/92	22	1
09A	9AV-B0-4	11/19/92	34	1
10A	9AV-B1-4	11/20/92	91	1
11A	9AV-B1-7	11/20/92	170	1
12A	9AV-B5-4	11/20/92	64	1
13A	9AV-B5-7	11/20/92	22	1
14A	9AV-B6-4	11/20/92	29	1
15A	9AV-B6-7	11/20/92	26	1
16A	METHOD BLANK	--	<1	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: 26815
Clayton Project No. 92112.60

Sample Matrix/Media: SOIL
Preparation Method: EPA 3050
Analysis Method: EPA 6010

Date Received: 11/20/92
Date Prepared: 11/30/92
Date Analyzed: 12/01/92

Lab Number	Sample Identification	Date Sampled	Cadmium (mg/kg)	Detection Limit (mg/kg)
01A	9AV-B2-4	11/19/92	0.1	0.1
02A	9AV-B2-7	11/19/92	0.2	0.1
03A	9AV-B3-5	11/19/92	0.2	0.1
04A	9AV-B3-7	11/19/92	0.3	0.1
05A	9AV-B4-4	11/19/92	0.3	0.1
06A	9AV-B4-7	11/19/92	0.2	0.1
07A	9AV-B10-4	11/19/92	0.2	0.1
08A	9AV-B10-10	11/19/92	0.4	0.1
09A	9AV-B0-4	11/19/92	<0.1	0.1
10A	9AV-B1-4	11/20/92	0.1	0.1
11A	9AV-B1-7	11/20/92	<0.1	0.1
12A	9AV-B5-4	11/20/92	0.2	0.1
13A	9AV-B5-7	11/20/92	0.3	0.1
14A	9AV-B6-4	11/20/92	0.2	0.1
15A	9AV-B6-7	11/20/92	0.2	0.1
16A	METHOD BLANK	--	<0.1	0.1

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: 26815
Clayton Project No. 92112.60

Sample Matrix/Media: SOIL
Preparation Method: EPA 3050
Analysis Method: EPA 6010

Date Received: 11/20/92
Date Prepared: 11/30/92
Date Analyzed: 12/01/92

Lab Number	Sample Identification	Date Sampled	Chromium (mg/kg)	Detection Limit (mg/kg)
01A	9AV-B2-4	11/19/92	26	1
02A	9AV-B2-7	11/19/92	49	1
03A	9AV-B3-5	11/19/92	58	1
04A	9AV-B3-7	11/19/92	49	1
05A	9AV-B4-4	11/19/92	35	1
06A	9AV-B4-7	11/19/92	42	1
07A	9AV-B10-4	11/19/92	30	1
08A	9AV-B10-10	11/19/92	36	1
09A	9AV-B0-4	11/19/92	2	1
10A	9AV-B1-4	11/20/92	44	1
11A	9AV-B1-7	11/20/92	46	1
12A	9AV-B5-4	11/20/92	27	1
13A	9AV-B5-7	11/20/92	43	1
14A	9AV-B6-4	11/20/92	47	1
15A	9AV-B6-7	11/20/92	47	1
16A	METHOD BLANK	--	<1	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: 26815
Clayton Project No. 92112.60

Sample Matrix/Media: SOIL
Preparation Method: EPA 7471
Analysis Method: EPA 7471

Date Received: 11/20/92
Date Prepared: 11/30/92
Date Analyzed: 11/30/92

Lab Number	Sample Identification	Date Sampled	Mercury (mg/kg)	Detection Limit (mg/kg)
01A	9AV-B2-4	11/19/92	0.1	0.1
02A	9AV-B2-7	11/19/92	<0.1	0.1
03A	9AV-B3-5	11/19/92	0.2	0.1
04A	9AV-B3-7	11/19/92	<0.1	0.1
05A	9AV-B4-4	11/19/92	0.2	0.1
06A	9AV-B4-7	11/19/92	<0.1	0.1
07A	9AV-B10-4	11/19/92	0.1	0.1
08A	9AV-B10-10	11/19/92	<0.1	0.1
09A	9AV-B0-4	11/19/92	<0.1	0.1
10A	9AV-B1-4	11/20/92	<0.1	0.1
11A	9AV-B1-7	11/20/92	0.1	0.1
12A	9AV-B5-4	11/20/92	0.1	0.1
13A	9AV-B5-7	11/20/92	<0.1	0.1
14A	9AV-B6-4	11/20/92	0.2	0.1
15A	9AV-B6-7	11/20/92	0.1	0.1
16A	METHOD BLANK	--	<0.1	0.1

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: 26815
Clayton Project No. 92112.60

Sample Matrix/Media: SOIL
Preparation Method: EPA 3050
Analysis Method: EPA 6010

Date Received: 11/20/92
Date Prepared: 11/30/92
Date Analyzed: 12/01/92

Lab Number	Sample Identification	Date Sampled	Lead (mg/kg)	Detection Limit (mg/kg)
01A	9AV-B2-4	11/19/92	11	1
02A	9AV-B2-7	11/19/92	5	1
03A	9AV-B3-5	11/19/92	17	1
04A	9AV-B3-7	11/19/92	13	1
05A	9AV-B4-4	11/19/92	18	1
06A	9AV-B4-7	11/19/92	4	1
07A	9AV-B10-4	11/19/92	67	1
08A	9AV-B10-10	11/19/92	12	1
09A	9AV-B0-4	11/19/92	2	1
10A	9AV-B1-4	11/20/92	3	1
11A	9AV-B1-7	11/20/92	4	1
12A	9AV-B5-4	11/20/92	26	1
13A	9AV-B5-7	11/20/92	5	1
14A	9AV-B6-4	11/20/92	16	1
15A	9AV-B6-7	11/20/92	9	1
16A	METHOD BLANK	--	<1	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: 26815
Clayton Project No. 92112.60

Sample Matrix/Media: SOIL
Preparation Method: EPA 7740
Analysis Method: EPA 7740

Date Received: 11/20/92
Date Prepared: 11/30/92
Date Analyzed: 12/01/92

Lab Number	Sample Identification	Date Sampled	Selenium (mg/kg)	Detection Limit (mg/kg)
01A	9AV-B2-4	11/19/92	1.0	0.4
02A	9AV-B2-7	11/19/92	<0.4	0.4
03A	9AV-B3-5	11/19/92	1.1	0.4
04A	9AV-B3-7	11/19/92	<0.4	0.4
05A	9AV-B4-4	11/19/92	1.2	0.4
06A	9AV-B4-7	11/19/92	2.1	0.4
07A	9AV-B10-4	11/19/92	<0.4	0.4
08A	9AV-B10-10	11/19/92	<0.4	0.4
09A	9AV-B0-4	11/19/92	<0.4	0.4
10A	9AV-B1-4	11/20/92	<0.4	0.4
11A	9AV-B1-7	11/20/92	<0.4	0.4
12A	9AV-B5-4	11/20/92	<0.4	0.4
13A	9AV-B5-7	11/20/92	0.6	0.4
14A	9AV-B6-4	11/20/92	<0.4	0.4
15A	9AV-B6-7	11/20/92	<0.4	0.4
16A	METHOD BLANK	--	<0.4	0.4

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: 26815
Clayton Project No. 92112.60

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

Date Received: 11/20/92
Date Prepared: 11/30/92
Date Analyzed: 11/30/92

Lab Number	Sample Identification	Date Sampled	Diesel (mg/kg)	Detection Limit (mg/kg)
01A	9AV-B2-4	11/19/92	ND	10a
02A	9AV-B2-7	11/19/92	ND	1
03A	9AV-B3-5	11/19/92	ND	2a
04A	9AV-B3-7	11/19/92	ND	2a
05A	9AV-B4-4	11/19/92	ND	5a
06A	9AV-B4-7	11/19/92	ND *	1
07A	9AV-B10-4	11/19/92	ND	5a
08A	9AV-B10-10	11/19/92	ND *	1
09A	9AV-B0-4	11/19/92	ND	40a
10A	9AV-B1-4	11/20/92	ND	1
11A	9AV-B1-7	11/20/92	ND	1
12A	9AV-B5-4	11/20/92	ND	5a
13A	9AV-B5-7	11/20/92	ND	5a
14A	9AV-B6-4	11/20/92	ND	300a
15A	9AV-B6-7	11/20/92	ND	5a
16A	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
a Detection limit increased due to presence of heavier hydrocarbons
* Heavier hydrocarbons present

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 26815
Clayton Project No. 92112.60

Sample Identification:	9AV-B10-10	Date Sampled:	11/19/92
Lab Number:	9211260-08A	Date Received:	11/20/92
Sample Matrix/Media:	SOIL	Date Prepared:	11/25/92
Preparation Method:	EPA 5030	Date Analyzed:	11/25/92
Analytical Method:	EPA 8240		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	0.005
Bromomethane	74-83-9	ND	0.005
Vinyl chloride	75-01-4	ND	0.005
Chloroethane	75-00-3	ND	0.005
Methylene chloride	75-09-2	ND	0.005
Trichlorofluoromethane	75-69-4	ND	0.005
1,1-Dichloroethene	75-35-4	ND	0.005
1,1-Dichloroethane	75-35-3	ND	0.005
Trans-1,2-Dichloroethene	156-60-5	ND	0.005
Cis-1,2-Dichloroethene	156-59-2	ND	0.005
Chloroform	67-66-3	ND	0.005
1,2-Dichloroethane	107-06-2	ND	0.005
1,1,1-Trichloroethane	71-55-6	ND	0.005
Carbon tetrachloride	56-23-5	ND	0.005
Bromodichloromethane	75-27-4	ND	0.005
1,2-Dichloropropane	78-87-5	ND	0.005
Cis-1,3-Dichloropropene	10061-01-5	ND	0.005
Trichloroethene	79-01-6	ND	0.005
Benzene	71-43-2	ND	0.005
Dibromochloromethane	124-48-1	ND	0.005

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: 26815
Clayton Project No. 92112.60

Sample Identification:	9AV-B10-10	Date Sampled:	11/19/92
Lab Number:	9211260-08A	Date Received:	11/20/92
Sample Matrix/Media:	SOIL	Date Prepared:	11/25/92
Preparation Method:	EPA 5030	Date Analyzed:	11/25/92
Analytical Method:	EPA 8240		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued)			
1,1,2-Trichloroethane	79-00-5	ND	0.005
Trans-1,3-Dichloropropene	10061-02-6	ND	0.005
2-Chloroethylvinylether	110-75-8	ND	0.005
Bromoform	75-25-2	ND	0.005
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.005
Tetrachloroethene	127-18-4	ND	0.005
Toluene	108-88-3	ND	0.005
Chlorobenzene	108-90-7	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
1,3-Dichlorobenzene	541-73-7	ND	0.005
1,2-Dichlorobenzene	95-50-1	ND	0.005
1,4-Dichlorobenzene	106-46-7	ND	0.005
Freon 113	76-13-1	ND	0.005
p,m-Xylenes	--	ND	0.005
o-Xylene	95-47-6	ND	0.005
Acetone	67-64-1	0.04	0.02
2-Butanone	78-93-3	ND	0.02
4-Methyl-2-pentanone	108-10-1	ND	0.02
2-Hexanone	591-78-6	ND	0.02
Vinyl acetate	108-05-4	ND	0.01

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: 26815
Clayton Project No. 92112.60

Sample Identification:	9AV-B10-10	Date Sampled:	11/19/92
Lab Number:	9211260-08A	Date Received:	11/20/92
Sample Matrix/Media:	SOIL	Date Prepared:	11/25/92
Preparation Method:	EPA 5030	Date Analyzed:	11/25/92
Analytical Method:	EPA 8240		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued)			
Carbon disulfide	75-15-0	ND	0.005
Styrene	100-42-5	ND	0.005
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
1,2-Dichloroethane-d4	17060-07-0	115	70 - 121
Toluene-d8	2037-26-5	103	81 - 117
Bromofluorobenzene	460-00-4	96	74 - 121

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: 26815
Clayton Project No. 92112.60

Sample Identification:	9AV-B6-7	Date Sampled:	11/20/92
Lab Number:	9211260-15A	Date Received:	11/20/92
Sample Matrix/Media:	SOIL	Date Prepared:	11/25/92
Preparation Method:	EPA 5030	Date Analyzed:	11/25/92
Analytical Method:	EPA 8240		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	0.005
Bromomethane	74-83-9	ND	0.005
Vinyl chloride	75-01-4	ND	0.005
Chloroethane	75-00-3	ND	0.005
Methylene chloride	75-09-2	ND	0.005
Trichlorofluoromethane	75-69-4	ND	0.005
1,1-Dichloroethene	75-35-4	ND	0.005
1,1-Dichloroethane	75-35-3	ND	0.005
Trans-1,2-Dichloroethene	156-60-5	ND	0.005
Cis-1,2-Dichloroethene	156-59-2	ND	0.005
Chloroform	67-66-3	ND	0.005
1,2-Dichloroethane	107-06-2	ND	0.005
1,1,1-Trichloroethane	71-55-6	ND	0.005
Carbon tetrachloride	56-23-5	ND	0.005
Bromodichloromethane	75-27-4	ND	0.005
1,2-Dichloropropane	78-87-5	ND	0.005
Cis-1,3-Dichloropropene	10061-01-5	ND	0.005
Trichloroethene	79-01-6	ND	0.005
Benzene	71-43-2	ND	0.005
Dibromochloromethane	124-48-1	ND	0.005

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: 26815
Clayton Project No. 92112.60

Sample Identification:	9AV-B6-7	Date Sampled:	11/20/92
Lab Number:	9211260-15A	Date Received:	11/20/92
Sample Matrix/Media:	SOIL	Date Prepared:	11/25/92
Preparation Method:	EPA 5030	Date Analyzed:	11/25/92
Analytical Method:	EPA 8240		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued)			
1,1,2-Trichloroethane	79-00-5	ND	0.005
Trans-1,3-Dichloropropene	10061-02-6	ND	0.005
2-Chloroethylvinylether	110-75-8	ND	0.005
Bromoform	75-25-2	ND	0.005
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.005
Tetrachloroethene	127-18-4	ND	0.005
Toluene	108-88-3	ND	0.005
Chlorobenzene	108-90-7	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
1,3-Dichlorobenzene	541-73-7	ND	0.005
1,2-Dichlorobenzene	95-50-1	ND	0.005
1,4-Dichlorobenzene	106-46-7	ND	0.005
Freon 113	76-13-1	ND	0.005
p,m-Xylenes	--	ND	0.005
o-Xylene	95-47-6	ND	0.005
Acetone	67-64-1	0.03	0.02
2-Butanone	78-93-3	ND	0.02
4-Methyl-2-pentanone	108-10-1	ND	0.02
2-Hexanone	591-78-6	ND	0.02
Vinyl acetate	108-05-4	ND	0.01

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: 26815
Clayton Project No. 92112.60

Sample Identification:	9AV-B6-7	Date Sampled:	11/20/92
Lab Number:	9211260-15A	Date Received:	11/20/92
Sample Matrix/Media:	SOIL	Date Prepared:	11/25/92
Preparation Method:	EPA 5030	Date Analyzed:	11/25/92
Analytical Method:	EPA 8240		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued)			
Carbon disulfide	75-15-0	ND	0.005
Styrene	100-42-5	ND	0.005
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
1,2-Dichloroethane-d4	17060-07-0	111	70 - 121
Toluene-d8	2037-26-5	99	81 - 117
Bromofluorobenzene	460-00-4	93	74 - 121

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: 26815
Clayton Project No. 92112.60

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9211260-16A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	11/25/92
Preparation Method:	EPA 5030	Date Analyzed:	11/25/92
Analytical Method:	EPA 8240		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	0.005
Bromomethane	74-83-9	ND	0.005
Vinyl chloride	75-01-4	ND	0.005
Chloroethane	75-00-3	ND	0.005
Methylene chloride	75-09-2	ND	0.005
Trichlorofluoromethane	75-69-4	ND	0.005
1,1-Dichloroethene	75-35-4	ND	0.005
1,1-Dichloroethane	75-35-3	ND	0.005
Trans-1,2-Dichloroethene	156-60-5	ND	0.005
Cis-1,2-Dichloroethene	156-59-2	ND	0.005
Chloroform	67-66-3	ND	0.005
1,2-Dichloroethane	107-06-2	ND	0.005
1,1,1-Trichloroethane	71-55-6	ND	0.005
Carbon tetrachloride	56-23-5	ND	0.005
Bromodichloromethane	75-27-4	ND	0.005
1,2-Dichloropropane	78-87-5	ND	0.005
Cis-1,3-Dichloropropene	10061-01-5	ND	0.005
Trichloroethene	79-01-6	ND	0.005
Benzene	71-43-2	ND	0.005
Dibromochloromethane	124-48-1	ND	0.005

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: 26815
Clayton Project No. 92112.60

Sample Identification: METHOD BLANK
Lab Number: 9211260-16A
Sample Matrix/Media: SOIL
Preparation Method: EPA 5030
Analytical Method: EPA 8240

Date Sampled: --
Date Received: --
Date Prepared: 11/25/92
Date Analyzed: 11/25/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued)			
1,1,2-Trichloroethane	79-00-5	ND	0.005
Trans-1,3-Dichloropropene	10061-02-6	ND	0.005
2-Chloroethylvinylether	110-75-8	ND	0.005
Bromoform	75-25-2	ND	0.005
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.005
Tetrachloroethene	127-18-4	ND	0.005
Toluene	108-88-3	ND	0.005
Chlorobenzene	108-90-7	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
1,3-Dichlorobenzene	541-73-7	ND	0.005
1,2-Dichlorobenzene	95-50-1	ND	0.005
1,4-Dichlorobenzene	106-46-7	ND	0.005
Freon 113	76-13-1	ND	0.005
p,m-Xylenes	--	ND	0.005
o-Xylene	95-47-6	ND	0.005
Acetone	67-64-1	ND	0.02
2-Butanone	78-93-3	ND	0.02
4-Methyl-2-pentanone	108-10-1	ND	0.02
2-Hexanone	591-78-6	ND	0.02
Vinyl acetate	108-05-4	ND	0.01

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: 26815
Clayton Project No. 92112.60

Sample Identification: METHOD BLANK
Lab Number: 9211260-16A
Sample Matrix/Media: SOIL
Preparation Method: EPA 5030
Analytical Method: EPA 8240

Date Sampled: --
Date Received: --
Date Prepared: 11/25/92
Date Analyzed: 11/25/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued)			
Carbon disulfide	75-15-0	ND	0.005
Styrene	100-42-5	ND	0.005
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
1,2-Dichloroethane-d4	17060-07-0	111	70 - 121
Toluene-d8	2037-26-5	106	81 - 117
Bromofluorobenzene	460-00-4	106	74 - 121

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

2930 LAKESHORE AVENUE
SUITE TWO HUNDRED
OAKLAND, CALIFORNIA 94610
510 ~~415~~ - 832 - 2233
FAX ~~415~~ - 832 - 2237
510

ALAN WHITE (PM)
JON AMDUR (FORT CONTACT)

CHAIN OF CUSTODY RECORD

PROJ. NO. 26815

PROJECT NAME: NINTH AVE. TERMINAL

SAMPLERS: (Signature) Edward C. Kuldoff

NO	DATE	TIME	COMP	GRAB	SAMPLE I.D.	NO. OF CONTAINERS	ANALYSIS: TRPH 418.1	TPH-D 8015 M	CCR 22 METALS	8240			REMARKS
1	11/19/92	1340		X	9AV-B2-4	1	X	X	X				(STAT)
2	11/19/92	1350		X	9AV-B2-7	1	X	X	X				
3	11/19/92	1240		X	9AV-B3-5	1	X	X	X				
4	11/19/92	1250		X	9AV-B3-7	1	X	X	X				
5	11/19/92	1435		X	9AV-B4-4	1	X	X	X				
6	11/19/92	1443		X	9AV-B4-7	1	X	X	X				
7	11/19/92	1134		X	9AV-B10-4	1	X	X	X				
8	11/19/92	1155		X	9AV-B10-10	1	X	X	X	X			
9	11/19/92	1230		X	9AV-B0-4	1	X	X	X				
10	11/20/92	0905		X	9AV-B1-4	1	X	X	X				
11	11/20/92	0915		X	9AV-B1-7	1	X	X	X				
12	11/20/92	1010		X	9AV-B5-4	1	X	X	X				
13	11/20/92	1030		X	9AV-B5-7	1	X	X	X				
14	11/20/92	1105		X	9AV-B6-4	1	X	X	X				
15	11/20/92	1115		X	9AV-B6-7	1	X	X	X	X			

CHECK IF RUSH

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Ed Kuldoff	11/20/92 11:00pm				
	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	11/20/92 4:00	Gary J. Hoodemoto			
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	NAME	
Gary J. Hoodemoto	11/20/92 4:05			ADDRESS	
				PHONE NO	

Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

January 7, 1993

Mr. Ed Kilduff
URIBE & ASSOCIATES
2930 Lakeshore Ave, Ste. 200
Oakland, CA 94610

Client Ref. PROJ.#96-203
Clayton Project No. 92122.98

Dear Mr. Kilduff:

Attached is our analytical laboratory report for the samples received on December 18, 1992. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

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

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

Sincerely,

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

RHP/tb
Attachments

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification: 1217-1-5.0
Lab Number: 9212298-01A
Sample Matrix/Media: SOIL
Preparation Method: EPA 1311 ZHE
Analytical Method: EPA 8020

Date Sampled: 12/17/92
Date Received: 12/18/92
Date Prepared: 12/28/92
Date Analyzed: 01/04/93

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	96	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification:	1217-1-10.0	Date Sampled:	12/17/92
Lab Number:	9212298-02A	Date Received:	12/18/92
Sample Matrix/Media:	SOIL	Date Prepared:	12/28/92
Preparation Method:	EPA 1311 ZHE	Date Analyzed:	01/04/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	100	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification: 1217-1-16.0
Lab Number: 9212298-03A
Sample Matrix/Media: SOIL
Preparation Method: EPA 1311 ZHE
Analytical Method: EPA 8020

Date Sampled: 12/17/92
Date Received: 12/18/92
Date Prepared: 12/28/92
Date Analyzed: 01/04/93

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	98	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification: 1217-2-5.5
Lab Number: 9212298-04A
Sample Matrix/Media: SOIL
Preparation Method: EPA 1311 ZHE
Analytical Method: EPA 8020

Date Sampled: 12/17/92
Date Received: 12/18/92
Date Prepared: 12/28/92
Date Analyzed: 01/04/93

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	98	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification:	1217-2-10.5	Date Sampled:	12/17/92
Lab Number:	9212298-05A	Date Received:	12/18/92
Sample Matrix/Media:	SOIL	Date Prepared:	12/29/92
Preparation Method:	EPA 1311 ZHE	Date Analyzed:	01/04/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	95	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification:	1217-2-16.0	Date Sampled:	12/17/92
Lab Number:	9212298-06A	Date Received:	12/18/92
Sample Matrix/Media:	SOIL	Date Prepared:	12/29/92
Preparation Method:	EPA 1311 ZHE	Date Analyzed:	01/04/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	95	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification:	1217-3-5.0	Date Sampled:	12/17/92
Lab Number:	9212298-07A	Date Received:	12/18/92
Sample Matrix/Media:	SOIL	Date Prepared:	12/29/92
Preparation Method:	EPA 1311 ZHE	Date Analyzed:	01/05/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	98	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification:	1217-3-10.0	Date Sampled:	12/17/92
Lab Number:	9212298-08A	Date Received:	12/18/92
Sample Matrix/Media:	SOIL	Date Prepared:	12/29/92
Preparation Method:	EPA 1311 ZHE	Date Analyzed:	01/05/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	93	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification:	1217-3-15.5	Date Sampled:	12/17/92
Lab Number:	9212298-09A	Date Received:	12/18/92
Sample Matrix/Media:	SOIL	Date Prepared:	12/30/92
Preparation Method:	EPA 1311 ZHE	Date Analyzed:	01/05/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	91	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification:	1217-4-4.0	Date Sampled:	12/17/92
Lab Number:	9212298-10A	Date Received:	12/18/92
Sample Matrix/Media:	SOIL	Date Prepared:	12/30/92
Preparation Method:	EPA 1311 ZHE	Date Analyzed:	01/05/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	86	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification:	1217-4-5.5	Date Sampled:	12/17/92
Lab Number:	9212298-11A	Date Received:	12/18/92
Sample Matrix/Media:	SOIL	Date Prepared:	12/30/92
Preparation Method:	EPA 1311 ZHE	Date Analyzed:	01/05/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	89	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification:	1217-4-7.5	Date Sampled:	12/17/92
Lab Number:	9212298-12A	Date Received:	12/18/92
Sample Matrix/Media:	SOIL	Date Prepared:	12/30/92
Preparation Method:	EPA 1311 ZHE	Date Analyzed:	01/06/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	104	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification:	1217-5-4.5	Date Sampled:	12/17/92
Lab Number:	9212298-13A	Date Received:	12/18/92
Sample Matrix/Media:	SOIL	Date Prepared:	01/04/93
Preparation Method:	EPA 1311 ZHE	Date Analyzed:	01/05/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	81	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification:	1217-5-6.0	Date Sampled:	12/17/92
Lab Number:	9212298-14A	Date Received:	12/18/92
Sample Matrix/Media:	SOIL	Date Prepared:	01/04/93
Preparation Method:	EPA 1311 ZHE	Date Analyzed:	01/05/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	80	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification:	1217-5-8.0	Date Sampled:	12/17/92
Lab Number:	9212298-15A	Date Received:	12/18/92
Sample Matrix/Media:	SOIL	Date Prepared:	01/04/93
Preparation Method:	EPA 1311 ZHE	Date Analyzed:	01/05/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	86	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9212298-20A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	12/28/92
Preparation Method:	EPA 1311 ZHE	Date Analyzed:	01/04/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	100	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification: METHOD BLANK
Lab Number: 9212298-21A
Sample Matrix/Media: SOIL
Preparation Method: EPA 1311 ZHE
Analytical Method: EPA 8020

Date Sampled: --
Date Received: --
Date Prepared: 12/29/92
Date Analyzed: 01/04/93

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	93	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification: METHOD BLANK
Lab Number: 9212298-22A
Sample Matrix/Media: SOIL
Preparation Method: EPA 1311 ZHE
Analytical Method: EPA 8020

Date Sampled: --
Date Received: --
Date Prepared: 12/30/92
Date Analyzed: 01/05/93

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	91	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification: METHOD BLANK
Lab Number: 9212298-23A
Sample Matrix/Media: SOIL
Preparation Method: EPA 1311 ZHE
Analytical Method: EPA 8020

Date Sampled: --
Date Received: --
Date Prepared: 01/04/93
Date Analyzed: 01/05/93

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	84	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9212298-24A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	01/05/93
Preparation Method:	EPA 1311 ZHE	Date Analyzed:	01/06/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	101	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Matrix/Media: SOIL
Preparation Method: EPA 1311
Analysis Method: EPA 8015

Date Received: 12/18/92
Date Prepared: 12/28/92
Date Analyzed: 12/30/92

Lab Number	Sample Identification	Date Sampled	TCLP-Diesel (mg/L)	Detection Limit (mg/L)
01A	1217-1-5.0	12/17/92	ND	0.5
02A	1217-1-10.0	12/17/92	ND	0.5
03A	1217-1-16.0	12/17/92	ND	0.5
04A	1217-2-5.5	12/17/92	ND	0.5
05A	1217-2-10.5	12/17/92	ND	0.5
06A	1217-2-16.0	12/17/92	ND	0.5
07A	1217-3-5.0	12/17/92	ND	0.5
08A	1217-3-10.0	12/17/92	ND	0.5
09A	1217-3-15.5	12/17/92	ND	0.5
10A	1217-4-4.0	12/17/92	0.5	0.5
11A	1217-4-5.5	12/17/92	10	0.5
12A	1217-4-7.5	12/17/92	0.8	0.5
13A	1217-5-4.5	12/17/92	ND	0.5
14A	1217-5-6.0	12/17/92	ND	0.5
15A	1217-5-8.0	12/17/92	ND	0.5
16A	1217-DRUMS	12/17/92	0.5	0.5
17A	1217-SLUDGE	12/17/92	0.6	0.5
20A	METHOD BLANK	--	ND	0.5

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

Quality Assurance Results Summary
for
Clayton Project No. 92122.98

Clayton Lab Number:	9212298-01A	Analytical Method:	EPATCLPVO
Ext./Prep. Method:	EPA TCLP_ZH	Instrument ID:	02857
Date:	12/28/92	Date:	01/04/93
Analyst:	HYT	Time:	17:15
Std. Source:	V921223-01W	Analyst:	PF
Sample Matrix/Media:	TCLP	Units:	MG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
BENZENE	ND	0.0200	0.0213	107	0.0217	109	108	10	180	1.9	40

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 92122.98

Clayton Lab Number:	9212298-07A	Analytical Method:	EPATCLPVO
Ext./Prep. Method:	EPA TCLP_ZH	Instrument ID:	05587
Date:	12/29/92	Date:	01/05/92
Analyst:	HYT	Time:	13:01
Std. Source:	V921223-01W	Analyst:	PF
Sample Matrix/Media:	TCLP	Units:	MG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
BENZENE	ND	0.0200	0.0188	94	0.0205	103	98	10	180	8.7	40

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 92122.98

Clayton Lab Number:	9212298-16A	Analytical Method:	EPATCLPVO
Ext./Prep. Method:	EPA TCLP_ZH	Instrument ID:	05587
Date:	01/04/92	Date:	01/05/92
Analyst:	HYT	Time:	21:05
Std. Source:	V921223-01W	Analyst:	PF
Sample Matrix/Media:	TCLP	Units:	MG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
BENZENE	ND	0.0200	0.0199	100	0.0203	102	101	10	180	2.0	40

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 92122.98

Clayton Lab Number:	9212370-06A	Analytical Method:	EPATCLPVO
Ext./Prep. Method:	EPA TCLP_ZH	Instrument ID:	05587
Date:	01/05/92	Date:	01/06/92
Analyst:	HYT	Time:	14:00
Std. Source:	V921223-01W	Analyst:	PF
Sample Matrix/Media:	TCLP	Units:	MG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
BENZENE	ND	0.0200	0.0193	97	0.0199	100	98	10	180	3.1	40

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 92122.98

Clayton Lab Number:	9212298-06A	Analytical Method:	EPA8015
Ext./Prep. Method:	EPA3510	Instrument ID:	02883
Date:	12/29/92	Date:	12/30/92
Analyst:	H/S	Time:	15:29
Std. Source:	G921125-01W	Analyst:	AM
Sample Matrix/Media:	TCLP	Units:	MG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
DIESEL	ND	8.00	6.01	75	6.27	78	77	40	140	4.2	30

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 92122.98

Clayton Lab Number:	9212295-MB	Analytical Method:	EPA8015
Ext./Prep. Method:	EPA3510	Instrument ID:	02834
Date:	12/22/92	Date:	12/23/92
Analyst:	H/S	Time:	14:40
Std. Source:	G921125-01W	Analyst:	AM
Sample Matrix/Media:	WATER	Units:	UG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
DIESEL	ND	800	510	64	560	70	67	40	140	9.3	40

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

U&A	URIBE & ASSOCIATES 2930 LAKESHORE AVENUE SUITE TWO HUNDRED OAKLAND, CALIFORNIA 94610 415 - 832 - 2233 FAX 415 - 832 - 2237

Project Mgr.: Ed Kilduff

1/2
9212298

Port of Oakland:
026815

CHAIN OF CUSTODY RECORD

bill: Port of Oakland EMP

PROJ. NO.	PROJECT NAME
96-203	9th Ave Terminal

SAMPLERS: (Signature) John C Bonge   PROJ. MGR: ED KILDUFF

NO. OF CONTAINERS

ANALYSIS: ~~Diesel~~ EMP | TPH-Diesel+BTEX | TCLP Diesel+BTEX | Cont. SIZE: Soils

normal T.A.T.

CHECK IF RUSH

NO	DATE	TIME	COMP	GRAB	SAMPLE I.D.	NO. OF CONTAINERS	~~Diesel~~ EMP	TPH-Diesel+BTEX	TCLP Diesel+BTEX		Cont. SIZE: Soils	REMARKS
~~1217~~ 1	12/17	8:35		X	1217-1-5.0	1 liner		*			2x6BK	OL
2		8:42			-1-10.0							
3		8:48			-1-15.5							rec'd 1217-1-16.0*
4		9:00			-2-5.5							
5		9:10			-2-10.5							DIDNT RECEIVE A SAMPLE LABELLED 1217-2-16.0
6		9:15			-2-16.0							BUT REC'd a SAMPLE Without A LABEL logged as
7		9:25			-3-5.6							OC
8		9:30			-3-10.0							
9		9:40			-3-16.5							* rec'd 1217-3-15.5
10		12:30			-4-4.0							
11		12:36			-4-5.5						2x4BK	
12		12:40			-4-7.5							* rec'd 1217-5-4.5
13		12:50			-5-5.5							
14		12:55			-5-6.0							
15		1:00			-5-8.0						2x6BK	

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
John C Bonge	12/18/92 9:40a	Jim Mitchell	John Mitchell	10/18/92 10:15 AM	
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 PHONE NO.	
		Tracy Salas	12/18/92 10:15am		

URIBE & ASSOCIATES
2930 LAKESHORE AVENUE
SUITE TWO HUNDRED
OAKLAND, CALIFORNIA 94610
415-832-2233
FAX 415-832-2237

2/2
9212298

CHAIN OF CUSTODY RECORD

bill: Port of Oakland

PROJ. NO.: 96-203
PROJECT NAME: 9th Ave. Terminal
SAMPLERS: (Signature) John C Borrego

Analysis: TPH-Diesel + BTEX (crossed out); EPA 8080 - Pesticides (crossed out, "Cancel"); TCLP-Diesel + BTEX; TPH-DIESEL; Grainsize - sell

Remarks: Normal T.A.T.

CHECK IF RUSH

NO	DATE	TIME	COMP	GRAB	SAMPLE I.D.	NO. OF CONTAINERS	TPH-Diesel + BTEX	EPA 8080 Pesticides	TCLP-Diesel + BTEX	TPH-DIESEL	Grainsize	REMARKS
~~1217~~ 1	12/17	12:00	X		1217 - drums	1 bag	X	~~X~~	X			PL Bag
2	12/17	11:00		X	1217 - Sludge	1 bag	X	~~X~~	X			↓
3	12/17	11:10		X	1217 - Water	1 l	X	~~X~~		X		1x g/L - SC pres. w/HCl after receiving

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
John C Borrego	12/18/92 9:40a	Jim Mitchell	Jim Mitchell	12/18/92 10:15 Am	
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	
		[illegible signature]	12/18/92 10:15 Am		

URIBE & ASSOCIATES
2930 LAKESHORE AVENUE
SUITE TWO HUNDRED
OAKLAND, CALIFORNIA 94610
415 - 832 - 2233
FAX 415 - 832 - 2237

Project Mgr.: Ed Kilduff

1/2
9212298

Port of Oakland:
026815

CHAIN OF CUSTODY RECORD

bill: Port of Oakland

PROJ. NO.	PROJECT NAME
96-203	9th Ave Terminal

SAMPLERS: (Signature) John C Borrego   PROJ. Mgr: ED KILDUFF

ANALYSIS: ~~Diesel~~ [illegible]; ~~TPH-Diesel + BTEX~~; TCLP Diesel + BTEX; Cont. size: Soils

REMARKS: normal T.A.T.   CHECK IF RUSH

NO.	DATE	TIME	COMP	GRAB	SAMPLE I.D.	NO. OF CONTAINERS	Analysis	Cont. size	REMARKS
~~1217~~ 1	12/17	8:35		X	1217-1-5.0	1 liner	*@	2x6 BK	OK
2	↓	8:42		↓	-1-10.0	↓	↓	↓	REC'd 1217-1-16.0*
3		8:48			-1-15.5				
4		9:00			-2-5.5				
5		9:10			-2-10.5				DIDNT RECEIVE A SAMPLE LABELLED 1217-2-16.0 BUT REC'd a SAMPLE Without A LABEL logged as 1217-2-16.0
6		9:15			-2-16.0				
7		9:25			-3-5.6				OK
8		9:30			-3-10.0				
9		9:40			-3-16.5				REC'd 1217-3-15.5
10		12:30			-4-4.0			2x4 BK	
11		12:36			-4-5.5				
12		12:40			-4-7.5				REC'd 1217-5-4.5
13		12:50			-5-5.5				
14		12:55			-5-6.0				
15	↓	1:00		↓	-5-8.0	↓	↓	2x6 BK	↓

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
John C Borrego	12/18/92 9:40a	Jim Mitchell	John Mitchell	12/18/92 10:15 AM	
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	
		[signature]	12/18/92 10:15A		

U&A
URIBE & ASSOCIATES
2930 LAKESHORE AVENUE
SUITE TWO HUNDRED
OAKLAND, CALIFORNIA 94610
415 - 832 - 2233
FAX 415 - 832 - 2237

2/2
9212298

CHAIN OF CUSTODY RECORD

bill: Port of Oakland

PROJ. NO.: 96-203
PROJECT NAME: 9th Ave. Terminal
SAMPLERS: (Signature) John C Borrego

Normal T.A.T.

CHECK IF RUSH

NO	DATE	TIME	COMP	GRAB	SAMPLE I.D.	NO. OF CONTAINERS	ANALYSIS: ~~TPH-Diesel + BTEX~~	~~EPA 8080 - Pesticides~~	TCLP-Diesel + BTEX	TPH-DIESEL	Grainsize - Sell	REMARKS
~~1217~~ 1	12/17	12:00	X		1217 - drums	1 bag	X	X	X		PL flag	
2	12/17	11:00		X	1217 - Sludge	1 bag	X	X	X		↓	
3	12/17	11:10		X	1217 - Water	1 l	X	X		X		1x 1L - SC pres. w/ HCl after receiving

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
John C Borrego	12/18/92 9:40a	Jim Mitchell	Jim Mitchell	10/18/92 10:15 Am	
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	
		Tex Salee	12/18/92 10:15Am		

Cancel
per

Water Sample Analyses From Following Borings:

Boring Number on Figures	Sample ID Prefix
B1	9AV-B1
B3	9AV-B3
B5	9AV-B5
B7	9AV-B10

Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

December 9, 1992

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

Client Ref. 26815
Clayton Project No. 92112.64

Dear Mr. White:

Attached is our analytical laboratory report for the samples received on November 20, 1992. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

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

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact 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: 26815
Clayton Project No. 92112.64

Sample Identification:	9AV-B10-W2	Date Sampled:	11/20/92
Lab Number:	9211264-04A	Date Received:	11/20/92
Sample Matrix/Media:	WATER	Date Prepared:	11/24/92
Preparation Method:	EPA 5030	Date Analyzed:	11/24/92
Analytical Method:	EPA 8240		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Organics			
Chloromethane	74-87-3	ND	5
Bromomethane	74-83-9	ND	5
Vinyl chloride	75-01-4	ND	5
Chloroethane	75-00-3	ND	5
Methylene chloride	75-09-2	ND	5
Trichlorofluoromethane	75-69-4	ND	5
1,1-Dichloroethene	75-35-4	ND	5
1,1-Dichloroethane	75-35-3	ND	5
Trans-1,2-Dichloroethene	156-60-5	ND	5
Cis-1,2-Dichloroethene	156-59-2	ND	5
Chloroform	67-66-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
Carbon tetrachloride	56-23-5	ND	5
Bromodichloromethane	75-27-4	ND	5
1,2-Dichloropropane	78-87-5	ND	5
Cis-1,3-Dichloropropene	10061-01-5	ND	5
Trichloroethene	79-01-6	ND	5
Benzene	71-43-2	ND	5
Dibromochloromethane	124-48-1	ND	5

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 26815
Clayton Project No. 92112.64

Sample Identification:	9AV-B10-W2	Date Sampled:	11/20/92
Lab Number:	9211264-04A	Date Received:	11/20/92
Sample Matrix/Media:	WATER	Date Prepared:	11/24/92
Preparation Method:	EPA 5030	Date Analyzed:	11/24/92
Analytical Method:	EPA 8240		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Organics (continued)			
1,1,2-Trichloroethane	79-00-5	ND	5
Trans-1,3-Dichloropropene	10061-02-6	ND	5
2-Chloroethylvinylether	110-75-8	ND	5
Bromoform	75-25-2	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
Chlorobenzene	108-90-7	ND	5
Ethylbenzene	100-41-4	ND	5
1,3-Dichlorobenzene	541-73-7	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Freon 113	76-13-1	ND	5
p,m-Xylenes	--	ND	5
o-Xylene	95-47-6	ND	5
Acetone	67-64-1	ND	20
2-Butanone	78-93-3	ND	20
4-Methyl-2-pentanone	108-10-1	ND	20
2-Hexanone	591-78-6	ND	20
Vinyl acetate	108-05-4	ND	10

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 26815
Clayton Project No. 92112.64

Sample Identification:	9AV-B10-W2	Date Sampled:	11/20/92
Lab Number:	9211264-04A	Date Received:	11/20/92
Sample Matrix/Media:	WATER	Date Prepared:	11/24/92
Preparation Method:	EPA 5030	Date Analyzed:	11/24/92
Analytical Method:	EPA 8240		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Organics (continued)			
1,1,2-Trichloroethane	79-00-5	ND	5
Trans-1,3-Dichloropropene	10061-02-6	ND	5
2-Chloroethylvinylether	110-75-8	ND	5
Bromoform	75-25-2	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
Chlorobenzene	108-90-7	ND	5
Ethylbenzene	100-41-4	ND	5
1,3-Dichlorobenzene	541-73-7	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Freon 113	76-13-1	ND	5
p,m-Xylenes	--	ND	5
o-Xylene	95-47-6	ND	5
Acetone	67-64-1	ND	20
2-Butanone	78-93-3	ND	20
4-Methyl-2-pentanone	108-10-1	ND	20
2-Hexanone	591-78-6	ND	20
Vinyl acetate	108-05-4	ND	10

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 26815
Clayton Project No. 92112.64

Sample Identification:	9AV-B10-W2	Date Sampled:	11/20/92
Lab Number:	9211264-04A	Date Received:	11/20/92
Sample Matrix/Media:	WATER	Date Prepared:	11/24/92
Preparation Method:	EPA 5030	Date Analyzed:	11/24/92
Analytical Method:	EPA 8240		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Organics (continued)			
Carbon disulfide	75-15-0	ND	5
Styrene	100-42-5	ND	5
Surrogates		Recovery (%)	QC Limits (%) LCL - UCL
1,2-Dichloroethane-d4	17060-07-0	113	76 - 114
Toluene-d8	2037-26-5	105	88 - 110
Bromofluorobenzene	460-00-4	105	86 - 115

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 26815
Clayton Project No. 92112.64

Sample Identification:	9AV-B5-W2	Date Sampled:	11/20/92
Lab Number:	9211264-06A	Date Received:	11/20/92
Sample Matrix/Media:	WATER	Date Prepared:	11/24/92
Preparation Method:	EPA 5030	Date Analyzed:	11/24/92
Analytical Method:	EPA 8240		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Organics			
Chloromethane	74-87-3	ND	5
Bromomethane	74-83-9	ND	5
Vinyl chloride	75-01-4	ND	5
Chloroethane	75-00-3	ND	5
Methylene chloride	75-09-2	ND	5
Trichlorofluoromethane	75-69-4	ND	5
1,1-Dichloroethene	75-35-4	ND	5
1,1-Dichloroethane	75-35-3	ND	5
Trans-1,2-Dichloroethene	156-60-5	ND	5
Cis-1,2-Dichloroethene	156-59-2	ND	5
Chloroform	67-66-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
Carbon tetrachloride	56-23-5	ND	5
Bromodichloromethane	75-27-4	ND	5
1,2-Dichloropropane	78-87-5	ND	5
Cis-1,3-Dichloropropene	10061-01-5	ND	5
Trichloroethene	79-01-6	ND	5
Benzene	71-43-2	ND	5
Dibromochloromethane	124-48-1	ND	5

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 26815
Clayton Project No. 92112.64

Sample Identification:	9AV-B5-W2	Date Sampled:	11/20/92
Lab Number:	9211264-06A	Date Received:	11/20/92
Sample Matrix/Media:	WATER	Date Prepared:	11/24/92
Preparation Method:	EPA 5030	Date Analyzed:	11/24/92
Analytical Method:	EPA 8240		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Organics (continued)			
1,1,2-Trichloroethane	79-00-5	ND	5
Trans-1,3-Dichloropropene	10061-02-6	ND	5
2-Chloroethylvinylether	110-75-8	ND	5
Bromoform	75-25-2	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
Chlorobenzene	108-90-7	ND	5
Ethylbenzene	100-41-4	ND	5
1,3-Dichlorobenzene	541-73-7	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Freon 113	76-13-1	ND	5
p,m-Xylenes	--	ND	5
o-Xylene	95-47-6	ND	5
Acetone	67-64-1	ND	20
2-Butanone	78-93-3	ND	20
4-Methyl-2-pentanone	108-10-1	ND	20
2-Hexanone	591-78-6	ND	20
Vinyl acetate	108-05-4	ND	10

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 26815
Clayton Project No. 92112.64

Sample Identification:	9AV-B5-W2	Date Sampled:	11/20/92
Lab Number:	9211264-06A	Date Received:	11/20/92
Sample Matrix/Media:	WATER	Date Prepared:	11/24/92
Preparation Method:	EPA 5030	Date Analyzed:	11/24/92
Analytical Method:	EPA 8240		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Organics (continued)			
Carbon disulfide	75-15-0	ND	5
Styrene	100-42-5	ND	5
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
1,2-Dichloroethane-d4	17060-07-0	103	76 - 114
Toluene-d8	2037-26-5	95	88 - 110
Bromofluorobenzene	460-00-4	106	86 - 115

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 26815
Clayton Project No. 92112.64

Sample Identification:	TRIP BLANK	Date Sampled:	11/20/92
Lab Number:	9211264-07A	Date Received:	11/20/92
Sample Matrix/Media:	WATER	Date Prepared:	11/25/92
Preparation Method:	EPA 5030	Date Analyzed:	11/25/92
Analytical Method:	EPA 8240		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Organics			
Chloromethane	74-87-3	ND	5
Bromomethane	74-83-9	ND	5
Vinyl chloride	75-01-4	ND	5
Chloroethane	75-00-3	ND	5
Methylene chloride	75-09-2	ND	5
Trichlorofluoromethane	75-69-4	ND	5
1,1-Dichloroethene	75-35-4	ND	5
1,1-Dichloroethane	75-35-3	ND	5
Trans-1,2-Dichloroethene	156-60-5	ND	5
Cis-1,2-Dichloroethene	156-59-2	ND	5
Chloroform	67-66-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
Carbon tetrachloride	56-23-5	ND	5
Bromodichloromethane	75-27-4	ND	5
1,2-Dichloropropane	78-87-5	ND	5
Cis-1,3-Dichloropropene	10061-01-5	ND	5
Trichloroethene	79-01-6	ND	5
Benzene	71-43-2	ND	5
Dibromochloromethane	124-48-1	ND	5

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 26815
Clayton Project No. 92112.64

Sample Identification:	TRIP BLANK	Date Sampled:	11/20/92
Lab Number:	9211264-07A	Date Received:	11/20/92
Sample Matrix/Media:	WATER	Date Prepared:	11/25/92
Preparation Method:	EPA 5030	Date Analyzed:	11/25/92
Analytical Method:	EPA 8240		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Organics (continued)			
1,1,2-Trichloroethane	79-00-5	ND	5
Trans-1,3-Dichloropropene	10061-02-6	ND	5
2-Chloroethylvinylether	110-75-8	ND	5
Bromoform	75-25-2	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
Chlorobenzene	108-90-7	ND	5
Ethylbenzene	100-41-4	ND	5
1,3-Dichlorobenzene	541-73-7	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Freon 113	76-13-1	ND	5
p,m-Xylenes	--	ND	5
o-Xylene	95-47-6	ND	5
Acetone	67-64-1	ND	20
2-Butanone	78-93-3	ND	20
4-Methyl-2-pentanone	108-10-1	ND	20
2-Hexanone	591-78-6	ND	20
Vinyl acetate	108-05-4	ND	10

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 26815
Clayton Project No. 92112.64

Sample Identification:	TRIP BLANK	Date Sampled:	11/20/92
Lab Number:	9211264-07A	Date Received:	11/20/92
Sample Matrix/Media:	WATER	Date Prepared:	11/25/92
Preparation Method:	EPA 5030	Date Analyzed:	11/25/92
Analytical Method:	EPA 8240		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Organics (continued)			
Carbon disulfide	75-15-0	ND	5
Styrene	100-42-5	ND	5
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
1,2-Dichloroethane-d4	17060-07-0	112	76 - 114
Toluene-d8	2037-26-5	99	88 - 110
Bromofluorobenzene	460-00-4	101	86 - 115

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 26815
Clayton Project No. 92112.64

Sample Identification: METHOD BLANK
Lab Number: 9211264-10A
Sample Matrix/Media: WATER
Preparation Method: EPA 5030
Analytical Method: EPA 8240

Date Sampled: --
Date Received: --
Date Prepared: 11/24/92
Date Analyzed: 11/24/92

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Organics			
Chloromethane	74-87-3	ND	5
Bromomethane	74-83-9	ND	5
Vinyl chloride	75-01-4	ND	5
Chloroethane	75-00-3	ND	5
Methylene chloride	75-09-2	ND	5
Trichlorofluoromethane	75-69-4	ND	5
1,1-Dichloroethene	75-35-4	ND	5
1,1-Dichloroethane	75-35-3	ND	5
Trans-1,2-Dichloroethene	156-60-5	ND	5
Cis-1,2-Dichloroethene	156-59-2	ND	5
Chloroform	67-66-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
Carbon tetrachloride	56-23-5	ND	5
Bromodichloromethane	75-27-4	ND	5
1,2-Dichloropropane	78-87-5	ND	5
Cis-1,3-Dichloropropene	10061-01-5	ND	5
Trichloroethene	79-01-6	ND	5
Benzene	71-43-2	ND	5
Dibromochloromethane	124-48-1	ND	5

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 26815
Clayton Project No. 92112.64

Sample Identification: METHOD BLANK
Lab Number: 9211264-10A
Sample Matrix/Media: WATER
Preparation Method: EPA 5030
Analytical Method: EPA 8240

Date Sampled: --
Date Received: --
Date Prepared: 11/24/92
Date Analyzed: 11/24/92

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Organics (continued)			
1,1,2-Trichloroethane	79-00-5	ND	5
Trans-1,3-Dichloropropene	10061-02-6	ND	5
2-Chloroethylvinylether	110-75-8	ND	5
Bromoform	75-25-2	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
Chlorobenzene	108-90-7	ND	5
Ethylbenzene	100-41-4	ND	5
1,3-Dichlorobenzene	541-73-7	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Freon 113	76-13-1	ND	5
p,m-Xylenes	--	ND	5
o-Xylene	95-47-6	ND	5
Acetone	67-64-1	ND	20
2-Butanone	78-93-3	ND	20
4-Methyl-2-pentanone	108-10-1	ND	20
2-Hexanone	591-78-6	ND	20
Vinyl acetate	108-05-4	ND	10

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 26815
Clayton Project No. 92112.64

Sample Identification: METHOD BLANK
Lab Number: 9211264-10A
Sample Matrix/Media: WATER
Preparation Method: EPA 5030
Analytical Method: EPA 8240

Date Sampled: --
Date Received: --
Date Prepared: 11/24/92
Date Analyzed: 11/24/92

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Organics (continued)			
Carbon disulfide	75-15-0	ND	5
Styrene	100-42-5	ND	5
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
1,2-Dichloroethane-d4	17060-07-0	103	76 - 114
Toluene-d8	2037-26-5	95	88 - 110
Bromofluorobenzene	460-00-4	106	86 - 115

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 26815
Clayton Project No. 92112.64

Sample Matrix/Media: WATER
Preparation Method: EPA 3510
Analysis Method: EPA 8015

Date Received: 11/20/92
Date Prepared: 11/25/92
Date Analyzed: 11/25/92

Lab Number	Sample Identification	Date Sampled	Diesel (ug/L)	Detection Limit (ug/L)
01A	9AV-B3-W1	11/19/92	ND	500c
02A	9AV-B1-W1	11/20/92	ND [a]	1000c
03A	9AV-B10-W1	11/20/92	ND [b]	800c
05A	9AV-B5-W1	11/20/92	ND	100c
08A	9AV-B0-W1	11/20/92	ND	50
10A	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

a Sample contains significant levels of polynuclear aromatic hydrocarbons but no alphatic hydrocarbon manifold typical of petroleum fuel or oils.
b Sample contains polynuclear aromatic hydrocarbons and organic acids

[c] Detection limit increased due to presence of heavier hydrocarbons

URIBE & ASSOCIATES
2930 LAKESHORE AVENUE
SUITE TWO HUNDRED
OAKLAND, CALIFORNIA 94610
510 446 - 832 - 2233
FAX 446 - 832 - 2237
510

9211264

ALAN WHITE (PM)
JON AMDUR (PORT CONTACT).

CHAIN OF CUSTODY RECORD

PROJ. NO. 26815

PROJECT NAME: 9th Ave. Terminal

SAMPLERS: (Signature) Edward C. Kolodoff

NO	DATE	TIME	COMP	GRAB	SAMPLE I.D.	NO. OF CONTAINERS	ANALYSIS TPH-D 8240	HOLD	REMARKS
1	11/19/92	1715		X	9AV-B3-W1 01A,B	2	X		1 Liter Amber (NO HCL)
2	11/20/92	1127		X	9AV-B1-W1 02A	1	X		1 Liter Amber (½ Full)
3	11/20/92	0815		X	9AV-B10-W1 03A,B	2	X		1 Liter Amber (NO HCL)
4	11/20/92	0815		X	9AV-B10-W2 04A,B	2	X		40 ml VOA
5	11/20/92	1240		X	9AV-B5-W1 05A,B	2	X		1 Liter Amber
6	11/20/92	1240		X	9AV-B5-W2 06A,B	2	X		40 ml VOA
7	11/20/92	0905		X	9AV-B6-W1	2	X		1 Liter Amber — No Sample A.
8				X	TRIP BLANK 07A,B	2	X		40 ml VOA
9	11/20/92	12:55		X	9AV-B0-W1 08A	1	X		Field Blank
	11/19/92	5:00p			9AV-B3-W2 09A,B	2		X	Rec'd 2x40ml Hcl

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Ed Kolodoff	11/20/92 1:00	CR	Jon Mitchell	11/20/92 1655	
CR	11/20/92 4:00	Mary J. Hoodenoto	Tracy Bullock	11/20/92 4:55 pm	
Mary J. Hoodenoto	11/20/92 4:05	Received for Laboratory by: (Signature)	Date/Time	NAME	
				ADDRESS	

Storm Drain Fluid Sampling Analyses:

Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

December 1, 1992

Mr. John Borrego
URIBE & ASSOCIATES
2930 Lakeshore Ave, Ste. 200
Oakland, CA 94610

Client Ref. 026815
Clayton Project No. 92112.16

Dear Mr. Borrego:

Attached is our analytical laboratory report for the samples received on November 18, 1992. Verbal results for EPA Method 8080 were reported to John Amdur of the Port of Oakland on November 25, 1992. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

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

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

Sincerely,

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

RHP/tb
Attachments

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 026815
Clayton Project No. 92112.16

Sample Identification: M-3
Lab Number: 9211216-01A
Sample Matrix/Media: LIQUID
Preparation Method: Direct Injection
Analytical Method: EPA 8240

Date Sampled: 11/17/92
Date Received: 11/18/92
Date Analyzed: 11/24/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Organics			
Chloromethane	74-87-3	ND	10
Bromomethane	74-83-9	ND	10
Vinyl chloride	75-01-4	ND	10
Chloroethane	75-00-3	ND	10
Methylene chloride	75-09-2	ND	10
Trichlorofluoromethane	75-69-4	ND	10
1,1-Dichloroethene	75-35-4	ND	10
1,1-Dichloroethane	75-35-3	ND	10
Trans-1,2-Dichloroethene	156-60-5	ND	10
Cis-1,2-Dichloroethene	156-59-2	ND	10
Chloroform	67-66-3	ND	10
1,2-Dichloroethane	107-06-2	ND	10
1,1,1-Trichloroethane	71-55-6	ND	10
Carbon tetrachloride	56-23-5	ND	10
Bromodichloromethane	75-27-4	ND	10
1,2-Dichloropropane	78-87-5	ND	10
Cis-1,3-Dichloropropene	10061-01-5	ND	10
Trichloroethene	79-01-6	ND	10
Benzene	71-43-2	ND	10
Dibromochloromethane	124-48-1	ND	10

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 026815
Clayton Project No. 92112.16

Sample Identification: M-3
Lab Number: 9211216-01A
Sample Matrix/Media: LIQUID
Preparation Method: Direct Injection
Analytical Method: EPA 8240

Date Sampled: 11/17/92
Date Received: 11/18/92
Date Analyzed: 11/24/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Organics (continued)			
1,1,2-Trichloroethane	79-00-5	ND	10
Trans-1,3-Dichloropropene	10061-02-6	ND	10
2-Chloroethylvinylether	110-75-8	ND	10
Bromoform	75-25-2	ND	10
1,1,2,2-Tetrachloroethane	79-34-5	ND	10
Tetrachloroethene	127-18-4	ND	10
Toluene	108-88-3	ND	10
Chlorobenzene	108-90-7	ND	10
Ethylbenzene	100-41-4	ND	10
1,3-Dichlorobenzene	541-73-7	ND	10
1,2-Dichlorobenzene	95-50-1	ND	10
1,4-Dichlorobenzene	106-46-7	ND	10
Freon 113	76-13-1	ND	10
p,m-Xylenes	---	ND	10
o-Xylene	95-47-6	ND	10
Acetone	67-64-1	ND	10
2-Butanone	78-93-3	ND	10
4-Methyl-2-pentanone	108-10-1	ND	10
2-Hexanone	591-78-6	ND	10
Vinyl acetate	108-05-4	ND	10

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 026815
Clayton Project No. 92112.16

Sample Identification: M-3
Lab Number: 9211216-01A
Sample Matrix/Media: LIQUID
Preparation Method: Direct Injection
Analytical Method: EPA 8240

Date Sampled: 11/17/92
Date Received: 11/18/92
Date Analyzed: 11/24/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Organics (continued)			
Carbon disulfide	75-15-0	ND	10
Styrene	100-42-5	ND	10

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 026815
Clayton Project No. 92112.16

Sample Identification: M-3
Lab Number: 9211216-01A
Sample Matrix/Media: LIQUID
Preparation Method: Direct Injection
Analytical Method: EPA 8240

Date Sampled: 11/17/92
Date Received: 11/18/92
Date Prepared: 11/24/92
Date Analyzed: 11/24/92

Retention Time	Tentatively Identified Compounds	CAS #	Estimated * Concentration (mg/kg)	Library Match Prob.
12.34	1-methyl napthalene+alkane	90-12-0	38,000	55
14.38	Tetradecane	629-59-4	38,000	--
15.56	Alkane+dimethyl napthalene	--	21,000	--
16.40	Pentadecane	629-62-9	43,000	--
18.36	Hexadecane	544-76-3	52,000	90
19.20	Alkane	--	27,000	--
20.25	Heptadecane	629-78-7	56,000	95
22.02	Octadecane	593-45-3	28,000	--
22.16	Alkane	--	20,000	--
23.71	Nonadecane	629-92-5	24,000	--

* Estimated concentration based on peak area response

-- Information not available or not applicable

Ten largest peaks are identified.

Tentative identification based on nearest match to NBS Library.

Note: Sample appears to be diesel fuel.

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 026815
Clayton Project No. 92112.16

Sample Identification: METHOD BLANK
Lab Number: 9211216-05A
Sample Matrix/Media: LIQUID
Preparation Method: Direct Injection
Analytical Method: EPA 8240

Date Sampled: --
Date Received: --
Date Analyzed: 11/24/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Organics			
Chloromethane	74-87-3	ND	10
Bromomethane	74-83-9	ND	10
Vinyl chloride	75-01-4	ND	10
Chloroethane	75-00-3	ND	10
Methylene chloride	75-09-2	ND	10
Trichlorofluoromethane	75-69-4	ND	10
1,1-Dichloroethene	75-35-4	ND	10
1,1-Dichloroethane	75-35-3	ND	10
Trans-1,2-Dichloroethene	156-60-5	ND	10
Cis-1,2-Dichloroethene	156-59-2	ND	10
Chloroform	67-66-3	ND	10
1,2-Dichloroethane	107-06-2	ND	10
1,1,1-Trichloroethane	71-55-6	ND	10
Carbon tetrachloride	56-23-5	ND	10
Bromodichloromethane	75-27-4	ND	10
1,2-Dichloropropane	78-87-5	ND	10
Cis-1,3-Dichloropropene	10061-01-5	ND	10
Trichloroethene	79-01-6	ND	10
Benzene	71-43-2	ND	10
Dibromochloromethane	124-48-1	ND	10

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 026815
Clayton Project No. 92112.16

Sample Identification: METHOD BLANK
Lab Number: 9211216-05A
Sample Matrix/Media: LIQUID
Preparation Method: Direct Injection
Analytical Method: EPA 8240

Date Sampled: --
Date Received: --
Date Analyzed: 11/24/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Organics (continued)			
1,1,2-Trichloroethane	79-00-5	ND	10
Trans-1,3-Dichloropropene	10061-02-6	ND	10
2-Chloroethylvinylether	110-75-8	ND	10
Bromoform	75-25-2	ND	10
1,1,2,2-Tetrachloroethane	79-34-5	ND	10
Tetrachloroethene	127-18-4	ND	10
Toluene	108-88-3	ND	10
Chlorobenzene	108-90-7	ND	10
Ethylbenzene	100-41-4	ND	10
1,3-Dichlorobenzene	541-73-7	ND	10
1,2-Dichlorobenzene	95-50-1	ND	10
1,4-Dichlorobenzene	106-46-7	ND	10
Freon 113	76-13-1	ND	10
p,m-Xylenes	---	ND	10
o-Xylene	95-47-6	ND	10
Acetone	67-64-1	ND	10
2-Butanone	78-93-3	ND	10
4-Methyl-2-pentanone	108-10-1	ND	10
2-Hexanone	591-78-6	ND	10
Vinyl acetate	108-05-4	ND	10

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 026815
Clayton Project No. 92112.16

Sample Identification: METHOD BLANK
Lab Number: 9211216-05A
Sample Matrix/Media: LIQUID
Preparation Method: Direct Injection
Analytical Method: EPA 8240

Date Sampled: --
Date Received: --
Date Analyzed: 11/24/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Organics (continued)			
Carbon disulfide	75-15-0	ND	10
Styrene	100-42-5	ND	10

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 026815
Clayton Project No. 92112.16

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9211216-05A	Date Received:	--
Sample Matrix/Media:	LIQUID	Date Prepared:	11/24/92
Preparation Method:	Direct Injection	Date Analyzed:	11/24/92
Analytical Method:	EPA 8240		

Retention Time	Tentatively Identified Compounds	CAS #	Estimated * Concentration (mg/kg)	Library Match Prob.
None detected				

* Estimated concentration based on peak area response

-- Information not available or not applicable

Ten largest peaks are identified.

Tentative identification based on nearest match to NBS Library.

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 026815
Clayton Project No. 92112.16

Sample Identification: M-3
Lab Number: 9211216-01E
Sample Matrix/Media: LIQUID
Extraction Method: EPA 3510
Analytical Method: EPA 8080

Date Sampled: 11/17/92
Date Received: 11/18/92
Date Extracted: 11/18/92
Date Analyzed: 11/22/92

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Organochlorine Pesticides			
alpha-BHC	319-84-6	ND	6
gamma-BHC (Lindane)	58-89-9	ND	6
beta-BHC	319-85-7	ND	6
Heptachlor	76-44-8	ND	6
delta-BHC	319-86-8	ND	6
Aldrin	309-00-2	ND	6
Heptachlor epoxide	1024-57-3	ND	6
Endosulfan I	959-98-8	ND	6
4,4'-DDE	72-55-9	45	6
Dieldrin	60-57-1	ND	6
Endrin	72-20-8	ND	6
4,4'-DDD	72-54-8	760	6
Endosulfan II	33212-65-9	ND	6
4,4'-DDT	50-29-3	ND	6
Endrin aldehyde	7421-93-4	ND	6
Endosulfan sulfate	1031-07-8	ND	6
Methoxychlor	72-43-5	ND	30
Chlordane	57-74-9	ND	30
Toxaphene	8001-35-2	ND	600
Polychlorinated Biphenyls (PCB's)			
Aroclor 1016	12674-11-2	ND	300

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

Note: Detection limits increased due to matrix interferences
D* = Surrogate diluted out

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 026815
Clayton Project No. 92112.16

Sample Identification: M-3
Lab Number: 9211216-01E
Sample Matrix/Media: LIQUID
Extraction Method: EPA 3510
Analytical Method: EPA 8080

Date Sampled: 11/17/92
Date Received: 11/18/92
Date Extracted: 11/18/92
Date Analyzed: 11/22/92

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Polychlorinated Biphenyls (PCB's) (continued)			
Aroclor 1221	1104-28-2	ND	300
Aroclor 1232	11141-16-5	ND	300
Aroclor 1242	53469-21-9	ND	300
Aroclor 1248	12672-29-6	ND	300
Aroclor 1254	11097-69-1	ND	300
Aroclor 1260	11096-82-5	ND	300

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
Tetrachloro-m-xylene	877-09-8	D*	24 -	150
Dibutylchlorendate	1770-80-5	D*	24 -	154

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

Note: Detection limits increased due to matrix interferences
D* = Surrogate diluted out

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 026815
Clayton Project No. 92112.16

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9211216-05A	Date Received:	--
Sample Matrix/Media:	LIQUID	Date Extracted:	11/18/92
Extraction Method:	EPA 3510	Date Analyzed:	11/22/92
Analytical Method:	EPA 8080		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Polychlorinated Biphenyls (PCB's) (continued)			
Aroclor 1221	1104-28-2	ND	0.5
Aroclor 1232	11141-16-5	ND	0.5
Aroclor 1242	53469-21-9	ND	0.5
Aroclor 1248	12672-29-6	ND	0.5
Aroclor 1254	11097-69-1	ND	0.5
Aroclor 1260	11096-82-5	ND	0.5

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
Tetrachloro-m-xylene	877-09-8	25	24 -	150
Dibutylchlorendate	1770-80-5	48	24 -	154

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

Clayton
ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only	Page 1
Project No.	
Batch No. 9211216	
Ind. Code	W.P.
Date Logged In 11/18/92	By

REPORT RESULTS TO
Name: Andrew Clark-Clough — Title:
Company: Uribe & Assoc. — Dept.:
Mailing Address: 2930 Lakeshore #200
City, State, Zip: Oakland, CA 94610
Telephone No. 510 832 2233 — Telefax No. 510 832 2237

Purchase Order No. 96-203 — Client Job No. 026815

SEND INVOICE TO
Name: Jon Amdor
Company: Port of Oakland — Dept.:
Address:
City, State, Zip:

Date Results Req.: 11/20/92 — Rush Charges Authorized? ☐ Yes ☐ No — Phone / Fax Results ☐ ☑

Special Instructions: (method, limit of detection, etc.)
Please test for waste oil in TPH-D analysis
* Explanation of Preservative:

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	EPA 8080 (PCB)	EPA 8240 (HCl)	TPH-G	TPH-D and waste oil			HOLD				FOR LAB USE ONLY
M-3	11/17/92	liquid	*	8	X	X	X	X							** 01 A-H
X-2	11/17/92	liquid	*	8	X	X	X	X							02 A-H
TRIP BLANK 0103092-HCl	11/17/92	water	gl 40mL	1							XP				03A
TRIP BLANK 0103092	↓	↓	↓	1							X				04A

CHAIN OF CUSTODY

Collected by: Tom Barnes (print) — Collector's Signature: CB
Relinquished by: CB — Date/Time 11/17/92 11:50 — Received by: [signature] — Date/Time 11/18/92 11:50A
Relinquished by: [signature] — Date/Time 11-18-92 @ 1:00 pm — Received at Lab by: [signature] — Date/Time 11/18/92 1:00
Method of Shipment:
Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)
* 2x gl 40mL-8240 (HCl)
2x gl 40mL-GAS
2x gl 1L-8080
2x gl 1L-DIESEL+WASTE
** OIL LAYER on the top

Authorized by: ______ Date ______
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive, Novi, MI 48375, (313) 344-1770
Raritan Center, 160 Fieldcrest Ave., Edison, NJ 08837, (908) 225-6040
400 Chastain Center Blvd., N.W., Suite 490, Kennesaw, GA 30144, (404) 499-7500
1252 Quarry Lane, Pleasanton, CA 94566, (510) 426-2657

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains

2/92

Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

December 7, 1992

Mr. John Borrego
URIBE & ASSOCIATES
2930 Lakeshore Ave, Ste. 200
Oakland, CA 94610

Client Ref. 96
Clayton Project No. 92113.01

Dear Mr. Borrego:

Attached is our analytical laboratory report for the samples received on November 24, 1992. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

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

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

Sincerely,

Michael Lynch for

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

RHP/tb
Attachments

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96
Clayton Project No. 92113.01

Sample Identification:	M-3	Date Sampled:	11/23/92
Lab Number:	9211301-01A	Date Received:	11/24/92
Sample Matrix/Media:	WATER	Date Prepared:	11/30/92
Preparation Method:	EPA 3580	Date Analyzed:	11/30/92
Analytical Method:	EPA 8015 (Modified)		

Qualitative Identification	CAS #	Estimated * Concentration (ug/L)
Diesel #2	--	--

* Estimated concentration based on total peak area response.

-- Information not available or not applicable

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96
Clayton Project No. 92113.01

Sample Identification:	EMB-1	Date Sampled:	11/23/92
Lab Number:	9211301-02A	Date Received:	11/24/92
Sample Matrix/Media:	WATER	Date Prepared:	11/30/92
Preparation Method:	EPA 3580	Date Analyzed:	11/30/92
Analytical Method:	EPA 8015 (Modified)		

Qualitative Identification	CAS #	Estimated * Concentration (ug/L)
Diesel #2	--	--

* Estimated concentration based on total peak area response.

-- Information not available or not applicable

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96
Clayton Project No. 92113.01

Sample Identification:	5TH-EAST	Date Sampled:	11/23/92
Lab Number:	9211301-03A	Date Received:	11/24/92
Sample Matrix/Media:	WATER	Date Prepared:	11/30/92
Preparation Method:	EPA 3580	Date Analyzed:	11/30/92
Analytical Method:	EPA 8015 (Modified)		

Qualitative Identification	CAS #	Estimated * Concentration (ug/L)
Diesel #2	--	--

* Estimated concentration based on total peak area response.

-- Information not available or not applicable

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96
Clayton Project No. 92113.01

Sample Identification:	5TH-WEST	Date Sampled:	11/23/92
Lab Number:	9211301-04A	Date Received:	11/24/92
Sample Matrix/Media:	WATER	Date Prepared:	11/30/92
Preparation Method:	EPA 3580	Date Analyzed:	11/30/92
Analytical Method:	EPA 8015 (Modified)		

Qualitative Identification	CAS #	Estimated * Concentration (ug/L)
Diesel #2	--	--

* Estimated concentration based on total peak area response.

-- Information not available or not applicable

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96
Clayton Project No. 92113.01

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9211301-05A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	11/30/92
Preparation Method:	EPA 3580	Date Analyzed:	11/30/92
Analytical Method:	EPA 8015 (Modified)		

Qualitative Identification	CAS #	Estimated * Concentration (ug/L)
None Detected		

* Estimated concentration based on total peak area response.

-- Information not available or not applicable

URIBE & ASSOCIATES
2930 LAKESHORE AVENUE
SUITE TWO HUNDRED
OAKLAND, CALIFORNIA 94610
415 - 832 - 2233
FAX 415 - 832 - 2237

9211301

CHAIN OF CUSTODY RECORD

PROJ. NO.: 96

PROJECT NAME: 9th Street Terminal

SAMPLERS: (Signature) T. CB Tom Barnes

	NO	DATE	TIME	COMP	GRAB	SAMPLE I.D.	NO. OF CONTAINERS	ANALYSIS: Finger print Analysis					REMARKS	CHECK IF RUSH
														Cond OK
01A	1	11/23	3:00		x	M-3	1	X					No HCL (9th st Term)	
02	2	11/23	3:15		x	Emb-1	1	X					No HCl	
03	3	11/23	3:30		x	5TH - EAST	1	X					No HCl	
04	4	11/23	3:35		x	5TH - WEST	1	X					No HCl	

rec'd @ 1L widemouth

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
T. CB	11/24/92 4:15	Jim Mitchell			
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Jim Mitchell	11/24/92 1700	[signature] Hon 11/24/92 5:00pm			
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	NAME	ADDRESS

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

CHAIN OF CUSTODY RECORD

PROJ. NO: 96

PROJECT NAME: 9th Street Terminal

SAMPLERS (Signature): T CB — Tom Burns

NO	DATE	TIME	COMP	GRAB	SAMPLE I.D.	NO. OF CONTAINERS	ANALYSIS: Flash Point Analysis	REMARKS
1	11/23	3:00		X	M-3	1	X	no HCL (9th st Term)
2	11/23	3:15		X	Emb-1	1	X	NO HCL
3	11/23	3:30		X	5TH - EAST	1	X	NO HCL
4	11/23	3:35		X	5TH - WEST	1	X	NO HCL

CHECK IF RUSH: ✓

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
CB	11/24/93 4:15	Jim Mitchell			
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	

Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

FACSIMILE COVER SHEET

TO: Alan White / Ed TIME: _____

COMPANY: Uribe & Assoc.

FROM: Suzanne Silvera CLIENT PROJECT NO.: 9th St. Terminal

DATE: 12/8/92 FAX NUMBER: 832-2237

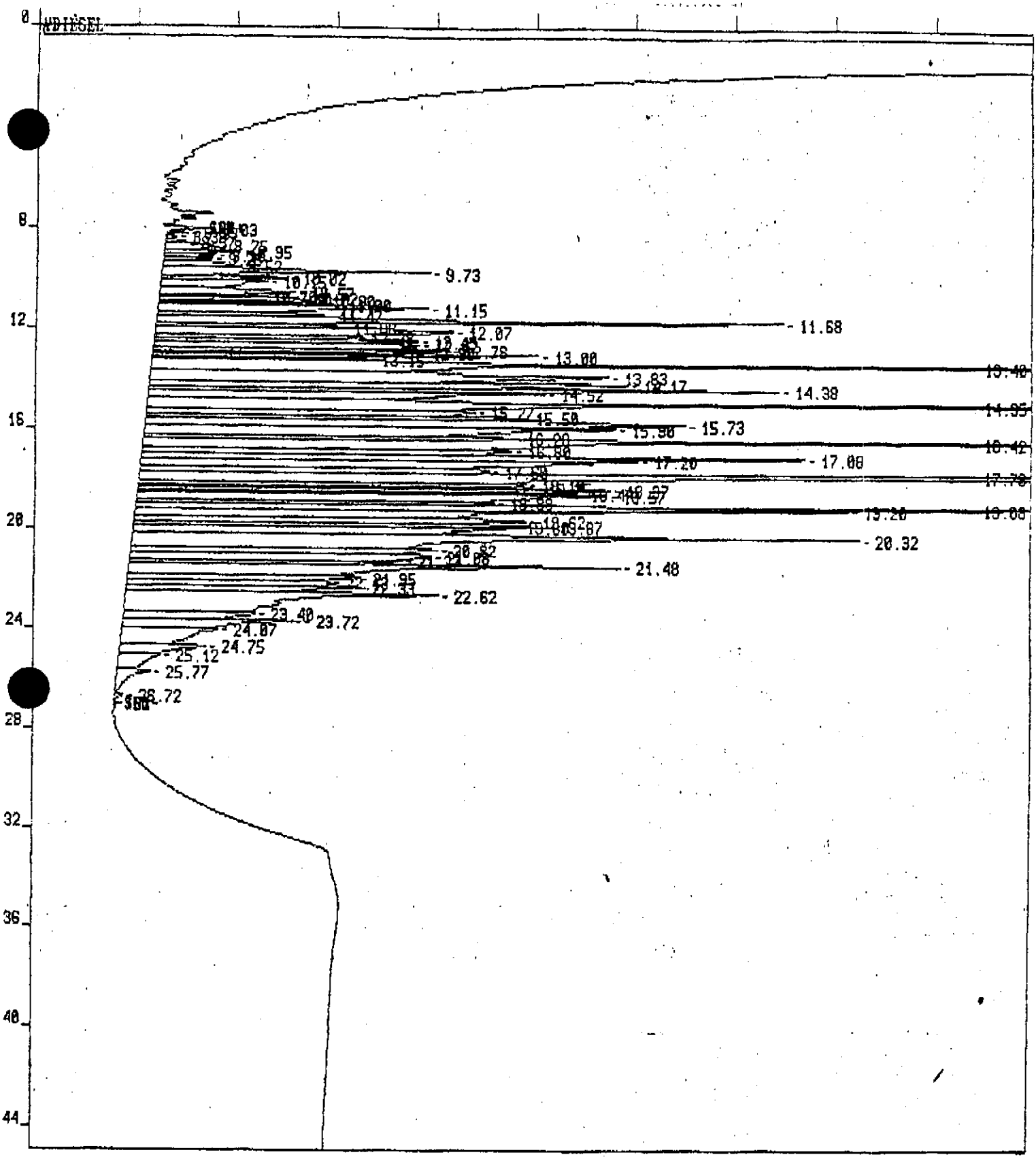
Number of Pages (including cover sheet): 5

Please confirm Receipt: ( ) Yes (X) No

If you do not receive the number of pages specified, please call (510) 426-2600 for assistance.

COMMENTS

Chromatograms for fingerprint analysis.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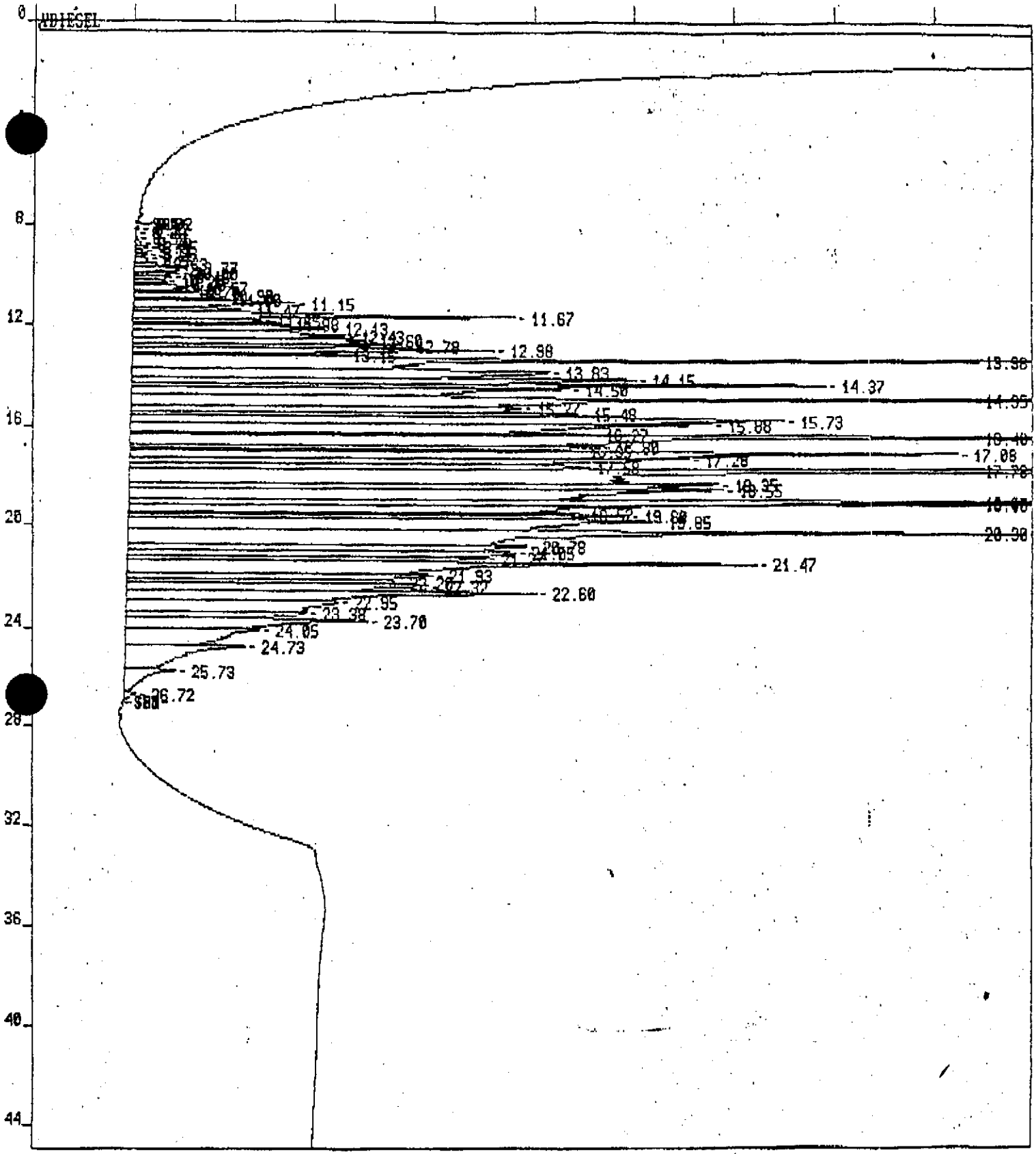
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DIESEL
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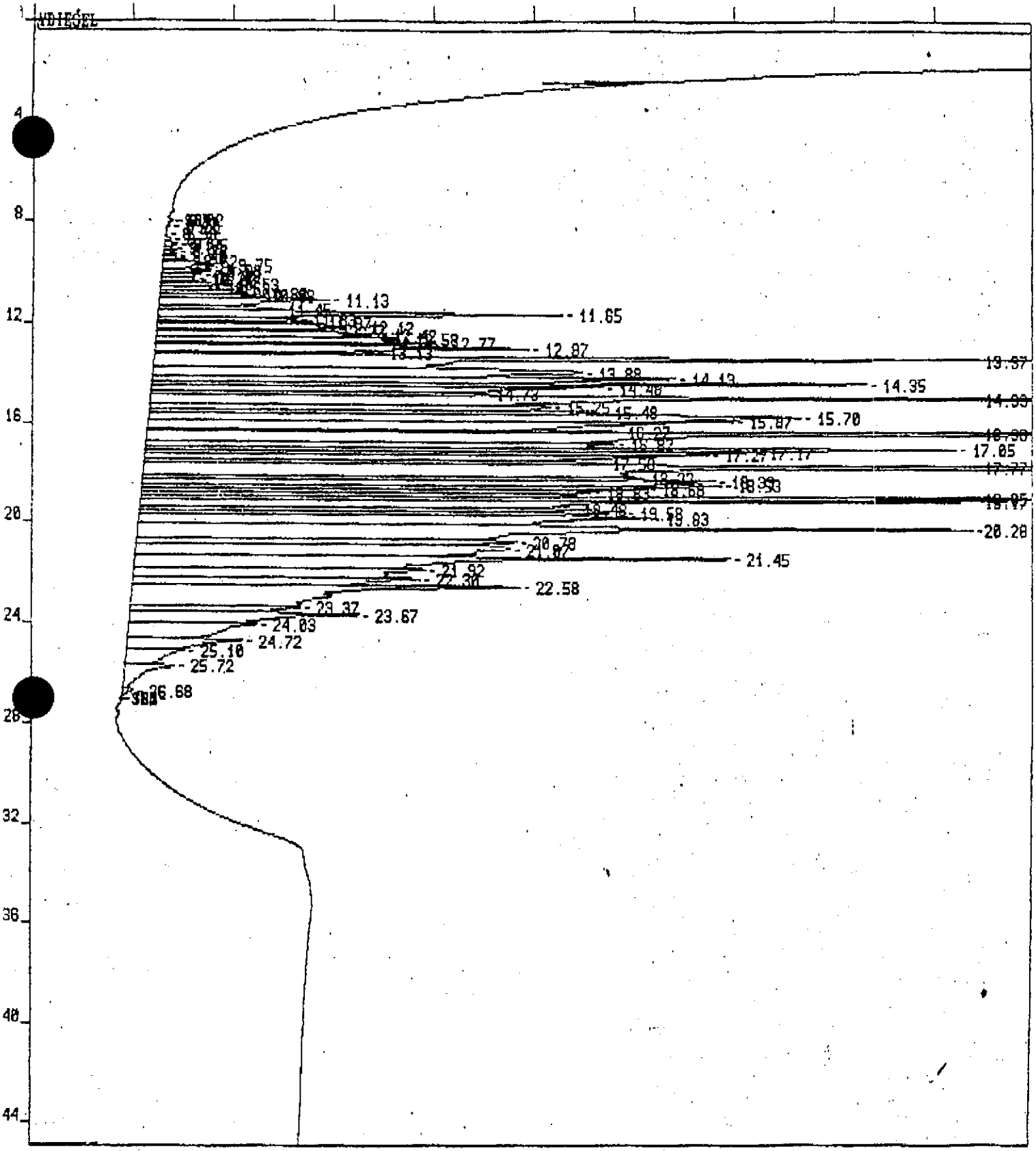
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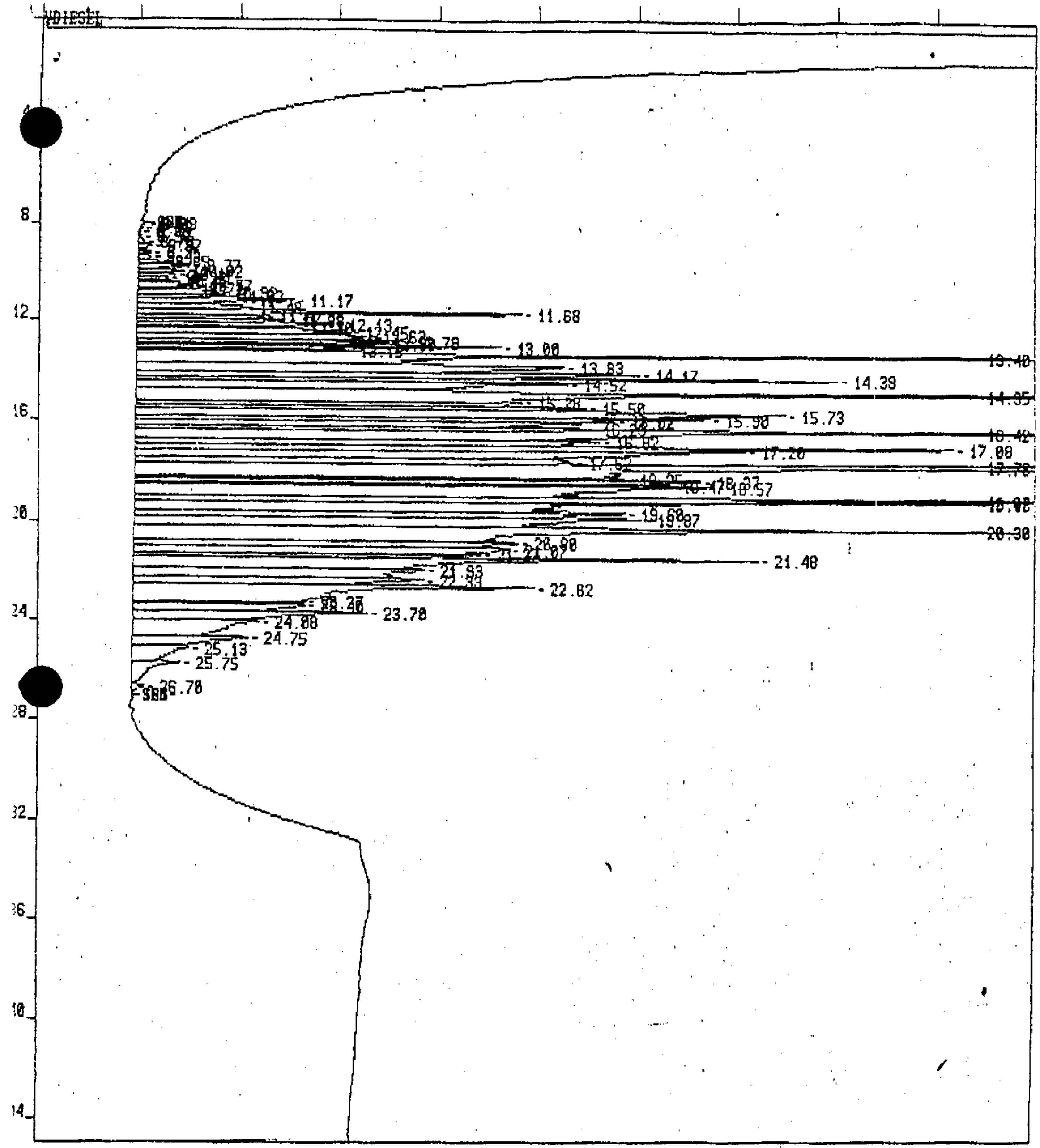
DIESEL
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14.39
14.52
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15.28
15.50
15.90
15.73
16.42
17.20
17.08
17.78
18.57
19.87
20.30
21.40
22.02
23.78
24.08
24.75
25.13
25.75
26.78

Waste Material Sampling Analyses:

Description	Sample ID
Storm water separated from diesel	1217-Water and 9AV-T-BTEX
Waste material from the corner sump	1217-Drums
Waste material from drain cleaning	1217-Sludge

Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

January 6, 1993

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

Client Ref. 26815
Clayton Project No. 92123.34

Dear Mr. White:

Attached is our analytical laboratory report for the samples received on December 28, 1992. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

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

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

Sincerely,

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

RHP/tb
Attachments

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 26815
Clayton Project No. 92123.34

Sample Identification:	9AV-T-BTEX	Date Sampled:	12/23/92
Lab Number:	9212334-01A	Date Received:	12/28/92
Sample Matrix/Media:	WATER	Date Prepared:	01/05/92
Preparation Method:	EPA 5030	Date Analyzed:	01/05/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX			
Benzene	71-43-2	ND	40
Toluene	108-88-3	ND	30
Ethylbenzene	100-41-4	ND	30
p,m-Xylenes	---	ND	40
o-Xylene	95-47-6	ND	40

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	100	50 -	150

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

Note: Detection limits increased due to matrix interferences

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 26815
Clayton Project No. 92123.34

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9212334-02A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	01/05/93
Preparation Method:	EPA 5030	Date Analyzed:	01/05/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX			
Benzene	71-43-2	ND	0.4
Toluene	108-88-3	ND	0.3
Ethylbenzene	100-41-4	ND	0.3
p,m-Xylenes	---	ND	0.4
o-Xylene	95-47-6	ND	0.4

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	99	50 -	150

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

Quality Assurance Results Summary
for
Clayton Project No. 92123.34

Clayton Lab Number: 9212329-01A
Ext./Prep. Method:
Date: / /
Analyst:
Std. Source: V921223-01W
Sample Matrix/Media: WATER

Analytical Method: EPA8015_8020
Instrument ID: 02857
Date: 01/05/92
Time: 16:06
Analyst: PF
Units: UG/L

Analyte		Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
BENZENE	(PID)	ND	5.00	5.12	102	4.68	94	98	81	118	9.0	20
GASOLINE	(FID)	ND	200	171	86	180	90	88	80	150	5.1	25
TOLUENE	(PID)	ND	21.0	22.1	105	20.2	96	101	84	118	9.0	20

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Matrix/Media: SOIL
Preparation Method: EPA 1311
Analysis Method: EPA 8015

Date Received: 12/18/92
Date Prepared: 12/28/92
Date Analyzed: 12/30/92

Lab Number	Sample Identification	Date Sampled	TCLP-Diesel (mg/L)	Detection Limit (mg/L)
01A	1217-1-5.0	12/17/92	ND	0.5
02A	1217-1-10.0	12/17/92	ND	0.5
03A	1217-1-16.0	12/17/92	ND	0.5
04A	1217-2-5.5	12/17/92	ND	0.5
05A	1217-2-10.5	12/17/92	ND	0.5
06A	1217-2-16.0	12/17/92	ND	0.5
07A	1217-3-5.0	12/17/92	ND	0.5
08A	1217-3-10.0	12/17/92	ND	0.5
09A	1217-3-15.5	12/17/92	ND	0.5
10A	1217-4-4.0	12/17/92	0.5	0.5
11A	1217-4-5.5	12/17/92	10	0.5
12A	1217-4-7.5	12/17/92	0.8	0.5
13A	1217-5-4.5	12/17/92	ND	0.5
14A	1217-5-6.0	12/17/92	ND	0.5
15A	1217-5-8.0	12/17/92	ND	0.5
16A	1217-DRUMS	12/17/92	0.5	0.5
17A	1217-SLUDGE	12/17/92	0.6	0.5
20A	METHOD BLANK	--	ND	0.5

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Matrix/Media: WATER
Preparation Method: EPA 3510
Analysis Method: EPA 8015

Date Received: 12/18/92
Date Prepared: 12/22/92
Date Analyzed: 12/23/92

Lab Number	Sample Identification	Date Sampled	Diesel (ug/L)	Detection Limit (ug/L)
18A	1217-WATER	12/17/92	90	50
19A	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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification:	1217-DRUMS	Date Sampled:	12/17/92
Lab Number:	9212298-16A	Date Received:	12/18/92
Sample Matrix/Media:	SOIL	Date Prepared:	01/04/93
Preparation Method:	EPA 1311 ZHE	Date Analyzed:	01/05/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	84	50 - 150

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

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: PROJ.#96-203
Clayton Project No. 92122.98

Sample Identification:	1217-SLUDGE	Date Sampled:	12/17/92
Lab Number:	9212298-17A	Date Received:	12/18/92
Sample Matrix/Media:	SOIL	Date Prepared:	01/05/93
Preparation Method:	EPA 1311 ZHE	Date Analyzed:	01/06/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/L)	Limit of Detection (mg/L)
TCLP BTEX			
Benzene	71-43-2	ND	0.02
Toluene	108-88-3	ND	0.02
Ethylbenzene	100-41-4	ND	0.02
p,m-Xylenes	--	ND	0.02
o-Xylene	95-47-6	ND	0.02
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	92	50 - 150

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

URIBE & ASSOCIATES
2930 LAKESHORE AVENUE
SUITE TWO HUNDRED
OAKLAND, CALIFORNIA 94610
510 ~~415~~ - 832 - 2233
FAX ~~415~~ - 832 - 2237
510

9212334

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
26815	9th Avenue Terminal

SAMPLERS: (Signature)
Ed Kolodny

NO	DATE	TIME	COMP	GRAB	SAMPLE I.D.	NO. OF CONTAINERS	ANALYSIS 8020 (BTEX)	REMARKS	CHECK IF RUSH one week
1	12/23	14.30		X	9AV-T-BTEX	1 VOA	X		

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Ed Kolodny	12/28/92 9:50	Jim Mitchell	Jim Mitchell	12/28/92 10:45 AM	
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	
		Terry Dalton	12/28/92 10:45AM	ADDRESS	

URIBE & ASSOCIATES
2930 LAKESHORE AVENUE
SUITE TWO HUNDRED
OAKLAND, CALIFORNIA 94610
415 - 832 - 2233
FAX 415 - 832 - 2237

9212238

CHAIN OF CUSTODY RECORD

Bill: Port of Oakland

PROJ. NO: 96-203

PROJECT NAME: 9th Ave. Terminal

SAMPLERS: (Signature) John C Bruzzo

NO	DATE	TIME	COMP	GRAB	SAMPLE I.D.	NO. OF CONTAINERS	ANALYSIS: TPH - Diesel	EPA 8080 (Pesticides)
-16A 1	12/12	12:00	X		1217 - drums	1 6oz	X	X
-17A 2	12/12	11:00		X	1217 - Sludge	1 6oz	X	X
-18A 3	12/12	11:10		X	1217 - Water	1 L	X	X

Normal T.A.T.

CHECK IF RUSH

REMARKS

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
John C Bruzzo	12/10/12 9:40a	Jim Mitchell
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Date/Time	NAME / ADDRESS	

Dec 18,92 15:59 No.007 P.02
TEL:1-415-832-2237
J&A OAKLAND OFFICE

Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

FACSIMILE COVER SHEET

TO: Ed Kilduff TIME: _____

COMPANY: Uribe & Assoc.

FROM: Suzanne Silvera CLIENT PROJECT NO.: 96-203

DATE: 1/15/93 FAX NUMBER: _____

Number of Pages (including cover sheet): 6

Please confirm Receipt: ( ) Yes (X) No

If you do not receive the number of pages specified, please call (510) 426-2600 for assistance.

COMMENTS

Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

January 15, 1993

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

Client Ref. 96-203
Clayton Project No. 93010.85

Dear Mr. White:

Attached is our analytical laboratory report for the samples received on January 12, 1993. Verbal results were reported to Ed Kilduff on January 15, 1993. 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

Clayton
ENVIRONMENTAL CONSULTANTS

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96-203
Clayton Project No. 93010.85

Sample Identification:	T-1	Date Sampled:	01/11/93
Lab Number:	9301085-01A	Date Received:	01/12/93
Sample Matrix/Media:	WATER	Date Prepared:	01/13/93
Preparation Method:	EPA 5030	Date Analyzed:	01/13/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX			
Benzene	71-43-2	ND	0.4
Toluene	108-88-3	1.1	0.3
Ethylbenzene	100-41-4	1.9	0.3
p,m-Xylenes	--	7.2	0.4
o-Xylene	95-47-6	3.8	0.4
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
a,a,a-Trifluorotoluene	98-08-8	71	50 - 150

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

Clayton
ENVIRONMENTAL
CONSULTANTS

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96-203
Clayton Project No. 93010.85

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9301085-03A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	01/13/93
Preparation Method:	EPA 5030	Date Analyzed:	01/13/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX			
Benzene	71-43-2	ND	0.4
Toluene	108-88-3	ND	0.3
Ethylbenzene	100-41-4	ND	0.3
p,m-Xylenes	--	ND	0.4
o-Xylene	95-47-6	ND	0.4

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	74	50 -	150

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

SENT BY:Xerox Telecopier 7020

Quality Assurance Results Summary
for
Clayton Project No. 93010.85

Clayton Lab Number: 9301057-02A
Ext./Prep. Method:
Date: / /
Analyst:
Std. Source: V921223-01W
Sample Matrix/Media: WATER

Analytical Method: EPA8015 8020
Instrument ID: 05587
Date: 01/13/93
Time: 19:13
Analyst: PF
Units: UG/L

Analyte		Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
BENZENE	(PID)	ND	4.00	3.49	87	3.27	82	85	81	118	6.5	20
GASOLINE	(FID)	ND	200	176	88	144	72	80	80	150	20	25
TOLUENE	(PID)	ND	14.0	13.9	99	12.9	92	96	84	118	7.5	20

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Clayton ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only | Page 1 of 1
Project No.
Batch No. 9301085
Ind. Code | W.P.
Date Logged In 1/12/93 | By

SENT BY:Xerox Telecopier 7020 ; 1-15-93 ; 5:22PM ; CLAYTON PLEAS LAB→ 1 415 832 2237;# 6

RESULTS TO
Name: Ed Kilduff | Title
Company: Uribe & Associates | Dept.
Mailing Address: 2930 Lakeshore #200
City, State, Zip: Oakland 94610
Telephone No. 832-2233 | Telefax No. 832-2237

Purchase Order No. (26815) | Client Job No. 46-203

SEND INVOICE TO
Name
Company: Port of Oakland | Dept.
Address
City, State, Zip

Date Results Req.: 1/15/93 | Rush Charges Authorized? ☒ Yes ☐ No | Phone / Fax Results ☐ ☐

Special Instructions: (method, limit of detection, etc.)
Due: 1/15/93
Explanation of Preservative:

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

ANALYSIS REQUESTED (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/MEDIA	AIR VOLUME (specify units)	Number of Containers	BTEX (602)	HOLD	FOR LAB USE ONLY
T-1	1/11/93	water	gallons	2	X		01A,B
TRIP BLANK 0010493-Hcl	"	"	"	2		X	02A,B

CHAIN OF CUSTODY
Collected by: John Borrego (print) | Collector's Signature: [signature]
Relinquished by: [signature] | Date/Time 4:30 1/11/93 | Received by: [signature] | Date/Time 16:46 1/11/93
Relinquished by: [signature] | Date/Time 1/12/93 12:00 | Received at Lab by: [signature] | Date/Time 1/12/93 12:00
Method of Shipment: | Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

Authorized by: ____________ Date ________
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive, Novi, MI 48375, (313) 344-1770
Raritan Center, 160 Fieldcrest Ave., Edison, NJ 08837, (908) 225-6040
400 Chastain Center Blvd., N.W., Suite 490, Kennesaw, GA 30144, (404) 499-7500
1252 Quarry Lane, Pleasanton, CA 94566, (510) 426-2657

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains

2/92

Sample Result from Northwest Clinton Basin Excavation:

Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

November 19, 1992

NOV 20 1992

Mr. John Borrego
URIBE & ASSOCIATES
2930 Lakeshore Ave, Ste. 200
Oakland, CA 94610

Client Ref. 96-203
Clayton Project No. 92110.95

Dear Mr. Borrego:

Attached is our analytical laboratory report for the samples received on November 9, 1992. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

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

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact 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. 92110.95

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

Date Received: 11/09/92
Date Prepared: 11/11/92
Date Analyzed: 11/13/92

Lab Number	Sample Identification	Date Sampled	Diesel (mg/kg)	Detection Limit (mg/kg)
01A	96-203-1	11/06/92	1,400	1
02A	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

URIBE & ASSOCIATES
2930 LAKESHORE AVENUE
SUITE TWO HUNDRED
OAKLAND, CALIFORNIA 94610
415 - 832 - 2233
FAX 415 - 832 - 2237

9211095

CHAIN OF CUSTODY RECORD

PROJ. NO.: 96-203
PROJECT NAME: Clinton Basin SIV
SAMPLERS: (Signature) [signature]

ANALYSIS: TPH-D (8015 mod)

NO.	DATE	TIME	COMP	GRAB	SAMPLE I.D.	NO. OF CONTAINERS	TPH-D (8015 mod)						REMARKS
1	11/6/92	1630	X		96-203-1	1	X						Soil

CHECK IF RUSH: [ ]

REMARKS: Note: Sample consists of four ~~composites~~ different separate sample C1, C2, C3, C4 as marked on tube. Please composite sample & analyze.

Standard Turn-around Time

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature] Ed Kalotiff	11/9/92 14:15	[signature] Jim Mitchell			
Relinquished by: (Signature) [signature] Jim Mitchell	Date/Time 11/9/92 1510	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature) [signature]	Date/Time 11/9/92 3:10 pm	NAME ADDRESS PHONE NO.	

Appendix D

Boring Logs

URIBE & ASSOCIATES - ENVIRONMENTAL CONSULTING SERVICES

BOREHOLE LOG FORM

CLIENT: Port of Oakland	JOB NO: 96	BOREHOLE NUMBER: 203	
PROJECT: 9th Av Terminal		LOCATION: NW 9 AV Terminal	
DRILLING CO: Great Sierra		HOLE DIAMETER: 8"	ELEVATION:
DRILLING METHOD: HSA		DATE: [illegible]	
SAMPLING METHOD: SS		RECORDED BY: [illegible]	
		REGISTERED GEOLOGIST: [illegible]	

DEPTH (Feet)	BLOWS/ 6 INCH	CORE RECOV.	MOISTURE CONTENT	LITHOLOGIC DESCRIPTIONS / REMARKS	SAMPLE I.D. #	SAMPLE TIME
	↓			Drill out to 3.5 feet. Start at 0830 ~~in~~		
1				0-.5 ft ~~Asphalt~~ Concrete, 0850 begin		
				to drill out, complete 0853		
2				Brn, Sandy clay		
3						
	↓					
4	4			Sample rec 100% yellow brown and partly green		
	4			sandy clay, soft, sectile, moist, mottled	9AV-B1-4	0905
5	5			no odor, PID = 0		
	ǀ			→ water level at 12:10pm 11/20/92		
6	ǀ			drill out		
	↓		▼	6.5-6.8 Concrete fragments rounded broken w/ sd	9AV-B1-7	0915
7	2			6.8-7.0 Brn sd w/concr frag. loose, moist		
	3			7.4-7.5 Gravel, oil stains or organic - poss asphalt		
8	3		▽	7.0-7.5 Sample 7.5-8.0 yellow brn sd. loose, moist		
	ǀ			7.5-9± augered ~~top brn~~		
9				8.5± top brn sandy clay as above, soft moist		
				PID = 0 down hole. Sample = 0		0930
10	↓			T.D. at 10' at 9:30		
					9AV-B1-W1	1127
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

URIBE & ASSOCIATES - ENVIRONMENTAL CONSULTING SERVICES

BOREHOLE LOG FORM

CLIENT: Port of Oakland	JOB NO: 96-203	BOREHOLE NUMBER: 2	
PROJECT: 9th Ave Terminal		LOCATION:	
DRILLING CO: Great Sierra		HOLE DIAMETER:	ELEVATION:
DRILLING METHOD: HSA		DATE: 11-19-92	
SAMPLING METHOD: S/S		RECORDED BY: Ken Knight / EK	
		REGISTERED GEOLOGIST: Ken Knight	

DEPTH (Feet)	BLOWS/ 6 INCH	CORE RECOV.	MOISTURE CONTENT	LITHOLOGIC DESCRIPTIONS / REMARKS	SAMPLE I.D. #	SAMPLE TIME
1				Drill out asphalt and soil to 3.5 feet @ 1:25pm 0-1 foot asphalt and gray soil		
2				1-2 ft red brick fragments		
3				2-2.5 golden brown gravel and sand 2.5 to 3.5 gray brown sand with strong petroleum odor		
4	2			Sample recovered, Gray plastic clay	9AV-B2-4	1:40
5	3 2			PID reading of 80ppm at 5 feet Gray Plastic clay		
6						
7	1 total				9AV-B2-7	1:50
8				Brown silty clay at 8 ft with thin layers of plant material. Small layer mainly gray plastic clay		
10				Total depth at 1:53 pm at 10 feet, PID reading of 115ppm		
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

URIBE & ASSOCIATES - ENVIRONMENTAL CONSULTING SERVICES

BOREHOLE LOG FORM

CLIENT: Port of Oakland	JOB NO: 96-203
PROJECT: 9th Ave Terminal	BOREHOLE NUMBER: 3
DRILLING CO: Great Sierra	LOCATION:
DRILLING METHOD: HSA	HOLE DIAMETER: / ELEVATION:
SAMPLING METHOD: SS	DATE: 11-19-92
	RECORDED BY: Ken Knight / EK
	REGISTERED GEOLOGIST: Ken Knight

DEPTH (Feet)	BLOWS/ 6 INCH	CORE RECOV.	MOISTURE CONTENT	LITHOLOGIC DESCRIPTIONS / REMARKS	SAMPLE I.D. #	SAMPLE TIME
				Drill out 3.5 feet, Start at 12:20 pm		
1				0 - 1 ft asphalt w/ brown sandy gravel base [illegible]		
				1-2 ft red brick fragments		
2						
				2-3.5 ft sandy gravel [illegible]		
3						
4	1	X				
	3	X		Sample unrecovered, shoe plugged with gravel piece		
5	4	X		Cuttings show gray green mud.		
				Sample [illegible] No Odor. Mottled [illegible]	9AV-B3-5	12:40
	3			with black [illegible] silty clay		
6	4			PID reading of 80 ppm in borehole		
	4			6.5 to 8, Green Gray clay, plastic with mottled		
7	1			black. Organic (reducing?) odor. No petroleum odor	9AV-B3-7	12:50
	2				9AV-B3-W1	5:15 pm
8	2		▼	→ water level at 5:00 pm 11/19/92	9AV-B3-W2	5:15 pm
9						
10				TD at 10 feet at 12:55pm / final PID - 2? ppm		
11						
12				water sample		
13						
14						
15						
16						
17						
18						
19						
20						

URIBE & ASSOCIATES - ENVIRONMENTAL CONSULTING SERVICES

BOREHOLE LOG FORM

CLIENT: Port of Oakland	JOB NO:	BOREHOLE NUMBER: 4	
PROJECT: 9th Ave Terminal		LOCATION:	
DRILLING CO: Great Stem		HOLE DIAMETER:	ELEVATION:
DRILLING METHOD: HSA		DATE: 11-19-92	
SAMPLING METHOD: SS		RECORDED BY: Ken Knight	
		REGISTERED GEOLOGIST: Ken Knight	

DEPTH (Feet)	BLOWS/ 6 INCH	CORE RECOV.	MOISTURE CONTENT	LITHOLOGIC DESCRIPTIONS / REMARKS	SAMPLE I.D. #	SAMPLE TIME
1			7:30	Drill out asphalt + soil to 3.5' Brown to gray sand + gravel (NO brick fill layer)		
2						
3				PID = 200 ppm from cuttings pile		
4	2					
5	3 3			Brown + gray silty mud w/ minor wood fragments	9AV-B4-4	2:35
6						
7	2				9AV-B4-7	2:43
8	1 2			Gray silty mud		
10				Brown to gray silt, sand + clay (typically coarser than other soils to day) TD 10' @ 2:45 PID - borehole = 20 ppm PID - cuttings pile = 250 ppm		
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

URIBE & ASSOCIATES - ENVIRONMENTAL CONSULTING SERVICES

BOREHOLE LOG FORM

CLIENT: Port of Oakland	JOB NO: 203	BOREHOLE NUMBER: 5	
PROJECT: 9th Ave Terminal		LOCATION: KEEP ON TRUCKING	
DRILLING CO: Great Scenic		HOLE DIAMETER: 8"	ELEVATION:
DRILLING METHOD: HSA		DATE: ~~11/19/92~~ 11/20/92	
SAMPLING METHOD: SS		RECORDED BY: ~~P. Uribe~~	
		REGISTERED GEOLOGIST: ~~K. Koford~~ KEN KOFORD	

DEPTH (Feet)	BLOWS/ 6 INCH	CORE RECOV.	MOISTURE CONTENT	LITHOLOGIC DESCRIPTIONS / REMARKS	SAMPLE I.D. #	SAMPLE TIME
				Drill out 3.5 ft. start 1015		1005
1				0-3.5 OK brn & gray mottled sandy clay, soft moist ASPHALT 0-0.5'		
2						
3						1010
4	2	30%	moist	3.5-9.0 2" rec. Dk brn & green sandy clay, 1" dia piece asphalt	9AV-B5-4.0	
5	2	100		4.5-5.0 blk, sandy clay, soft, moist, v. sticky		1013
	3	100				10
6			▼	water level reading 11/20/92 @ 2:15		
7	push	100		6.5-8. blk, clay, soft, silty gritty, moist	9AV-B5-7.0	1030
		100				
8		100	▽	wet on bottom sample	~~9AV-B5-8.5~~	~~1045~~ ARC
				Augered to 10'		
10				TD at 10 feet at 1045		
11						
12						
13						
14						
15						
16						
17						
18						
19						

URIBE & ASSOCIATES - ENVIRONMENTAL CONSULTING SERVICES

BOREHOLE LOG FORM

-203

CLIENT: Port of Oakland	JOB NO: 4L	BOREHOLE NUMBER: 6	
PROJECT: 9th Ave Terminal		LOCATION: KEEL ON TRUCKING	
DRILLING CO: Great Sierra		HOLE DIAMETER: 8"	ELEVATION:
DRILLING METHOD: HSA		DATE: ~~11-19-92~~ 11/20/92	
SAMPLING METHOD: SS		RECORDED BY: ~~[illegible]~~ KEN KOFORD	
		REGISTERED GEOLOGIST: ~~[illegible]~~ KEN KOFORD	

DEPTH (Feet)	BLOWS/ 6 INCH	CORE RECOV.	MOISTURE CONTENT	LITHOLOGIC DESCRIPTIONS / REMARKS	SAMPLE I.D. #	SAMPLE TIME
				Drilled out 3.5' start 10:15 11 inch asphalt		1055
1				1.0 feet base rock gravel		
				1.0 - dk gray soft sandy clay		
2						
3						1100
	↓					
4	2	30		as above dk gry sdy Cly. PID: 2 on sample, 0 in hole	9AV-B6-4	1105
	2	100		soft, moist. Asphalt fragments in top.		
5	2	100		blk & gray mottled.		
				Augered 5-6.5'		
6						1113
	↓					
7	1	100		uniform dark gray clay. No gritty feel, soft	9AV-B6-7.5	AB
	1	100		moist		
8	1	100				
				Augered 8.0-10.0		
						1120
10	↓		▽	TD 10' at 1120 PID reading 2 down hole		
				→ as measured 11/20/92 at 1:15 pm		
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

URIBE & ASSOCIATES - ENVIRONMENTAL CONSULTING SERVICES 2/3

BOREHOLE LOG FORM

CLIENT: Port of Portland	JOB NO: 9/0	BOREHOLE NUMBER: 10	
PROJECT: 9th Ave Terminal		LOCATION:	
LLING CO: Gr Sierra		HOLE DIAMETER: 8"	ELEVATION:
LLING METHOD: HSA		DATE: 11-16-92	
SAMPLING METHOD: SS		RECORDED BY: KSK/EK	
		REGISTERED GEOLOGIST: Ken Knight	

DEPTH (Feet)	BLOWS/ 6 INCH	CORE RECOV.	MOISTURE CONTENT	LITHOLOGIC DESCRIPTIONS / REMARKS	SAMPLE I.D. #	SAMPLE TIME
				Drill out asphalt, and fill of		
1				broken brick to 2' Start at 11:25		
2						
				2 - 3½ cuttings gray silt moist		
3				PID reading of ~170 ppm in borehole		
4	2			→ water level at 5:00pm 11/19/92		
	3			Moist to damp gray silt w/ broken wood fragment	9AV-B10-4	11:34
5	6		▼	probably part of fill	9AV-B10-W1 ?	9:15 11/20/92
				Drill out to 6.5 feet. Gray mud and silt	9AV-B10-W2 }	5:00
6				w/ wood/organic fragments w/ faint petroleum odor		
7	7	X		Sample from 6.5 to 8 feet out (unrecovered) sample		
	7	X		attempt at 8.5 to 9'		
8	7	X				
		X		Lost sample (unrecoverable) - Borehole PID		
	3 each	X		reading ~58 ppm		
		X				
10	1			Gray plastic clay/mud w/ minor wood/organic	9AV-B10-10	11:55
	2			fragments. Water on sands at 9.5 or 10 feet		
11	2			TD at 11 feet at 12:00		
12						
13				water samples		
14						
15						
16						
17						
18						
19						
20						

URIBE & ASSOCIATES - ENVIRONMENTAL CONSULTING SERVICES

BOREHOLE LOG FORM

96-203

CLIENT: Port of Oakland	JOB NO:	BOREHOLE NUMBER: 1217-1	
PROJECT: 9th Ave Terminal		LOCATION: fire wall (S)	
DRILLING CO: Great Sierra		HOLE DIAMETER: 8"	ELEVATION:
DRILLING METHOD: HS		DATE: 12/17/92	
SAMPLING METHOD: Split Spoon 18"		RECORDED BY: John Borrego	
PID = Photovac tip		REGISTERED GEOLOGIST:	

DEPTH (Feet)	BLOWS/ 6 INCH	CORE RECOV.	MOISTURE CONTENT	LITHOLOGIC DESCRIPTIONS / REMARKS	SAMPLE I.D. #	~~SAMPLE~~ TIME
						8:35
1				Asphalt - hard		
				Brown Agbase type fill		
2						
3						
4						
		X				
5		X			1217-1-5.0	9:40
		X	Dry	Silty Sand - Gray grn - black, fine to med sand, few pebbles, 15% silt		
6				PID = 5.2 ppm		
7						
8						
9		ND				
		ND				
10		X	Moist	Gravel w/sand - cobbles up to 7cm, Sand Med to fine 20%, ~~gray~~ brown to grey	1217-1-10.0	9:48
11				PID = 3.5 ppm		
12						
13						
14						
15		X				
		X				
16		X	wet	Silt w/sand - green silt w/ 10% Sand very sticky; 5-10% clay? broken shell pieces	1217-1-16.0	9:00
17		TD		PID = 18.0 ppm		
						9:08
18				PID = 8 over hole after rig moved.		
19						
20						

URIBE & ASSOCIATES - ENVIRONMENTAL CONSULTING SERVICES

BOREHOLE LOG FORM

96-203

CLIENT: Port of Oakland	JOB NO:	BOREHOLE NUMBER: 1217-2	
PROJECT: 9th Ave Terminal		LOCATION: Firewall (M)	
[redacted]ING CO: Great Sierra		HOLE DIAMETER: 8"	ELEVATION:
DRILLING METHOD: HS		DATE: 12/17/92	
SAMPLING METHOD: Split Spoon 18"		RECORDED BY:	
		REGISTERED GEOLOGIST:	

DEPTH (Feet)	BLOWS/ 6 INCH	CORE RECOV.	MOISTURE CONTENT	LITHOLOGIC DESCRIPTIONS / REMARKS	SAMPLE I.D. #	SAMPLE TIME
						9:10
1				Asphalt		
2				Brown Asbase type fill Gravel w/Sand angular from fine sand to 5cm gravel cobbles		
3						
4						
5		X				
6		X		Brown Asbase type fill - same description as above	1217-2-5.5	9:15
7		X		(Silty Sand)		
8						
[redacted]						
10		X				
11		X		Gravel w/Sand - cobbles up to 7cm, Sand Med to fine (25%) Color brown to grey	1217-2-10.5	9:15
12		X	Wet			
13						
14						
15						
16		X				
17		X	Wet	Sandy Silt - green silt w/ 10% Sand, minor clay, ~~tr~~ shell pieces 5%	1217-2-16D	9:25
18		X				
19						
[redacted]						

URIBE & ASSOCIATES - ENVIRONMENTAL CONSULTING SERVICES

BOREHOLE LOG FORM

96-203

CLIENT: Port of Oakland	JOB NO:	BOREHOLE NUMBER: 1217-3	
PROJECT: 9th Ave Tunnel		LOCATION: firewall -(W)	
DRILLING CO:		HOLE DIAMETER: 8"	ELEVATION:
DRILLING METHOD:		DATE: 12/17/92	
SAMPLING METHOD:		RECORDED BY: John Borrego	
		REGISTERED GEOLOGIST:	

DEPTH (Feet)	BLOWS/ 6 INCH	CORE RECOV.	MOISTURE CONTENT	LITHOLOGIC DESCRIPTIONS / REMARKS	SAMPLE I.D. #	SAMPLE TIME
				Asphalt		
1				~~Ag base~~ fill - ag base type. angular		
2				gravel w/ sand & silt. gravel from .5cm to 5cm; sand fine to coarse, 20%		
3				5% silt brown		
4						
5		X				
		X		fill - ag base type fill as PID = 50 above. brown	1217-3-5.0	9:44
6		NO				
7						
8						
		X				
		X				
10		X		gravel - up to 5cm, 15% sand - (fine); cobbles angular when larger	1217-3-10.0	
11				5% rounded when smaller; "chunks" of organic matter		
12						
13						
14						
15		X				
		X			1217-3-15.5	
16		X				
17				silt - 5-10% sand green silt w/ shell fragments (10%)		
18						
19						
20						

URIBE & ASSOCIATES - ENVIRONMENTAL CONSULTING SERVICES

BOREHOLE LOG FORM

96-203

CLIENT: Port of Oakland	JOB NO: 4	BOREHOLE NUMBER: 1217-4	
PROJECT: 94th Ave Terminal		LOCATION: Kerp on Trucking - N	
DRILLING CO: Great Sierra		HOLE DIAMETER: 8"	ELEVATION:
DRILLING METHOD: HS		DATE: 12/17/92	
SAMPLING METHOD: Split Spoon 24"		RECORDED BY: J C Borrego	
		REGISTERED GEOLOGIST:	

DEPTH (Feet)	BLOWS/ 6 INCH	CORE RECOV.	MOISTURE CONTENT	LITHOLOGIC DESCRIPTIONS / REMARKS	SAMPLE I.D. #	SAMPLE TIME
1			Dry	Concrete - cut by Mad Dog Drilling gravel - angular fill up to 3cm		
2						
3		NR				
4		NR X	Dry	green/brown mottled clay w/silt large woody pieces.	1217-4-4.0	12:20
5		X NR				
6		X X		clayey silt - green w/brown mottling, "sticky" woody organic matter	1217-4-5.5	12:30
7		X X				
8		X X		clayey silt - green w/ brown mottling, sticky organic matter + shell frags.	1217-4-7.5	12:40
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						

URIBE & ASSOCIATES - ENVIRONMENTAL CONSULTING SERVICES

BOREHOLE LOG FORM

96-203

CLIENT: Port of Oakland	JOB NO:
PROJECT: 9th Ave Terminal	
DRILLING CO: Great Sierra	
DRILLING METHOD: HS	
SAMPLING METHOD: Split Spoon 24"	

BOREHOLE NUMBER: 1217 - 5	
LOCATION: Keep on Tracking - 5	
HOLE DIAMETER: 8"	ELEVATION:
DATE:	
RECORDED BY: John Borrego	
REGISTERED GEOLOGIST:	

DEPTH (Feet)	BLOWS/ 6 INCH	CORE RECOV.	MOISTURE CONTENT	LITHOLOGIC DESCRIPTIONS / REMARKS	SAMPLE I.D. #	SAMPLE TIME
				Concrete		
1				fill - large angular gravel up to 20cm		
				PID = 2 ppm		
2						
3						
4						
		NR				
5		NR	Wet	Silty Sand - fine sand, 20% silt, grn to dk grn, organic matter	1217-5-5.5	12:50
6		X			1217-5-6.0	12:55
		X		Silty Sand - fine sand, 20% silt grn to dk grn, organic matter		
7		X				
		X				
8		X			1217-5-8.0	1:20 pm
		X		Silty Sand - fine sand, 20% silt, grn to dk green, organic matter, minor shell fragmts.		
		X				
		NR		PID = 15 ppm		
10		NR				
				~~Silty Sand~~ -		
11						
12						
13						
14						
15						
16						
17						
18						
19						

Appendix E

Drilling Permits

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600 FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

PERMIT NUMBER 92600

LOCATION NUMBER

LOCATION OF PROJECT Ninth Ave. Marine Terminal Port of Oakland, Oakland, CA

CLIENT

Name Port of Oakland

Address 530 Water st. Phone (510) 272-1220

City Oakland, CA Zip 94607

APPLICANT

Name Andrew Clark-Clough

Uribe and Associates

Address 2930 Lakershore Phone (510) 832-2233

City Oakland, CA Zip 94610

TYPE OF PROJECT

Well Construction

Cathodic Protection ____

Water Supply ____

Monitoring X

(Soil Samples)

Geotechnical Investigation

General ____

Contamination ____

Well Destruction ____

PROPOSED WATER SUPPLY WELL USE

Domestic N/A Industrial N/A Other N/A

Municipal N/A Irrigation N/A

DRILLING METHOD:

Mud Rotary ____ Air Rotary ____ Auger X

Cable ____ Other ____

DRILLER'S LICENSE NO. #610487

WELL PROJECTS (Soil Borings Only - No Wells)

Drill Hole Diameter 8 in. Maximum

Casing Diameter N/A in. Depth 10 ft.

Surface Seal Depth N/A ft. Number 10

GEOTECHNICAL PROJECTS

Number of Borings N/A Maximum

Hole Diameter N/A in. Depth N/A ft.

ESTIMATED STARTING DATE November 20, 1992

ESTIMATED COMPLETION DATE November 21, 1992

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S

PERMIT CONDITIONS

Circled Permit Requirements Apply

A. GENERAL

(1.) A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.

2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.

(3.) Permit is void if project not begun within 90 days of approval date.

B. WATER WELLS, INCLUDING PIEZOMETERS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.

2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

(C.) GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 17 Nov 92

Wyman Hong

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600 FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

CATION OF PROJECT Ninth Avenue Terminal
Area, Oakland

ENT
me Jon Amdur / Port of Oakland
dress 530 Water Street Phone (510)
y Oakland, CA Zip 94607

PLICANT
me Alan White
Uribe & Associates, Suite 200
dress 2930 Lakeshore Dr. Phone (510) 832-2233
y Oakland, CA Zip 94610

PE OF PROJECT
al C uction
Ca ic Protection ___
Water Supply ___
Monitoring ___
Geotechnical Investigation
General ___
Contamination X
Well Destruction ___

ROPOSED WATER SUPPLY WELL USE
omestic ___ Industrial ___ Other ___
unicipal ___ Irrigation ___

RILLING METHOD:
ud Rotary ___ Air Rotary ___ Auger X
able ___ Other ___

RILLER'S LICENSE NO. ___

ELL PROJECTS
Drill Hole Diameter ___ in. Maximum
Casing Diameter ___ in. Depth ___ ft.
Surface Seal Depth ___ ft. Number ___

EOTECHNICAL PROJECTS
Number of Borings 25 Maximum
Hole Diameter 8 in. Depth 15 ft.

STI ED STARTING DATE Dec 11, 1992
STI ED COMPLETION DATE Dec 16, 1992

hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

PPLICANTS Stephanie Scott

FOR OFFICE USE

PERMIT NUMBER 92650
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

A. GENERAL
1. (circled) A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
3. (circled) Permit is void if project not begun within 90 days of approval date.

B. WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. (circled) GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 15 Dec 92
Wyman Hong

31992

Appendix F

Geophysical Investigation Report

APPENDIX F: GEOPHYSICAL INVESTIGATION REPORT

J R ASSOCIATES

Engineering Geophysics
1886 Emory Street
San Jose, CA 95126
(408) 293-7390

GEOPHYSICAL INVESTIGATION AT THE KEEP ON TRUCKING SITE PORT OF OAKLAND OAKLAND, CALIFORNIA

December 15, 1992

For

Uribe & Associates
2930 Lakeshore Avenue, Suite 200
Oakland, California 94610

by

James Rezowalli, GP-921

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

I INTRODUCTION

This report presents the results of a geophysical investigation performed by J R Associates for Uribe & Associates. J R Associates performed the investigation at the Keep on Trucking Company site at the Port of Oakland in Oakland, California. The investigation's purpose was to look for geophysical indications of a buried tank at the site. James Rezowalli, Principal Geophysicist, and Tom Barry, Technician, of J R Associates performed the field investigation on December 7, 1992.

A. Site Conditions

The area investigated consisted of a parking area in front of a warehouse at 375 8th Avenue in Oakland, California (Drawing 1). The parking area was bounded on the east, west, and south by the warehouse. The parking area was bounded on the north by 8th Avenue. The parking area was paved with reinforced concrete. There was at least one buried pipe in the area investigated.

Uribe & Associates personnel on site indicated a tank may be buried under the parking area. The purpose of the geophysical investigation was to help determine if there was a buried tank.

II METHODS

Several geophysical techniques can detect buried metal objects such as fuel storage tanks. The most appropriate method for this site was a combination of magnetics and ground penetrating radar. A magnetic investigation maps the vertical magnetic gradient. The magnetic gradient is uniform throughout a site free of metal. The magnetic gradient at a site that contains ferrous metal is not uniform. Metal objects produce magnetic anomalies with characteristic shapes and magnitudes. A tank anomaly is characterized by a strong magnetic low just south of the center of the tank and a weaker magnetic high just north of the tank. Magnetic lows typically range from -300 gammas to -1000 gammas. Magnetic highs are usually half the value of the magnetic lows. This type of anomaly is what we use to locate buried tanks.

We augmented the magnetic investigation with a ground penetrating radar. The radar transmits a radar pulse into the ground. The pulse can be reflected back to the surface by buried objects such as utilities or buried tanks. The radar can be useful in determining the source of magnetic anomalies.

A. Magnetic Instrumentation

We used a Geometrics model 856AG proton precession magnetometer/gradiometer to collect magnetic data at the site. The magnetometer has two sensors and an electronics package. The magnetometer can collect both total field data and vertical gradient data. The magnetometer can discriminate to 0.2 gammas in a total field of 40,000 to 60,000 gammas. Magnetic readings are stored in memory with the time of day, station numbers, and line numbers of the readings. The data were downloaded into a computer at the end of the field day. The data were processed using software developed by Geometrics.

B. Magnetic Field Procedures

Magnetic data were collected on stations at 10 foot intervals along traverse lines spaced 10 feet apart. A data collection station is shown by "+" on the magnetic contour map. An anomaly is indicated by a series of concentric magnetic contours. There were several magnetic anomalies at the site. These anomalies will be discussed later in the report.

C. Radar Instrumentation

We used a SIR 3 ground penetrating radar system to collect radar data at the site. The SIR 3 has a radar control unit, a graphic recorder, and a 500 MHz antenna. The antenna transmits a radio frequency electromagnetic pulse into the ground. The pulse travels through the ground at approximately 2 nanoseconds per foot. Buried features, such as tanks, reflect the pulse back to the ground surface. The radar detects the returning reflections and plots them on the graphic profiler.

D Radar Field Procedures

Radar data were collected along a series of east/west and north/south traverse lines spaced 5 feet apart. Radar collection began by marking the beginning and the end of a radar line. A tape measure was then laid on the ground between the beginning and end marks. The antenna, connected to the control unit by a cable, was dragged along the traverse while collecting a radar profile next to the tape measure. The antenna operator manually marked the radar records every time the radar antenna traveled 5 feet. The vertical dashed lines on the radar records were created by pressing a momentary switch connected to the antenna. After a traverse was completed, the tape measure was moved to the next scan line and the above process was repeated.

III RESULTS

A. Magnetic Contours

Drawing 2 is a magnetic contour map of the parking area in front of the warehouse. The contour map contains magnetic anomalies along the east and west sides and near the middle of the area investigated. The magnetic anomalies along the sides of the area are caused by metal siding on the warehouse. The anomaly near the center of the area indicates a buried metal object similar to a tank or pipeline.

B. Radar Profiles

Radar profiles were collected to help determine the buried source of the magnetic anomaly near the center of the area. Drawing 3 is one of the radar profiles collected over the magnetic anomaly. The profile shows wire mesh in the concrete and what appears to be a buried pipeline. The pipeline indicates the radar could penetrate to a depth of at least two to three feet at the site. The radar probably did not penetrate much deeper than three feet because of soil conditions and the wire mesh in the concrete. There was no indication of a buried tank in the radar data.

C. Limitations

Magnetic methods locate ferrous objects from the anomalies they produce in the earth's magnetic field. It is possible that some ferrous objects will not produce an anomaly. Some possible reasons are that the object is buried too deep, the object is too small, the object is buried under or near another ferrous object, or an object is buried near a utility. It is possible there

are materials buried at the site that were not detected by the magnetic survey.

The radar's usefulness is limited by its depth of penetration. The depth of penetration can vary from a few inches to several feet. If a clear reflection is created by a buried object, the reflection can be used to help determine the size and depth of the object. If we see no reflections in an area, the results might be inconclusive. There could be no reflections because there are no buried objects or because the objects were buried deeper than the radar could penetrate.

D. Conclusions

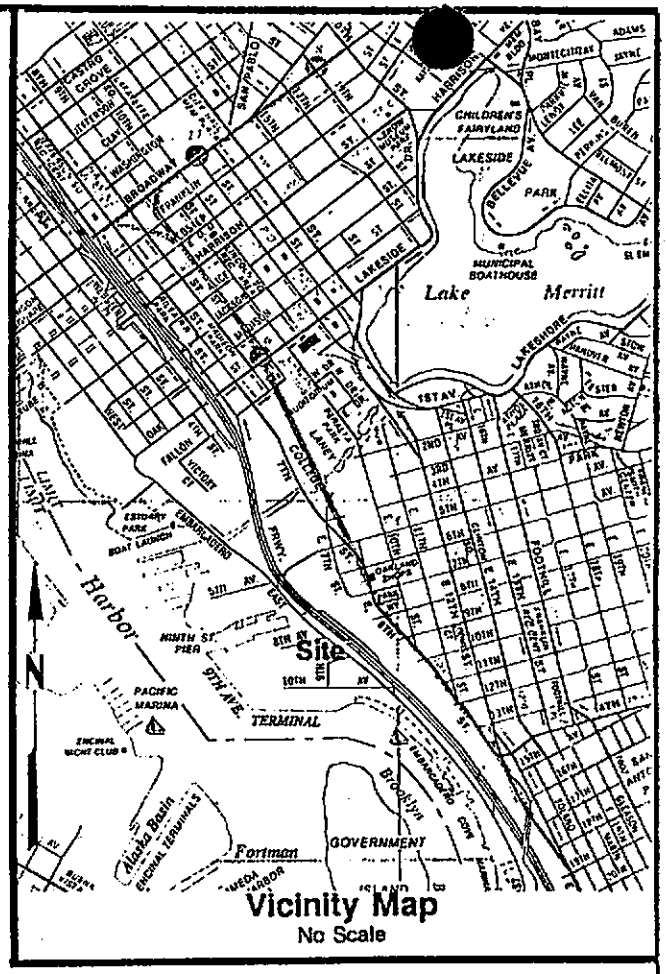
The geophysical data indicated a pipe and possibly a tank or similar sized object is buried near the middle of the area investigated. The magnetic data indicated an object similar to either a pipe or tank. The radar data indicated a only a buried pipe. If there is a tank at the site, it is buried deeper than approximately three feet.

Warehouse Building

Building

Area Investigated

8th Avenue



Site Map- Keep on Trucking Site
Uribe & Associates
Oakland, California

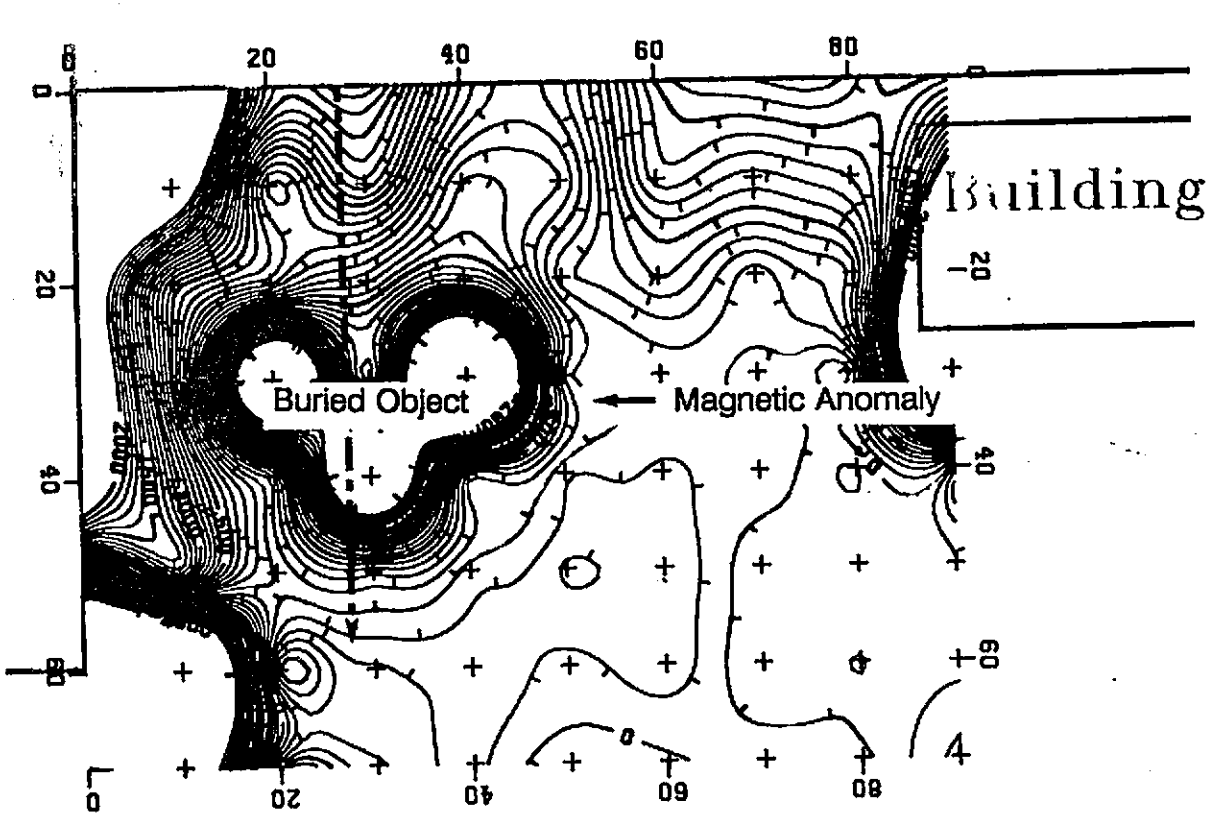
SCALE: 1" = 20'		DRAWN BY J.J.R.
DATE: 12-14-1992	Job Number: 069126-92	REVISED

J R ASSOCIATES Engineering Geophysics
1886 Emory Street, San Jose, CA 95126 (408) 293-7390

DRAWING NUMBER 1

8½ X 11 PRINTED ON NO. 1000H CLEARPRINT

Warehouse Building



EXPLANATION:

+ Magnetic Data Point

Approximate location of buried utility

Note: Utility locations are only approximate and some buried utilities may not be mapped.

8th Avenue

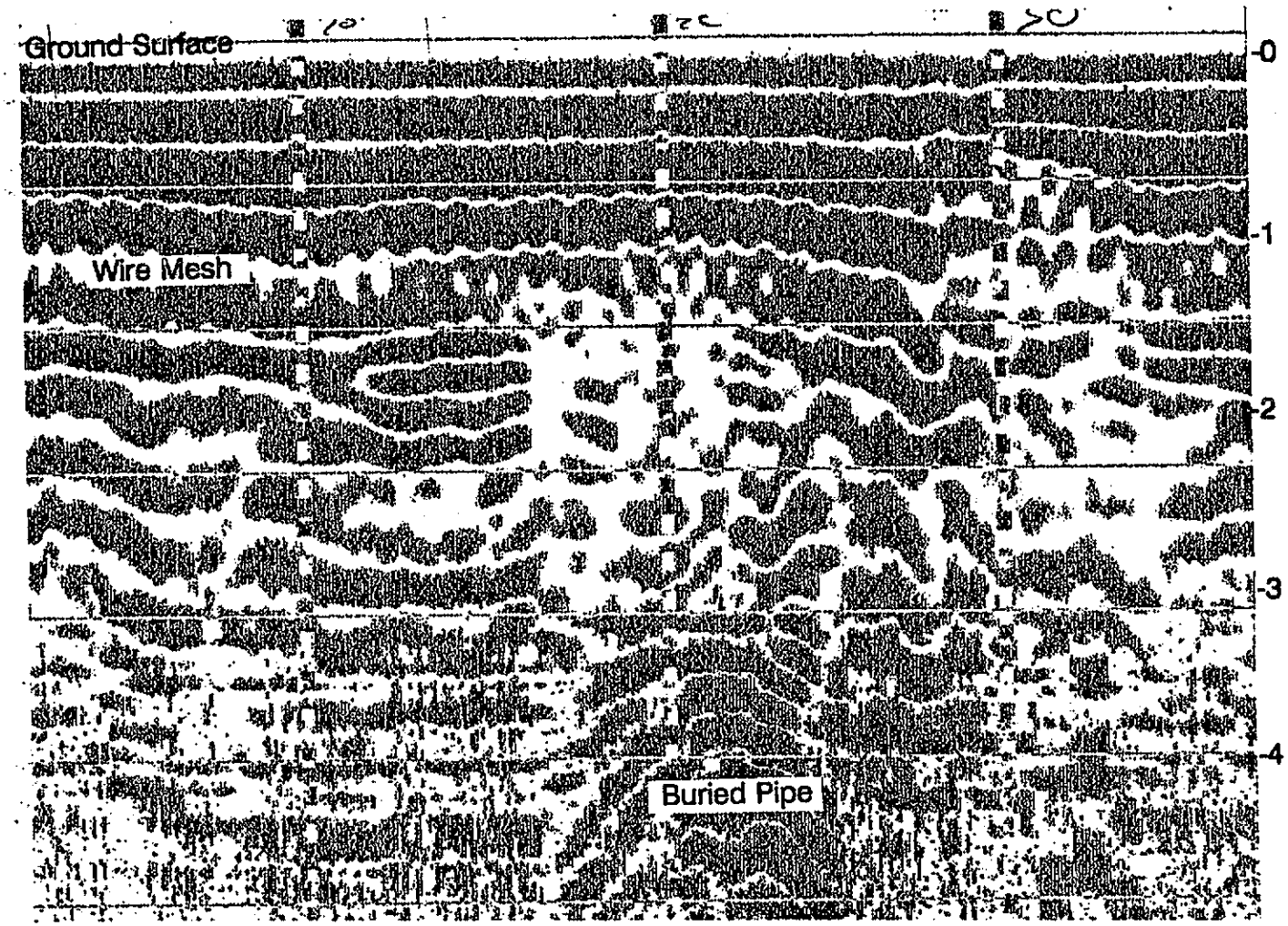
Major Contours every 500 gammas
Minor Contours every 100 gammas

Magnetic Contours- Keep on Trucking Site
Uribe & Associates
Oakland, California

SCALE: 1" = 20'		DRAWN BY J.J.R.
DATE: 12-14-1992	Job Number: 069126-92	REVISED

J R ASSOCIATES Engineering Geophysics
1886 Emory Street, San Jose, CA 95126 (408) 293-7390

DRAWING NUMBER
2



Radar Profile- Keep on Trucking Site
Uribe & Associates
Oakland, California

SCALE:	No Scale		DRAWN BY J.J.R.
DATE:	12-14-1992	Job Number: 069126-92	REVISED

J R ASSOCIATES Engineering Geophysics
1886 Emory Street, San Jose, CA 95126 (408) 293-7390

DRAWING NUMBER
3