PIERS
Environmental Services, Inc.

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Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, Second Floor
Alameda, CA 94502

December 27, 2000

Attn: Mr. Barney Chan; Haz Mat. Specialist for : DiSalvo Trucking
4919 Tidewater Ave., Oakland

Re: **Investigative Report**

Dear Mr. Chan,

This Report has been prepared by PIERS Environmental Services, (PIERS) to address requirements by the Alameda County Department of Environmental Health (ACDEH) for the performance of a groundwater investigation at a Underground Storage Tank (UST) site, 4919 Tidewater Ave., Oakland, California.

The purpose of this investigation was to further determine the horizontal extent of hydrocarbons in soil and groundwater. This report first reviews the known site history, describes the site vicinity, and presents existing chemical data. Then, the findings of the investigation are given including analytical results of on-site soil and groundwater sampling.

1.2 Site Location

The site is located in a light industrial district of Oakland, California on property at 4919 Tidewater Ave.(Figure 1).

1.3 Previous Subsurface Work at Site

Previous subsurface work at the site includes soil excavation and bio remediation, groundwater disposal, soil borings and sampling, monitor well construction and sampling. Description and chemical results from all work conducted to date are given in reports by Geo Environmental Technology (GTE) of San Jose dated April, 1989, June 1989 and February 1991 and in reports by Gen-Tech Environmental, Inc., (GTE) dated May 1994 and November 1994.

2.0 SITE DESCRIPTION

2.1 Site Description and Hydrogeologic Setting

The site is located on the west side of Tidewater Ave.. A 8000 square foot metal building is located on the northwest portion of the approximate one acre parcel. The majority of the remaining property is paved with asphalt. The site is located at the fringe of the San Francisco Bay on soil that appears to have been imported to fill the location to approximately four feet above the mean high tide elevation. The imported fill caps the entire site and contains sands, gravels, concrete and asphalt. Approximately two to three feet of native silty clay, silt, clayey sand and peat lie between this fill and the bay mud aquatard.

2.2 Vicinity Map

A vicinity map is given in Figure 1 which includes the location of any known hydraulic influences. The San Francisco Bay lies approximately 100 feet southeast of the site. A site map is given in Figure 2 which includes information on adjacent streets, site building locations, locations of existing wells, past soil borings and former tanks.

2.3 Existing Analytical Results

In April of 1994, three monitoring wells were installed at the site by Gen-Tech Environmental (GTE) of San Jose CA.. Eleven soil borings were also advanced at the same time by GTE. Groundwater grab samples were recovered from each boring and tested for TPH/g, TPH/d and BTEX.

In August of 1995, one monitoring well and two soil borings were installed at the site by Environmental restoration Services (ERS) of Menlo Park, CA..

2.3.2 **Depth to Groundwater**

Depth to groundwater based on the monitor well sampling is approximately two feet below ground surface.

2.3.3 **Soil Profile**

The boring logs for the monitor wells show predominantly import sands and gravels underlain with peat.

2.4 Waste Removal

Three fuel tanks, one waste oil tank and approximately 40,000 gallons of hydrocarbon impacted groundwater have been removed from the site. Approximately 70 gallons of diesel fuel recovered from an on-site, groundwater recovery sump has been removed from the site.

Is this properly documented?

3.0 INVESTIGATIVE INTRODUCTION

Based on historical analytical data from well samplings, PIERS believes that levels of gasoline and BTEX found in the groundwater at the site do not need to be investigated. PIERS therefore will analyze soil and groundwater samples for TPH/diesel only, with the exception of the groundwater sample recovered from boring SB-4.

Based on the hydrogeology of the site vicinity, PIERS believes that the vertical distribution of groundwater containing hydrocarbons does not require investigation beyond the bay mud aquatard (approximately 6 to 7 feet bgs.).

In addition, PIERS believes that the extent of any soil contamination on the site is due to the migration of the hydrocarbon in the shallow groundwater as it moves through the imported sand and gravel fill material. Since the extent of soil contamination has not been defined below this fill material, the investigative scope of work was comprised of soil sampling, at the bottom of the groundwater aquifer, at on-site locations.

Since the lateral extent of groundwater contamination at the site has not been defined, the investigative scope of work was also comprised of groundwater sampling at on-site locations.

3.1 Reconnaissance Boring Installation, Soil and Groundwater Sampling

On December 20, 2000, 16 borings were constructed to determine the presence of hydrocarbons in the soil and groundwater around the entire property. The location of borings SB-I through SB-16 are shown in Figure 2.

Prior to mobilization of the drilling equipment on-site, and prior to leaving the site, all associated equipment and well installation equipment were thoroughly cleaned to removed all soil, oil, grease, mud, tar, etc. The cleaning process consisted of TSP cleaning of the drilling equipment and a clean water final rinse. Before drilling each boring, all drill stems, bits, and other down-hole equipment were cleaned.

3.1.1 Soil Boring Procedure

The borings were advanced using a 2" diameter Geo-Probe to a depth of approximately eight feet. All of the soil recovered from the boring was logged under the supervision of a registered civil engineer. Visual and olfactory observations of petroleum hydrocarbons were made and recorded on the boring log. The boring logs are contained in the appendix of this Report.

3.1.2 Soil Sampling Procedures

The soil samples were recovered from each boring at the bottom of the groundwater aquifer. Each sample was cut from the continuous core container at the desired sample depth. The container were then ~~we~~ sealed with Teflon sheet and plastic caps. The soil samples were immediately stored on ice. Only those soil samples recovered from borings that contained detectable amounts of diesel in the groundwater were analyzed for TPH/diesel.

3.1.3 Groundwater Grab Sampling Procedures

After completion of drilling, each boring was allowed to recharge with groundwater. Then, a new, disposable bailer was inserted into the boring for recovery of a groundwater grab sample. The groundwater was emptied into sample containers obtained directly from an analytical laboratory. An effort will be made to minimize exposure of the sample to air. The groundwater samples were immediately stored on ice.

Care was taken to collect all excess water resulting from the sampling and cleaning procedures. The excess water was contained in a pre-labeled 55-gallon drum on-site pending receipt of laboratory analyses.

The borings were backfilled immediately after completion of the sampling with a cement grout mixture containing approximately 3% bentonite.

3.1.4 Laboratory Analyses

The following analyses were performed by the on-site lab operated by Mobile Chem Labs (MCL) of Lafayette, CA, on the soil an groundwater samples obtained from the borings:

TPH-diesel (EPA Method 8015M)
(Groundwater sample SB4-GW was also analyzed for BTEX, EPA Method 8020)

The analytical results of the groundwater samples were as follows

Results in Parts Per Million (PPM)

Sample#	TPH/d	Benzene	Toluene	Ethylbenzene	Xylenes
SB1-GW	ND				
SB2-GW	**26**				
SB3-GW	ND				
SB4-GW	ND	ND	ND	ND	ND
SB5-GW	**110**				
SB6-GW	**230**				
SB7-GW	ND				
SB8-GW	ND				
SB9-GW	ND				
SB10-GW	**670**				
SB11-GW	ND				
SB12-GW	**190**				
SB13-GW	ND				
SB14-GW	**44**				
SB15-GW	**48**				
SB16-GW	**2**				

The analytical results of the soil samples were as follows:

Results in Parts Per Million (PPM)

Sample#	TPH/d
SB2@6'	ND
SB5@ 6.5'	ND
SB6@ 7'	ND
SB10@ 6'	ND
SB12@ 6.5'	ND
SB14@ 7'	ND
SB15@ 6'	ND
SB16@ 6.5'	14

4.0 CONCLUSIONS and RECOMMENDATIONS

Sixteen soil borings were advanced at the subject site. Groundwater samples were recovered from all sixteen borings. A groundwater iso-concentration map for diesel is shown in Figure 2. Soil samples were analyzed from all borings that contained detectable levels of diesel in the groundwater. The soil samples were recovered from the bottom of the groundwater aquifer. Analytical results of soil samples indicated low to non-detectable levels of diesel.

It appears that elevated levels of diesel remain in the groundwater to the northeast of the former tank locations and this contaminate plume appears to be migrating to the northwest. Soil within this plume has been impacted with diesel from the top of the aquifer (approximately 2 feet bgs.) to the bottom of the aquifer (approximately 6 feet bgs.).

Concentrations of diesel in the groundwater do not appear to have been reduced from natural attenuation since the last investigation conducted in April of 1994.

PIERS recommends that the client negotiate with East Bay Municipal Utility District (EBMUD) to design a groundwater treatment system to discharge diesel impacted groundwater to the sanitary sewer.

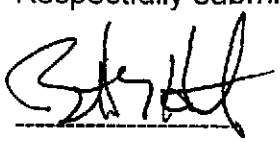
PIERS further recommends that the groundwater extraction system be expanded by installing a recovery trench from the existing recovery sump to the terminal building to the northwest.

Once a groundwater recovery and treatment system has been approved by EBMUD and ACDEH. The cost of a Remedial Action Plan will need to be approved by the State Cleanup Fund before implementation.

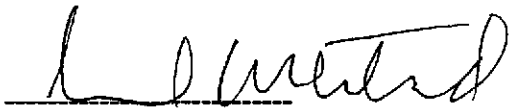
5.0 LIMITATIONS

The observations presented in this report are professional opinions based on the scope of work outlined herein. This report was prepared in accordance with generally accepted standards of environmental geological practice in California at the time this investigation was performed. The observations presented apply to site conditions existing at the time of our study and cannot apply to site conditions or changes of which we are not aware or have not had the opportunity to evaluate. This investigation was conducted solely to evaluate environmental conditions of the soil and groundwater with respect to hydrocarbons identified during previous work. Evaluation of the geologic conditions at the site for the purpose of this investigation is made from a limited number of observation points. Subsurface conditions may vary away from the data points available. Additional work, including subsurface investigation, can reduce the inherent uncertainties associated with this type of investigation. It must be recognized that any conclusions drawn from these data rely on the integrity of the information available at the time of investigation and that a full and complete determination of environmental contamination and risks cannot be made.

Respectfully submitted this 27th day of December, 2000,

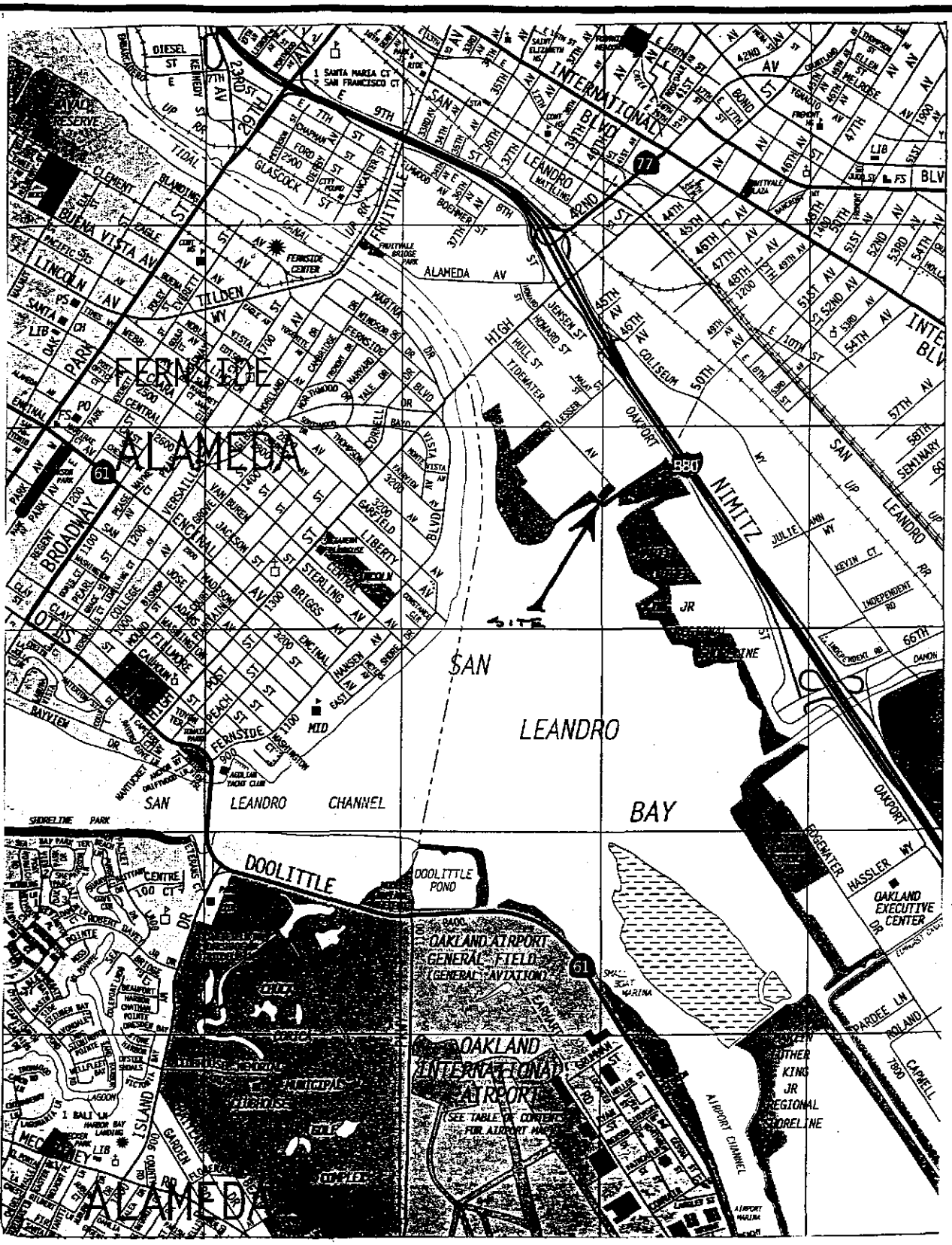


Bennett T Halsted
Project Manager



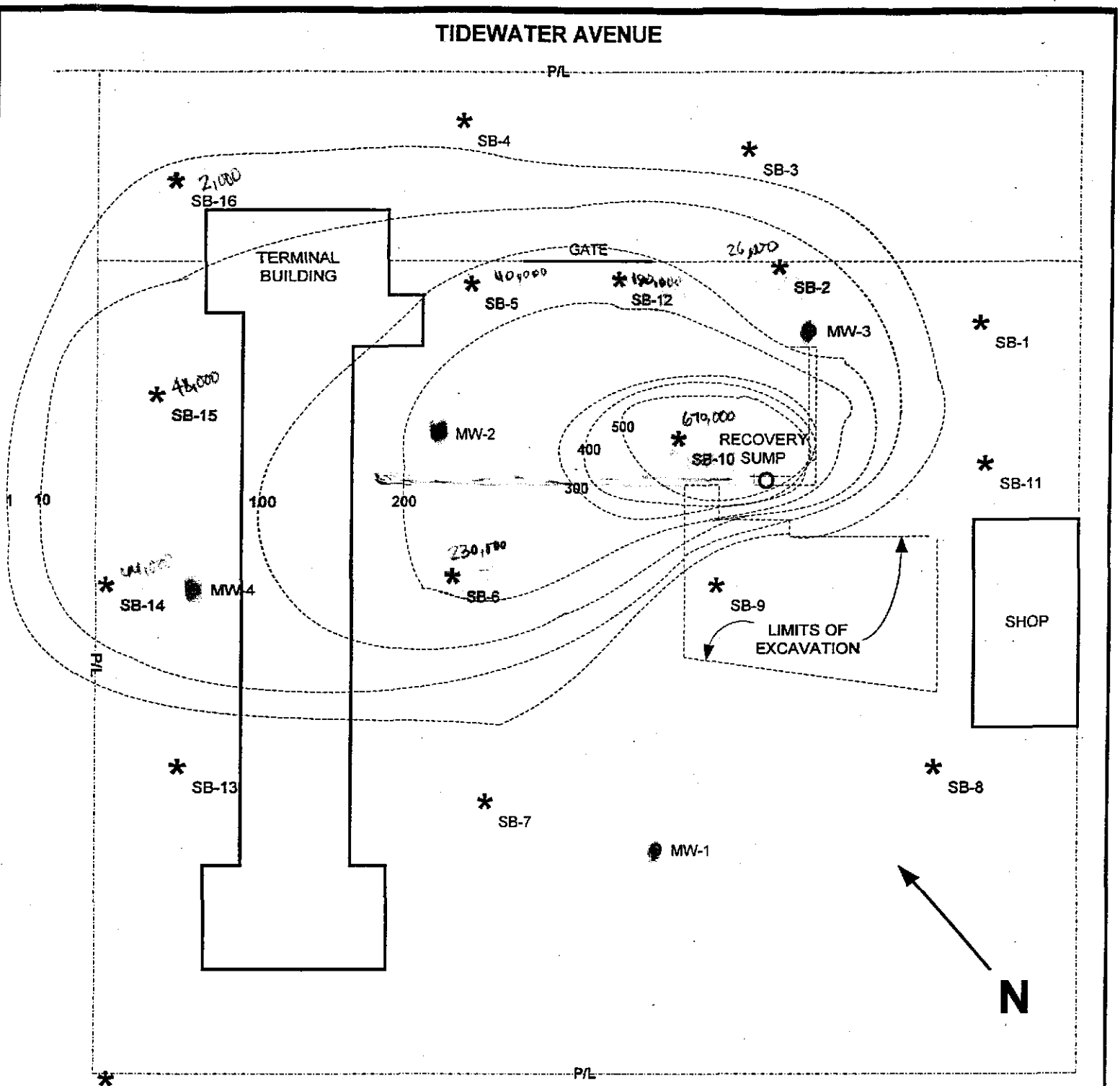
Samuel H Halsted P.E.
CE 14095

FIGURES



VICINITY MAP
4919 Tidewater Ave., *Oakland, CA*

DATE 12/21/00	SCALE : NTS	BY:
PIERS *Environmental Services Inc.* *1330 S. Bascom Ave., # F, San Jose, CA 95128*		**FIGURE 1**



* BORING LOCATIONS

---------- GROUNDWATER ISO-CONCENTRATION LEVELS FOR TPH/d IN PPM

SITE PLAN

4919 Tidewater Ave., *Oakland, CA*

DATE 12/21/00	SCALE : NTS	BY:
PIERS Environmental Services Inc. *1330 S. Bascom Ave., # F, San Jose, CA 95128*		**FIGURE 2**

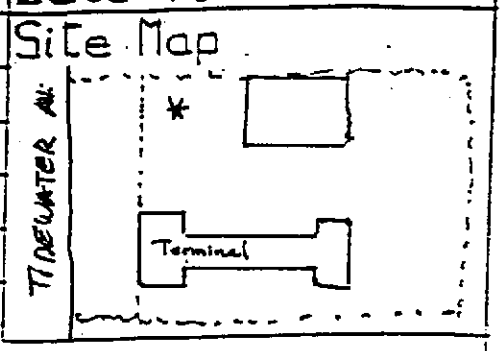
SSI 4919

BORING LOGS

Boring Log

Page 1 of 1

Client DiSalvo Trucking	Date 12-20-00
Location 4919 Tidewater Ave. Oakland	Site Map
Driller Vironex	
Method 2" Geo PROBE / Sampler BH	
Logger BH / Permit # N/A	
Inspector N/A / Agency N/A	



Sample #	Depth	Blows per 6 Inches	Moisture	Samples	USCS	Description of Subsurface Materials	Completion Data
	2					Asphalt/Concrete Base Material	
	4					Fill material consisting of imported Sands, Gravels, concrete asphalt with mixtures of imported soil	
	6				ML	clayey silt, 15% f. sand w/ organics, wood	
	8				CH	No HC odor Bay mud	Portland Cement
						BOH	

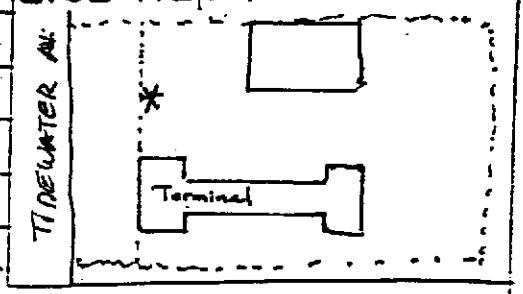
Total Depth: 8' | Water Level: ±3' | Sanitary Seal: Portland Cement

Well/Boring Designation: SB-1

Boring Log

Page 1 of 1

Client DiSalvo Trucking	Date 12-20-00
Location 4919 Tidewater Ave. Oakland	Site Map
Driller Vironex	
Method 2" Geo PROBE / Sampler BH	
Logger BH / Permit = N/A	
Inspector N/A / Agency N/A	



Sample #	Depth	Blows Per 6 Inches	Moisture	Samples USCS	Description of Subsurface Materials	Completion Data
	2				Asphalt/Concrete Base Material	
	4			V	Fill material consisting of imported Sands, Gravels, concrete asphalt with mixtures of imported soil	
sb2@6'	6				HC odor	
	8			CL	Silty Sandy CLAY, Dark w/ decomp. organic material	
				PT	Peat	Portland Cement
				CH	Bay mud	
					BOH	

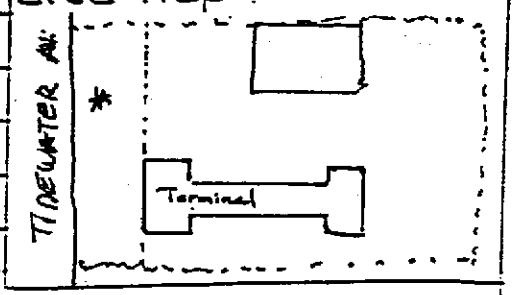
Total Depth: 8' | Water Level: ±3' | Sanitary Seal: Portland Cement

Well/Boring Designation: SB-2

Boring Log

Page 1 of 1

Client DiSalvo Trucking	Date 12-20-00
Location 4919 Tidewater Ave. Oakland	Site Map
Driller Vironex	
Method 2" Geo PROBE / Sampler BH	
Logger BH / Permit = N/A	
Inspector N/A / Agency N/A	



Sample #	Depth	Blows Per 6 Inches	Moisture	Samples USCS	Description of Subsurface Materials	Completion Details
	2				Asphalt/Concrete Base Material	Portland Cement
	4				Fill material consisting of imported Sands, Gravels, concrete asphalt with mixtures of imported soil	
	6			CL	Silty, Sandy CLAY, 30% silt some organics	
	8			BH	No HC odor Bay mud	
					BOH	

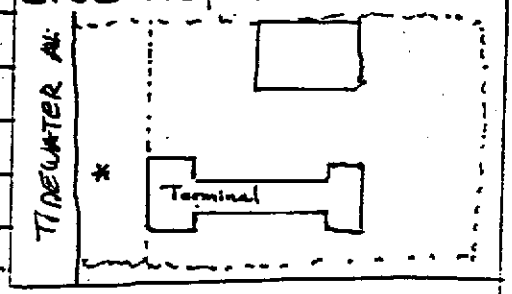
Total Depth: 8' | Water Level: ±3' | Sanitary Seal: Portland Cement

Well/Boring Designation: SB-3

Boring Log

Page 1 of 1

Client DiSalvo Trucking	Date 12-20-00
Location 4919 Tidewater Ave. Oakland	Site Map
Driller Vironex	
Method 2" Geo PROBE / Sampler BH	
Logger BH / Permit # N/A	
Inspector N/A / Agency N/A	



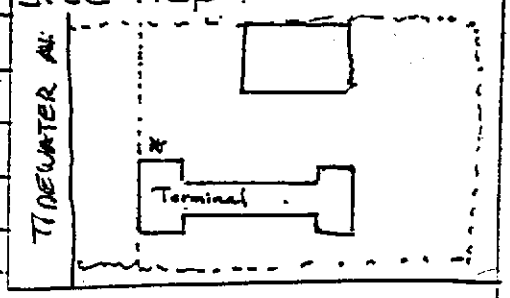
Sample #	Depth	Blows Per 6 Inches	Moisture	Samples USCS	Description of Subsurface Materials	Completion Data
	2				Asphalt/Concrete Base Material	
	4				Fill material consisting of imported Sands, Gravels, concrete asphalt with mixtures of imported soil	
	6			CL	Silty CLAY, 30% silt, 10% gravel soft, wet	
	8			CH	No HC. Odor Bay mud	Portland Cement
					BOH	

Total Depth: 8' | Water Level: ±3' | Sanitary Sect: Portland Cement

Well/Boring Designation: SB-4

Boring Log

Client DiSalvo Trucking	Date 12-20-00
Location 4919 Tidewater Ave. Oakland	Site Map
Driller Vironex	
Method 2" Geo PROBE	Sampler BH
Logger BH	Permit # N/A
Inspector N/A	Agency N/A



Sample #	Depth	Blows Per 6 Inches	Moisture	Samples USCS	Description of Subsurface Materials	Completion Data
	2				Asphalt/Concrete Base Material	
	4				Fill material consisting of imported sands, gravels, concrete asphalt with mixtures of imported soil	
	6				HC odor	
SB5@6'				CL	Silty CLAY, 40% silt, 20% f. sand, organic material	
	8			ML	Sandy SILT w/ 25% f. sand, organics	Portland Cement
					Bay mud	
					BOH	

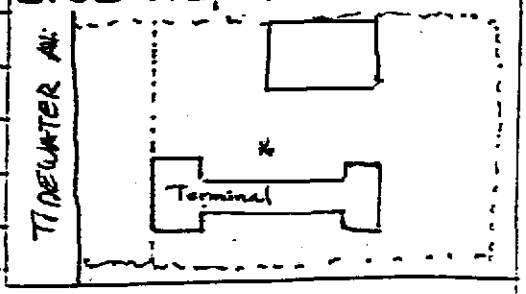
Total Depth: 8' | Water Level: ±3' | Sanitary Seal: Portland Cement

Well/Boring Designation: SB-5

Boring Log

Page 1 of 1

Client DiSalvo Trucking	Date 12-20-00
Location 4919 Tidewater Ave. Oakland	Site Map
Driller Vironex	
Method 2" Geo PROBE / Sampler BH	
Logger BH / Permit = N/A	
Inspector N/A / Agency N/A	



Sample #	Depth	Blows Per 6 Inches	Moisture	Samples USCS	Description of Subsurface Materials	Completion Data
	2				Asphalt/Concrete Base Material	
	4			V	Fill material consisting of imported sands, gravels, concrete asphalt with mixtures of imported soil	
	6			SM	HC odor Silty SAND. v. Fine, loose wet w/ some organics	
SB6@7'	8			ML CH	Sandy SILT, w/ 15% clay, 30% sand w/ some organics Bay mud	Portland Cement
					BOH	

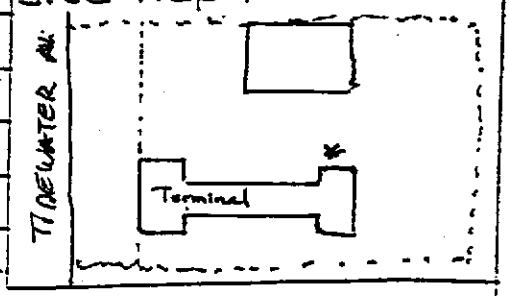
Total Depth: 8' | Water Level: ±3' | Sanitary Sect: Portland Cement

Well/Boring Designation: SB-6

Boring Log

Page 1 of 1

Client DiSalvo Trucking	Date 12-20-00
Location 4919 Tidewater Ave. Oakland	Site Map
Driller Vironex	
Method 2" Geo PROBE / Sampler BH	
Logger BH / Permit # N/A	
Inspector N/A / Agency N/A	



Sample #	Depth	Blows Per 6 Inches	Moisture	Samples	USCS	Description of Subsurface Materials	Completion Data
	2					Asphalt/Concrete Base Material	
	4			V		Fill material consisting of imported Sands, Gravels, concrete asphalt with mixtures of imported soil	
	6				CL	dkgy Silty Sandy CLAY w/ organics	Portland Cement
					ML	Sandy SILT	
	8				SM	Silty SAND	
					CL	Sandy CLAY No HC. odor	
					BM	Bay mud	
						BOH	

Total Depth: 8' | Water Level: ±3' | Sanitary Seal: Portland Cement

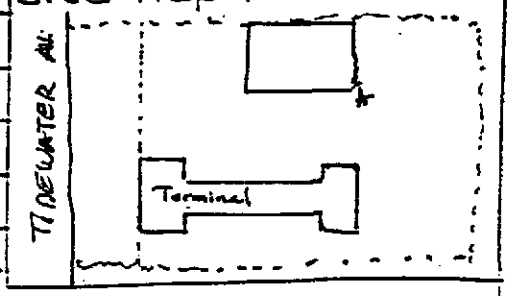
Well/Boring Designation: SB-7

Boring Log

Client DiSalvo Trucking | Date 12-20-00

Location 4919 Tidewater Ave. Oakland

Site Map



Driller Vironex

Method 2" Geo PROBE | Sampler BH

Loader BH | Permit # N/A

Inspector N/A | Agency N/A

Sample #	Depth	Blows Per 6 Inches	Moisture	Samples	USCS	Description of Subsurface Materials	Completion Data
	2					Asphalt/Concrete Base Material	
	4			V		Fill material consisting of imported sands, gravels, concrete asphalt with mixtures of imported soil	
	6				PT	High organics Peat w/ decomposed wood. 30% silt or sand.	
	8				SM	Silty SAND w/ some clay and organics	Portland Cement
					CL	Silty Sandy CLAY	
					CH	Bay mud	
						No H.C Odor	
						BOH	

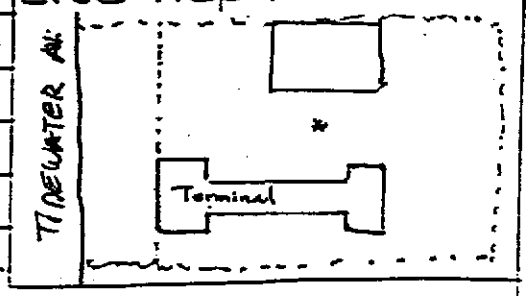
Total Depth: 8' | Water Level: ±3' | Sanitary Sect: Portland Cement

Well/Boring Designation: SB-8

Boring Log

Page 1 of 1

Client DiSalvo Trucking	Date 12-20-00
Location 4919 Tidewater Ave. Oakland	Site Map
Driller Vironex	
Method 2" Geo PROBE	Sampler BH
Logger BH	Permit = N/A
Inspector N/A	Agency N/A



Sample #	Depth	Blows Per 6 Inches	Moisture	Samples USCS	Description of Subsurface Materials	Completion Data
	2				Asphalt/Concrete Base Material	
	4				Fill material consisting of imported Sand.	
	6					
	8				BOH No H.C. odor	

Portland Cement

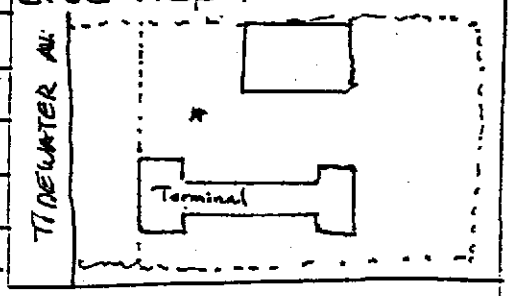
Total Depth: 8' | Water Level: ±3' | Sanitary Seal: Portland Cement

Well/Boring Designation: SB-9

Boring Log

Page 1 of 1

Client DiSalvo Trucking	Date 12-20-00
Location 4919 Tidewater Ave. Oakland	Site Map
Driller Vironex	
Method 2" Geo PROBE	Sampler BH
Logger BH	Permit # N/A
Inspector N/A	Agency N/A



Sample #	Depth	Blows per 6 Inches	Moisture	Samples USCS	Description of Subsurface Materials	Completion Data
	2				Asphalt/Concrete Base Material	
	4				Fill material consisting of imported Sands, Gravels, concrete asphalt with mixtures of imported soil	
					↓ H.C. Odor	
	6			ML	Sandy SILT, dark, wet of organics	
				SM	Silty SAND, 35% silt	
				CL	Silty, Sandy, CLAY	
	8			BAY MUD	Bay mud	
					BOH	

Portland Cement

Total Depth: 8' | Water Level: ±3' | Sanitary Seal: Portland Cement

Well/Boring Designation: SB-10

Boring Log

Page 1 of 1

Client DiSalvo Trucking | Date 12-20-00

Location 4919 Tidewater Ave. Oakland

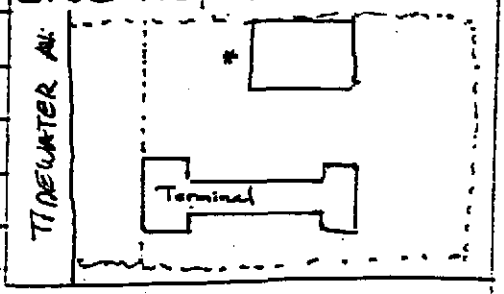
Driller Vironex

Method 2" Geo PROBE | Sampler BH

Logger BH | Permit = N/A

Inspector N/A | Agency N/A

Site Map



Sample #	Depth	Blows Per 6 Inches	Moisture	Samples	USCS	Description of Subsurface Materials	Completion Data
						Asphalt/Concrete Base Material	
	2						
				V		Fill material consisting of imported sands, gravels, concrete asphalt with mixtures of imported soil	
	4						
	6				PT	high organics PEAT w/ decomp. wood, 80% f. sand, 20% silt wet	
					SM	silty SAND. w/ some organics	
					CL	silty, Sandy, CLAY	
					CH	Bay mud	
	8					No H.C odor	
						BOH	

Portland Cement

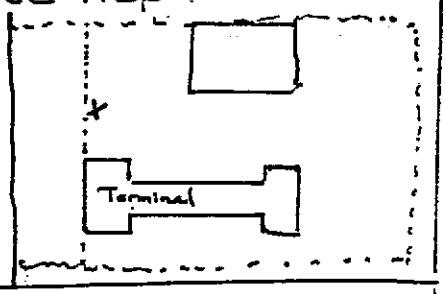
Total Depth: 8' | Water Level: ±3' | Sanitary Seal: Portland Cement

Well/Boring Designation: SB-11

Boring Log

Page 1 of 1

Client DiSalvo Trucking	Date 12-20-00
Location 4919 Tidewater Ave. Oakland	Site Map
Driller Vironex	
Method 2" Geo PROBE / Sampler BH	
Logger BH / Permit = N/A	
Inspector N/A / Agency N/A	



Sample #	Depth	Blows Per 6 Inches	Moisture	Samples	USCS	Description of Subsurface Materials	Completion Data
	2					Asphalt/Concrete Base Material	
	4					Fill material consisting of imported Sands, Gravels, concrete asphalt with mixtures of imported soil	
	6				ML	↓ H.C. odor Sandy SILT, w/ decomp. organic mat. 20% F. sand 15% clay	
SB-12 @ 5'	8				CL CH	Silty CLAY, soft, wet, 25% silty, 20% f. sand. Bay mud	Portland Cement
						BOH	

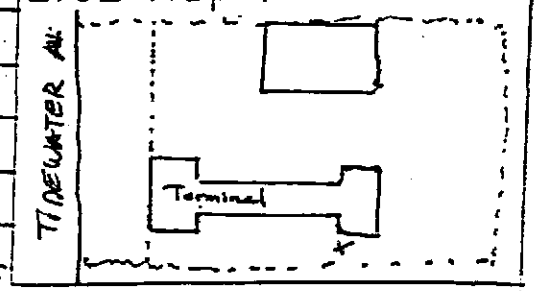
Total Depth: 8' | Water Level: ±3' | Sanitary Seal: Portland Cement

Well/Boring Designation: SB-12

Boring Log

Page 1 of 1

Client DiSalvo Trucking	Date 12-20-00
Location 4919 Tidewater Ave. Oakland	Site Map
Driller Vironex	
Method 2" Geo PROBE / Sampler BH	
Loader BH / Permit = N/A	
Inspector N/A / Agency N/A	



Sample #	Depth	Blows Per 6 Inches	Moisture	Samples USCS	Description of Subsurface Materials	Completion Data
	2				Asphalt/Concrete Base Material	
	4				Fill material consisting of imported Sands, Gravels, concrete asphalt with mixtures of imported soil	
	6			ML	Sandy SILT w/ some organics 25% sand, 15% clay, dark wet soil	
	8			CL CH	Silty clay Bay mud	Portland Cement
					BOH No H.C. odor	

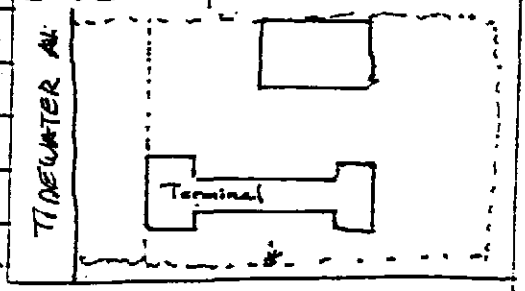
Total Depth: 8' | Water Level: ±3' | Sanitary Seal: Portland Cement

Well/Boring Designation: SB-13

Boring Log

Page 1 of 1

Client DiSalvo Trucking	Date 12-20-00
Location 4919 Tidewater Ave. Oakland	Site Map
Driller Vironex	
Method 2" Geo PROBE / Sampler BH	
Logger BH / Permit = N/A	
Inspector N/A / Agency N/A	



Sample #	Depth	Blows Per 6 Inches	Moisture	Samples USCS	Description of Subsurface Materials	Completion Data
	2				Asphalt/Concrete Base material	
	4				Fill material consisting of imported sands, gravels, concrete asphalt with mixtures of imported soil	
	6			ML	↓ H.C. odor Sandy, clayey SILT, dark w/ decomp. organics	
				SM	Silty, clayey SAND	
SB14@7'	8			CL	Silty CLAY	Portland Cement
				CH	Bay mud	
					BOH	

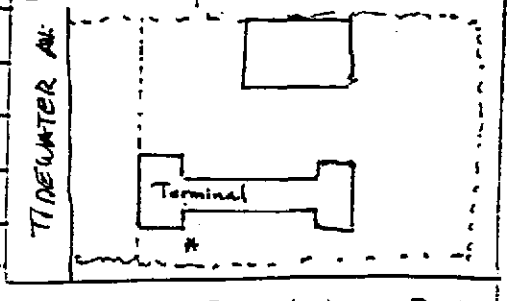
Total Depth: 8' | Water Level: ±3' | Sanitary Seal: Portland Cement

Well/Boring Designation: SB-14

Boring Log

Page 1 of 1

Client DiSalvo Trucking	Date 12-20-00
Location 4919 Tidewater Ave. Oakland	Site Map
Driller Vironex	
Method 2" Geo PROBE / Sampler BH	
Logger BH / Permit # N/A	
Inspector N/A / Agency N/A	



Sample #	Depth	Blows per 6 Inches	Moisture	Samples USCS	Description of Subsurface Materials	Completion Data
	2				Asphalt/Concrete Base Material	
	4				Fill material consisting of imported Sands, Gravels, concrete asphalt with mixtures of imported soil	
	6			CL	↓ H.C. odor Silty CLAY w/15% f. sand dark, soft, wet	
				SM	Silty SAND, w/10% clay * some organic material	
SB15@6	8			CL CH	Silty, Sandy CLAY, soft wet Bay mud	Portland Cement
					BOH	

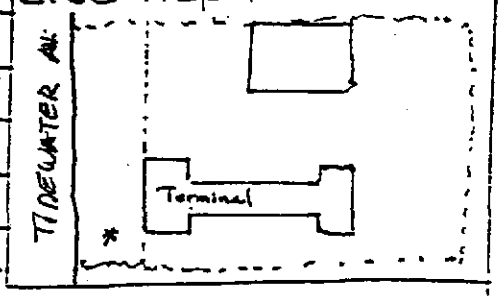
Total Depth: 8' | Water Level: ±3' | Sanitary Seal: Portland Cement

Well/Boring Designation: SB-15

Boring Log

Page 1 of 1

Client DiSalvo Trucking	Date 12-20-00
Location 4919 Tidewater Ave. Oakland	Site Map
Driller Vironex	
Method 2" Geo PROBE / Sampler BH	
Logger BH / Permit # N/A	
Inspector N/A / Agency N/A	



Sample #	Depth	Blows per 6 inches	Moisture	Samples USCS	Description of Subsurface Materials	Completion Data
	2				Asphalt/Concrete Base Material	
	4				Fill material consisting of imported Sands, Gravels, concrete asphalt with mixtures of imported soil	
					Slight H.C odor	
	6			CL	Sandy, silty CLAY, 30% silt, 20% f. sand. Dark, wet, w/ decomp	
	8			SM / CL / CH	organics silty, ~~sandy to~~ SAND / Silty, Sandy CLAY. / Bay mud	Portland Cement
					BOH	

Total Depth: 8' | Water Level: ±3' | Sanitary Seal: Portland Cement

Well/Boring Designation: SB-16

CHAIN-OF-CUSTODY
ANALYTICAL RESULTS

Project No.	Site Name/Location
00368	DiSalvo Trucking 4919 Tidewater Ave. Oakland

Consultant Name	Sampler Name
PIERS Environmental Services	B. Halsted
Address: 1330 S. Bascom Ave #F San Jose Ca 95128	

MOBILE CHEM LABS, INC.
1678 REILIEZ VALLEY RD.
LAFAYETTE, CA 94549
(925) 945-1266
(925) 943-6834 fax

SAMPLE ID NUMBER	DATE	TIME	LAB ID	SAMPLE PRESERVATION			MATRIX			# of Cont.	GRAB/COMP	BTEX/	TPH-D	TOG(418.1)	TEPH	8010/601	8081/608	8240/624	LUFT-5 Met	8270/625				
				HCL	HNO3	ICE	SOIL	WATER	AIR															
SB1-GW	12-20-00	840						X		1			X											
SB2-GW		907								1			X											
SB3-GW		915								1			X											
SB4-GW		925								3		X	X											
SB5-GW		1015								1			X											
SB6-GW		1106								1			X											
SB7-GW		1120								1			X											
SB8-GW		1140								1			X											
SB9-GW		1200								1			X											
SB10-GW		1210								1			X											
SB11-GW		1220								1			X											
SB12-GW		1240								1			X											
SB13-GW		105								1			X											
SB14-GW		130								1			X											
SB15-GW		145								1			X											
SB16-GW		215								1			X											

Relinquished By:	Date/Time	Received By:	Comments:	Turn Around
	12-20-00 1515		BTEX = 1 WK TAT	ONSITE
Relinquished By:	Date/Time	Received By:		

Q: are soil & gw results for diesel filtered & passed thru silica gel?
pager: (925) 975-8135

MOBILE CHEM LABS INC.

1678 Reliez Valley Road • Lafayette, CA 94549
Phone (925) 945-1266 • Fax (925) 943-6884

00368\2131\014129

Piers Envoronmental Services
1330 S. Bascom Avenue, Suite F
San Jose, CA 95128
Attn: Ben Halsted
Project Manager

Date Sampled: 12-20-00
Date Received: 12-20-00
Date Analyzed: 12-20-00

Sample Number	Sample Description	Detection Limit ppb	WATER Total Petroleum Hydrocarbons as Diesel ppb
	DiSalvo Trucking 4919 Tidewater Ave. Oakland, CA Proj #:00368		
V120001	SB1-GW	100	<100
V120002	SB2-GW	100	26,000
V120003	SB3-GW	100	<100
V120004	SB4-GW	100	<100
V120005	SB5-GW	100	110,000
V120006	SB6-GW	100	230,000
V120007	SB7-GW	100	<100
V120008	SB8-GW	100	<100

QA/QC: Duplicate Deviation on V120005 is 8.3 % & V120001 is 3.6 %
Spike Recovery on V120002 is 101 % & V120001 is 83 %

Note: Analysis was performed using EPA method 3550 modified and TPH LUFT (8015).
(ppb) = (ug/l)

MOBILE CHEM LABS

[signature]

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

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Phone (925) 945-1266 • Fax (925) 943-6884

00368\2131\014129

Piers Envoronmental Services
1330 S. Bascom Avenue, Suite F
San Jose, CA 95128
Attn: Ben Halstead
Project Manager

Date Sampled: 12-20-00
Date Received: 12-20-00
Date Analyzed: 12-20-00

Sample Number	Sample Description	Detection Limit ppb	WATER Total Petroleum Hydrocarbons as Diesel ppb
	DiSalvo Trucking 4919 Tidewater Ave. Oakland, CA Proj #:00368		
V120009	SB9-GW	100	<100
V120010	SB10-GW	100	670,000
V120011	SB11-GW	100	<100
V120012	SB12-GW	100	190,000
V120013	SB13-GW	100	<100
V120014	SB14-GW	100	44,000
V120015	SB15-GW	100	48,000
V120016	SB16-GW	100	2,000

QA/QC: Duplicate Deviation on V120005 is 8.3 % & V120001 is 3.6 %
Spike Recovery on V120002 is 101 % & V120001 is 83 %

Note: Analysis was performed using EPA method 3550 modified and TPH LUFT (8015).
(ppb) = (ug/l)

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Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

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00368\2131\014129

Piers Environmental Services
1330 S. Bascom Avenue, Suite F
San Jose, CA 95128
Attn: Ben Halsted
Project Manager

Date Sampled: 12-20-00
Date Received: 12-20-00
Date Analyzed: 12-22-00

Sample Number	Sample Description
V120004	DiSalvo Trucking 4919 Tidewater Ave. Oakland, CA SB4-GW WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

QA/QC: Duplicate Deviation is 0 %
Spike Recovery is 91 %

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for BTEX distinction.
(ppb) = (ug/l)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

Project No.	Site Name/Location
00368	DiSalvo Trucking 4919 Tidewater Ave Oakland Ca

Consultant Name: PIER Environmental Services — Sampler Name: B. Halsted

Address: 1330 S. Bascom Ave #F, San Jose Ca 95128

MOBILE CHEM LABS, INC.
1678 RELIEZ VALLEY RD.
LAFAYETTE, CA 94549
(925) 945-1266
(925) 943-6884 fax

SAMPLE ID NUMBER	DATE	TIME	LAB ID#	SAMPLE PRESERVATION			MATRIX			# of Cont.	GRAB/COMP	TPH-G/BTEX	TPH-D	TOG(418.1)	TEPH	8010/601	8081/608	8240/624	LUFT-5 Met	8270/625				
				HCL	HNO3	ICE	SOIL	WATER	AIR															
SB2@6'	12-20-00	950					X			1			X											
SB5@6.5'		1010											X											
SB6@7'		1055											X											
SB10@6'		1200											X											
SB12@6.5'		1230											X											
SB14@7'		120											X											
SB15@6'		135											X											
SB16@6.5'	12-20-00	210					X			1			X											

Relinquished By:	Date/Time	Received By:	Comments:	Turn Around
[signature]	12/20/00 3:15 pm	[signature]		5 day Turn @ $40 ea.
Relinquished By:	Date/Time	Received By:		

MOBILE CHEM LABS INC.

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Phone (925) 945-1266 • Fax (925) 943-6884

00368\2131\014129

Piers Environmental Services
1330 S. Bascom Avenue, Suite F
San Jose, CA 95128
Attn: Ben Halsted
Project Manager

Date Sampled: 12-20-00
Date Received: 12-20-00
Date Analyzed: 12-22-00

Sample Number	Sample Description	Detection Limit ppm	SOIL Total Petroleum Hydrocarbons as Diesel ppm
	DiSalvo Trucking 4919 Tidewater Ave. Oakland, CA Proj #:00368		
V120017	SB2 @ 6'	10.0	<10
V120018	SB5 @ 6.5'	10.0	<10
V120019	SB6 @ 7'	10.0	<10
V120020	SB10 @ 6'	10.0	<10
V120021	SB12 @ 6.5'	10.0	<10
V120022	SB14 @ 7'	10.0	<10
V120023	SB15 @ 6'	10.0	<10
V120024	SB16 @ 6.5'	10.0	14

QA/QC: Duplicate Deviation on V120024 is 17 %
Spike Recovery on V120017 is 96 %
LCS Recovery is 73 %

Note: Analysis was performed using EPA method 3550 modified and TPH LUFT (8015).
(ppm) = (mg/kg)

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Ronald G. Evans
Lab Director