

ALAMEDA COUNTY
HEALTH CARE SERVICES



AGENCY
DAVID J. KEARS, Agency Director

February 25, 1997
StID # 76

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

REMEDIAL ACTION COMPLETION CERTIFICATION

Mr. Bruce Bauer
P.O. Box 82177
Highland Park
Auckland, New Zealand

Mr. Stephen Block
P.O. Box 405
Moraga, CA 94556

**Re: Eastbay Clarklift Facility, 4701 Oakport St., Oakland
CA 94601**

Dear Mssrs. Bauer and Block:

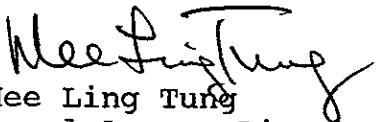
This letter confirms the completion of site investigation and remedial action for the three underground tanks (1-1,000 gallon gasoline, 1-550 gallon stoddard solvent and 1-550 gallon hydraulic fluid) at the above described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tanks is greatly appreciated.

Based upon the available information and with provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground tank release is required.

This notice is issued pursuant to the regulation contained in Title 23, Division 3, Chapter 16, Section 2721 (e) of the California Code of Regulations.

Please contact this office at (510) 567-6700 if you have any questions regarding this matter.

Sincerely,


Mee Ling Tung
Local Agency Director

enclosure

c: B. Chan, Hazardous Materials Division-files
Kevin Graves, RWQCB
L. Casias, SWRCB (with attachment)
D. Solis, TAC Environmental Services, 151 Link Road, Cordelia,
CA 94585
R. Makdisi, Stellar Enviromental Solutions, 2110 Sixth St.,
Berkeley, CA 94710 RACC4701

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION Date: 11/²⁵~~05~~/96
Agency name: **Alameda County-HazMat** Address: **1131 Harbor Bay Parkway**
Rm 250, Alameda CA 94502
City/State/Zip: **Alameda** Phone: **(510) 567-6700**
Responsible staff person: **Barney Chan** Title: **Hazardous Materials Spec.**

II. CASE INFORMATION

Site facility name: **Eastbay Clarklift Facility**
Site facility address: **4701 Oakport St., Oakland CA 94601**
RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: **76**
ULR filing date: **10-28-96** SWEEPS No: **N/A**

<u>Responsible Parties:</u>	<u>Addresses:</u>	<u>Phone Numbers:</u>
1. Mr. Bruce Bauer c/o A.B. Equipment	Cavindish & Lambie Dr. Manukau City, New Zealand	
2. Mr. Stephen Block	P.O. Box 405 Moraga, CA 94556	

<u>Tank No:</u>	<u>Size in gal.:</u>	<u>Contents:</u>	<u>Closed in-place or removed?:</u>	<u>Date:</u>
1	1,000	gasoline	Removed	4/26/89
2	550	stoddard solvent	Removed	4/26/89
3	550	hydraulic fluid	Removed	4/26/89

III RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: **unknown**
Site characterization complete? **Yes**
Date approved by oversight agency:
Monitoring Wells installed? **YES** Number: **8**
Proper screened interval? **Yes, from 10-25' bgs**

Leaking Underground Fuel Storage Program

Highest GW depth: 7.96' BGS Lowest depth: 9.16' BGS

Flow direction: generally northeasterly

Most sensitive current use: commercial

Are drinking water wells affected? No Aquifer name: NA

Is surface water affected? No Nearest affected SW name: NA

Off-site beneficial use impacts (addresses/locations): NA

Report(s) on file? **Yes** Where is report(s)? Alameda County
 1131 Harbor Bay Parkway,
 Room 250, Alameda CA 94502-6577

Treatment and Disposal of Affected Material:

<u>Material</u>	<u>Amount (include units)</u>	<u>Action (Treatment of Disposal w/destination)</u>	<u>Date</u>
Tanks & Piping	1-1000 gallon	Disposed, H&H Ship Service	4/26/89
	1-550 gallon	" " " "	
	1-550 gallon	" " " "	
Soil	140 cy	Disposed at BFI Landfill	10/31-11/1/90
	3163 tons	" " " "	2/7/96
	77 cy	" " " "	6/6-6/7/96
	11.47 tons	Disposed at McKittrick Waste Treatment Site	9/17/96
Groundwater/ Wastewater	250 gallons	Recycled by Tank Testing Services, Vacaville	4/17/91
	36,945 gal	Disposed at Seaport Env. Redwood City, CA	9/13&9/16/96
Free Product	175 gallons	Recycled by oil recycler	6-12/89

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm)		Water (ppb)	
	¹ Before	² After	³ Before	After
TPH (Gas)	100	180		ND
TPH (Stoddard)	1400		2,000,000	
Benzene	6.9	0.13	ND	ND
Toluene	NA	0.26	260,000	ND
Ethylbenzene	1.3	0.66	170,000	ND
Xylenes	2.2	0.57	1,200,000	ND
Hydraulic oil	1900	130	25,000,000	ND
Oil and Grease	1200	260	230,000,000	
Other- PCBs	ND		ND	
Volatile Organics	ND		ND	

Leaking Underground Fuel Storage Program

Comments (Depth of Remediation, etc.):

1 Soil sample results from tank removal

2 Soil sample results after overexcavation; does not include results of soil samples along PG&E power line and Subsites A & B. These samples are from BS-15 @15', located beneath the former tank pit and much higher in conc. than the rest of the soils within the excavation.

3 Grab groundwater sample from tank pit

IV.. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Undetermined

Does corrective action protect public health for current land use? YES

Site management requirements: A notice to PG&E subsurface utility workers must be made to inform them of the potential of encountering petroleum hydrocarbon contamination along the 12 kv electric conduit. A health and safety plan for excavation in this area must be maintained by PG&E.

Should corrective action be reviewed if land use changes? Yes

Monitoring wells Decommissioned: Two closed, six still exist

Number Decommissioned: 2

Number Retained: 6

List enforcement actions taken: None

List enforcement actions rescinded: None

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Barney M. Chan

Title: Hazardous Materials Specialist

Signature:

Date:

Reviewed by

Name: Susan Hugo

Title: Sr. Haz Mat Specialist

Signature: *Susan L. Hugo*

Date: 11/7/96

Name: T. Peacock

Title: Sup. Haz. Mat. Specialist

Signature: *T. Peacock*

Date: 11-21-96

VI. RWQCB NOTIFICATION

Date Submitted to RB:

RB Response:

RWQCB Staff Name: K. Graves

Title: AWRCE

Date:

Leaking Underground Fuel Storage Program

VII. ADDITIONAL COMMENTS, DATA, ETC.

This site is located on Oakport St., the west frontage road of Interstate 880. This is primarily an industrial area. The property is approximately 350' long by 270' wide and contains a single story automotive service facility and office building. The facility is currently operated as a distribution and repair center for forklifts. Pacific Gas and Electric (PG&E) operates the neighboring property at 4801 Oakport to the south.

Groundwater is encountered at a shallow depth (approximately 5' bgs) in this area and imported fill is commonly found above the native bay mud.

In **January 1989**, as part of a potential property transfer, a soil and groundwater investigation was performed at this site. Nine borings were advanced around the perimeter of the site. Analytical results indicated minimal soil and groundwater contamination. See Table 1 and 2.

In **April 26, 1989** three underground tanks (1-1000 gallon gasoline, 1-550 gallon hydraulic oil and 1-550 gallon stoddard solvent) and an above-ground hydraulic oil tank, associated piping and two hydraulic rams were removed from the site. Analytical results for soil samples detected up to 1900 ppm oil/stoddard solvent, 6.9, ND, 1.3, 2.2 mg/kg BTEX, respectively. A grab groundwater sample from the pit detected 230,000 mg/l TRPH (Method 418.1), 25,000 mg/l TPH (8015) oil/stoddard solvent, 1200 mg/l xylene isomers, 170 mg/l ethylbenzene, 260 mg/l toluene and 2000 mg/l C6-C15 (stoddard). Oil was observed seeping into the tank pit.

Between **June 1989 and December 1989** approximately 175 gallons of free fuel product was skimmed from the surface of the tank excavation.

In **August 1991** Golder Associates was retained to perform a subsurface investigation. A total of eight borings, GA-1 through GA-8, were advanced around the former pit area. Five of the borings were converted into monitoring wells (GA-1 through GA-5) around the former tank pit area and further east and west of the tank pit. Hydraulic oil and oil and grease was predominant in the soil borings immediately around the tank pit. These contaminants were also found in the grab groundwater samples further east and west of the tank pit.

In **May 1992** Golder Associates continued to monitor the wells and performed an investigation regarding the gradient and potential tidal or pumping influences. Golder concluded that groundwater gradient was generally to the northeast, no tidal or nearby pumping influence existed and that the petroleum contaminant plume was likely migrating offsite towards PG&E.

In **March 21, 1994**, in an attempt to determine the lateral extent of soil and groundwater contamination, two trenches were dug to the south and to the northeast of the former tank pit. Soil and water samples collected indicated elevated levels of TPH as hydraulic oil and gasoline

Leaking Underground Fuel Storage Program

constituents. The trench on the northeast area was located along the piping run of the former aboveground hydraulic lift. An obvious release from the hydraulic lift piping run had occurred. See Fig. 3 & Table 3.

In August 1994 H2OGEOL was retained to provide a Corrective Action Plan for the site. The plan called for the excavation of contaminated soils and ex-situ bioremediation. This plan was accepted by ACDEH. Tentative soil reuse concentrations were agreed to be 500 ppm TPH-HO, 50 ppm TPHg or stoddard and 1 ppm BTEX with the additional requirement that the benzene concentration be ND.

In March 1995 Growth Environmental took over as consultant for the site and modified the previously approved work plan to include disposal of the excavated soils as opposed to bioremediation. In addition, Growth proposed to determine the limits of both onsite and offsite contamination by advancing Geoprobos in a grid-like fashion in these areas. Both soil and limited groundwater samples would be taken. These proposals were accepted by ACDEH.

In May 1995 the subsurface investigation was performed. A total of 39 onsite borings and 36 offsite borings were advanced. To reduce the number of analyses, borings were composited. The results indicated that contamination was significant onsite, however, offsite contamination was insignificant in both soil and groundwater. The extent of contamination in the northern direction was limited to the Clarklift building. It was at this time that the possibility of contamination along the PG&E conduit was suggested.

In November 1995 TAC Environmental was retained to complete the CAP both onsite and offsite. In addition, TAC proposed to advance geoprobe borings within the Clarklift facility and to install up to 5 monitoring wells to replace ^{well GA-6} and define the extent of groundwater contamination. Along the southern boundary of the Clarklift facility, bucket augering was proposed to enable the removal of the maximum amount of soil.

TAC initiated the workplan by advancing borings and installing a well (MW2) within the Clarklift facility, bucket augering along the exterior of the building and taking soil boring samples on both sides of the PG&E electrical conduit. Within the building, little to no petroleum contamination was found. Monitoring well MW2 was installed within boring B-2. Monitoring well MW1 was installed to replace well GA-6 and wells MW3 and MW4 were installed on PG&E property to verify the southern limits of the petroleum plume. Because of the limited access allowed next to the PG&E electrical conduit, hand auger borings were advanced along its northern boundary. Elevated TPH as hydraulic oil and TRPH were detected intermittently along the conduit in borings HA-1, HA-3 and HA-5.

Leaking Underground Fuel Storage Program

Upon excavation of the onsite soils several additional notable areas of contamination were discovered:

A wash pad was located slightly northwest of the former UST tank pit. This is where forklifts were washed. Runoff from this area flowed into an oil/water separator. Upon its removal, a release appeared to have occurred from the outlet pipe of the separator. Soil in this area had a petroleum odor indicating another potential contaminant source. See Figure #7

Upon removal of concrete in the area of the former hydraulic lift, the concrete housing of the lifts and two hydraulic lift casings were encountered. Their metal cylinders were still full of oil and sludge, indicating another potential source of the hydraulic oil contamination. See Figure #7

In order to access the soils in the southernmost property boundary, approximately 140 feet of eighteen inch corrugated drainage piping running parallel to PG&E's electrical conduit was removed. It was buried within the shallow soil just below the surface and resurfaced aboveground as it ran off the property. It is uncertain what this piping was used for, however, upon its removal stained soil was found beneath it. It is unclear whether the piping served as a source of contamination or whether its porous bedding served as a preferential pathway for contamination. Upon removal of the piping, the easternmost end (where the piping entered the property) was cut flush while the entire remaining length of the onsite piping was removed. See Figure #10

During the excavation, the pit was shored in order to retain the integrity of the sidewalls. The pit was continuously dewatered to expose contaminated soil. Approximately 52,000 gallons of surface and groundwater was pumped from the pit. From February 19-23, 1996, 3162 tons of soil was excavated and off-hauled from the site. The excavation pit was approximately 147'x46'x8.5' (average depth). Twenty-seven (27) floor samples were taken after excavation. See Figure 8 and Table 10 for locations and results. A clay lined containment trench was placed along the southern boundary of the excavation to prevent any back migration of hydrocarbon contamination into the excavated pit.

After backfilling the pit and preparation for site resurfacing, two additional areas named Subsite A and B were found on the southeast and southwest sides of the excavation, respectively. These two areas were subsequently overexcavated by Stellar Environmental Solutions (SES) representing the current property owner, Mr. Stephen Block. Figure 6 and Table 4 give the results of confirmatory soil sampling in these areas. Approximately 55 yards of soil was excavated and disposed at BFI Landfill, Livermore.

Leaking Underground Fuel Storage Program

The new set of wells, MW1-MW4 have been monitored on three occasions while the other two well GA-7 and GA-8 have been monitored since 8/91. Throughout these events only low amounts of TPH-ho (300 ppb), TPH-D (100ppb) and TPH-g (possibly stoddard) (100ppb) ^{were detected}. No BTEX has ever been detected. See Table 5 for monitoring results.

Site closure is recommended based on *the following rationale:*

1. Extensive soil excavation (approx. 2200 cy) and groundwater removal (approx. 52,000 gallons) has successfully removed the majority of the source. Additional identified onsite areas of detectable hydrocarbon contamination were also excavated. Residual soil hydrocarbon contamination which exists lies next to a PG&E electrical conduit thus preventing its removal. The levels of petroleum contamination left in place do not pose a human health risk.
2. Groundwater monitoring indicates that the groundwater has not been adversely impacted by the petroleum release.
3. The low levels of residual soil contamination should continue to biodegrade.
4. Written notification to PG&E subsurface utility workers in the area of the 12kv electrical conduit exists. A health and safety plan for these workers will be observed.
5. Though PAHs were not run on soil or groundwater samples, the low level of TPHd detected in groundwater indicates that PAHs are not likely to be present in any appreciable amount.

CLARKLIFT 4701 DAKPORT ^{PG#E} ^{SITE} OAKLAND, CALIFORNIA

TANK REMOVAL SAMPLES

INTERSTATE 800

4701
DAKPORT STREET

LESSER STREET

1000
GALLON
GASOLINE
TANK

2 3

1: Water

4

550 HYDRAULIC TANK

6 7

550 ~~RESIL~~

*Sold and
Solvent*

OFFICE AND
WAREHOUSE SPACE

S



CHAIN OF CUSTODY RECORD

BC Log Number 8904771

Client name: J. Quarle				Project or PO#: Clark Fork Wft		Analysis required								
Address: 5835 Doyle Street Suite 107				Phone #: 547-7411		Fuel, Tot. Gas, SO ₂ , BTEX, Lead, Cadmium, PCB's, Pesticides, V. Qu., 0126 2080 608 8240-NP RETROFITC Hazardous sample Special handling required								
City, State, Zip: Emeryville CA 94608			Report attention: Frank Morris											
Lab Sample number	Date sampled	Time sampled	Type See key below	Sampled by	Number of containers									Remarks
				Sample description										
2	4-26-89	11:00	SO	East Tank North	1	x		x			x	x		
1	4-26-89	11:00	AQ	Water from excavation	8	x				x	x	x		
3	4-26-89	11:00	SO	East Tank South	1	x		x			x	x		
4	4-26-89	11:00	SO	Middle Tank North	1	x		x			x	x		
5	4-26-89	11:00	SO	Middle Tank South	1	x		x			x	x		
6	4-26-89	11:00	SO	West Tank North	1	x		x			x	x		
7	4-26-89	11:00	SO	West Tank South	1	x		x			x	x		

Signature	Print Name	Company	Date	Time
Relinquished by: <i>Frank Morris</i>	Frank Morris	BC Labs	4-26-89	1:30 PM
Received by: <i>[Signature]</i>	D. Love	BC Labs	4/26/89	
Relinquished by:				
Received by:				
Relinquished by:				
Received by Laboratory:				

BROWN AND CALDWELL LABORATORIES

- 1255 Powell Street, Emeryville, CA 94608 (415) 428-2300
- 373 South Fair Oaks Avenue, Pasadena, CA 91105 (818) 795-7553
- 1200 Pacific Avenue, Anaheim, CA 92805

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

*KEY: AQ—Aqueous NA—Nonaqueous SL—Sludge GW—Groundwater SO—Soil OT—Other PE—Petroleum



LOG NO: E89-04-771

Received: 26 APR 89

Reported: 15 MAY 89

Mr. Jack Quarle
J. Quarle and Associates
5835 Doyle Street Suite 107
Emeryville, California 94608

Project: Clark Forklift

REPORT OF ANALYTICAL RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED
04-771-1	Water From Excavation	26 APR 89
PARAMETER	04-771-1	
Hydrocarbons by IR (EPA 418.1), mg/L	230000	
Polychlorinated Biphenyls *		
Date Extracted	05.05.89	
Date Analyzed	05.05.89	
Aroclor 1016, mg/kg	<3.0	
Aroclor 1221, mg/kg	<3.0	
Aroclor 1232, mg/kg	<3.0	
Aroclor 1242, mg/kg	<3.0	
Aroclor 1248, mg/kg	<3.0	
Aroclor 1254, mg/kg	1.2	
Aroclor 1260, mg/kg	<1.0	
Aroclor 1262, mg/kg	<1.0	
Total PCB's, mg/kg	1.2	
TPH - Modified 8015		
Date Analyzed	05.04.89	
Total Fuel Hydrocarbons, mg/L	25000	
Fuel Characterization, .	OIL STOD	
Other TPH - Modified 8015	---	

*Polychlorinated Biphenyls reported as mg/kg based on sample weight taken from top layer of a bi-layered oil/water mixture. Hydrocarbons reported as mg/L based on sample volume taken from oil/water emulsion.

This fuel characterization is a qualitative identification based upon a visual comparison of sample chromatograms with those from authentic standards.



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LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED
04-771-1	Water From Excavation	26 APR 89
PARAMETER	04-771-1	
Purgeable Priority Pollutants		
Date Extracted	05.11.89	
1,1,2-Trichloroethane, ug/L	<5000	
1,1-Dichloroethane, ug/L	<5000	
1,1-Dichloroethylene, ug/L	<5000	
1,2-Dichloroethane, ug/L	<5000	
1,2-Dichloropropane, ug/L	<5000	
1,3-Dichloropropene, ug/L	<5000	
2-Chloroethylvinylether, ug/L	<5000	
Acrolein, ug/L	<50000	
Acrylonitrile, ug/L	<50000	
Bromodichloromethane, ug/L	<5000	
Bromomethane, ug/L	<5000	
Benzene, ug/L	<5000	
Chlorobenzene, ug/L	<5000	
Carbon Tetrachloride, ug/L	<5000	
Chloroethane, ug/L	<5000	
Bromoform, ug/L	<5000	
Chloroform, ug/L	<5000	
Chloromethane, ug/L	<5000	
Dibromochloromethane, ug/L	<5000	
Ethylbenzene, ug/L	170000	
Methylene chloride, ug/L	<5000	
Tetrachloroethylene, ug/L	<5000	
Trichloroethylene, ug/L	<5000	
Trichlorofluoromethane, ug/L	<5000	
Toluene, ug/L	260000	



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LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED
04-771-1	Water From Excavation	26 APR 89
PARAMETER	04-771-1	
Vinyl chloride, ug/L	<5000	
1,2-Dichloroethene (Total), ug/L	<5000	
trans-1,3-Dichloropropene, ug/L	<5000	
1,1,1-Trichloroethane, ug/L	<5000	
1,1,2,2-Tetrachloroethane, ug/L	<5000	
2-Hexanone, ug/L	<5000	
Acetone, ug/L	<50000	
Carbon Disulfide, ug/L	<5000	
Freon 113, ug/L	<5000	
Methyl ethyl ketone, ug/L	<100000	
Methyl isobutyl ketone, ug/L	<5000	
Styrene, ug/L	<5000	
Vinyl acetate, ug/L	<5000	
Total Xylene Isomers, ug/L	1200000	
Semi-Quantified Results **		
Toal C6-C15 Hydrocarbons, ug/L	2000000	

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.



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REPORT OF ANALYTICAL RESULTS

Page 4

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES					DATE SAMPLED
04-771-2	East Tank North					26 APR 89
04-771-3	East Tank South					26 APR 89
04-771-4	Middle Tank North					26 APR 89
04-771-5	Middle Tank South					26 APR 89
04-771-6	West Tank North					26 APR 89
PARAMETER	04-771-2	04-771-3	04-771-4	04-771-5	04-771-6	
Hydrocarbons by IR (EPA 418.1), mg/kg	<50	<50	<50	<50	1200	
Polychlorinated Biphenyls						
Date Extracted	05.08.89	05.08.89	05.08.89	05.08.89	05.08.89	
Date Analyzed	05.08.89	05.08.89	05.08.89	05.08.89	05.08.89	
Aroclor 1016, mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	
Aroclor 1221, mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	
Aroclor 1232, mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	
Aroclor 1242, mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	
Aroclor 1248, mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	
Aroclor 1254, mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	
Aroclor 1260, mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	
Aroclor 1262, mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	
Other Polychlorinated Biphenyls	---	---	---	---	---	
TPH - Modified 8015						
Date Analyzed	05.04.89	05.04.89	05.04.89	05.04.89	05.04.89	
Total Fuel Hydrocarbons, mg/kg	1400	12	1900	32	<10	
Fuel Characterization, .	OIL STOD	STODDARD	OIL STOD	STODDARD	---	
Other TPH - Modified 8015	---	---	---	---	---	

This fuel characterization is a qualitative identification based upon a visual comparison of sample chromatograms with those from authentic standards.



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04-771-4	Middle Tank North					26 APR 89
04-771-5	Middle Tank South					26 APR 89
04-771-6	West Tank North					26 APR 89
PARAMETER	04-771-2	04-771-3	04-771-4	04-771-5	04-771-6	
Purgeable Priority Pollutants						
Date Extracted	05.02.89	05.02.89	05.02.89	05.02.89	05.02.89	
1,1,2-Trichloroethane, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
1,1-Dichloroethane, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
1,1-Dichloroethylene, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
1,2-Dichloroethane, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
1,2-Dichloropropane, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
1,3-Dichloropropene, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
2-Chloroethylvinylether, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
Acrolein, mg/kg	<1	<1	<1	<1	<10	
Acrylonitrile, mg/kg	<1	<1	<1	<1	<10	
Bromodichloromethane, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
Bromomethane, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
Benzene, mg/kg	<0.1	6.9	<0.1	<0.1	<1	
Chlorobenzene, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
Carbon Tetrachloride, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
Chloroethane, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
Bromoform, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
Chloroform, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
Chloromethane, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
Dibromochloromethane, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
Ethylbenzene, mg/kg	<0.1	1.3	<0.1	<0.1	<1	
Methylene chloride, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	



LOG NO: E89-04-771

Received: 26 APR 89

Reported: 15 MAY 89

Mr. Jack Quarle
 J. Quarle and Associates
 5835 Doyle Street Suite 107
 Emeryville, California 94608

Project: Clark Forklift

REPORT OF ANALYTICAL RESULTS

Page 6

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED				
04-771-2	East Tank North	26 APR 89				
04-771-3	East Tank South	26 APR 89				
04-771-4	Middle Tank North	26 APR 89				
04-771-5	Middle Tank South	26 APR 89				
04-771-6	West Tank North	26 APR 89				
PARAMETER	04-771-2	04-771-3	04-771-4	04-771-5	04-771-6	
Tetrachloroethylene, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
Trichloroethylene, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
Trichlorofluoromethane, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
Toluene, mg/kg	<0.1	0.4	0.1	<0.1	<1	
Vinyl chloride, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
1,2-Dichloroethene (Total), mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
trans-1,3-Dichloropropene, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
1,1,1-Trichloroethane, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
1,1,2,2-Tetrachloroethane, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
2-Hexanone, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
Acetone, mg/kg	<1	<1	<1	<1	<10	
Carbon Disulfide, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
Freon 113, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
Methyl ethyl ketone, mg/kg	<2	<2	<2	<2	<20	
Methyl isobutyl ketone, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
Styrene, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
Vinyl acetate, mg/kg	<0.1	<0.1	<0.1	<0.1	<1	
Total Xylene Isomers, mg/kg	0.2	2.2	<0.1	0.4	3	
Semi-Quantified Results **						
Total C5-C9 Hdrocarbons, mg/kg	---	---	7	---	---	
Total C5-C9 Hydrocarbons, mg/kg	---	30	---	5	---	
Total C6-C15 Hydrocarbons, mg/kg	---	---	---	---	100	



LOG NO: E89-04-771

Received: 26 APR 89

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Emeryville, California 94608

Project: Clark Forklift

REPORT OF ANALYTICAL RESULTS

Page 8

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
04-771-7	West Tank South	26 APR 89
PARAMETER	04-771-7	
Hydrocarbons by IR (EPA 418.1), mg/kg	<50	
Polychlorinated Biphenyls		
Date Extracted	05.08.89	
Date Analyzed	05.08.89	
Aroclor 1016, mg/kg	<0.3	
Aroclor 1221, mg/kg	<0.3	
Aroclor 1232, mg/kg	<0.3	
Aroclor 1242, mg/kg	<0.3	
Aroclor 1248, mg/kg	<0.3	
Aroclor 1254, mg/kg	<0.3	
Aroclor 1260, mg/kg	<0.3	
Aroclor 1262, mg/kg	<0.3	
Other Polychlorinated Biphenyls	---	
TPH - Modified 8015		
Date Analyzed	05.04.89	
Total Fuel Hydrocarbons, mg/kg	<10	
Other TPH - Modified 8015	---	



LOG NO: E89-04-771

Received: 26 APR 89

Reported: 15 MAY 89

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 J. Quarle and Associates
 5835 Doyle Street Suite 107
 Emeryville, California 94608

Project: Clark Forklift

REPORT OF ANALYTICAL RESULTS

Page 9

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
04-771-7	West Tank South	26 APR 89
PARAMETER	04-771-7	
Purgeable Priority Pollutants		
Date Extracted	05.02.89	
1,1,2-Trichloroethane, mg/kg	<0.1	
1,1-Dichloroethane, mg/kg	<0.1	
1,1-Dichloroethylene, mg/kg	<0.1	
1,2-Dichloroethane, mg/kg	<0.1	
1,2-Dichloropropane, mg/kg	<0.1	
1,3-Dichloropropene, mg/kg	<0.1	
2-Chloroethylvinylether, mg/kg	<0.1	
Acrolein, mg/kg	<1	
Acrylonitrile, mg/kg	<1	
Bromodichloromethane, mg/kg	<0.1	
Bromomethane, mg/kg	<0.1	
Benzene, mg/kg	<0.1	
Chlorobenzene, mg/kg	<0.1	
Carbon Tetrachloride, mg/kg	<0.1	
Chloroethane, mg/kg	<0.1	
Bromoform, mg/kg	<0.1	
Chloroform, mg/kg	<0.1	
Chloromethane, mg/kg	<0.1	
Dibromochloromethane, mg/kg	<0.1	
Ethylbenzene, mg/kg	<0.1	
Methylene chloride, mg/kg	<0.1	
Tetrachloroethylene, mg/kg	<0.1	
Trichloroethylene, mg/kg	<0.1	
Trichlorofluoromethane, mg/kg	<0.1	
Toluene, mg/kg	<0.1	



LOG NO: E89-04-771

Received: 26 APR 89

Reported: 15 MAY 89

Mr. Jack Quarle
J. Quarle and Associates
5835 Doyle Street Suite 107
Emeryville, California 94608

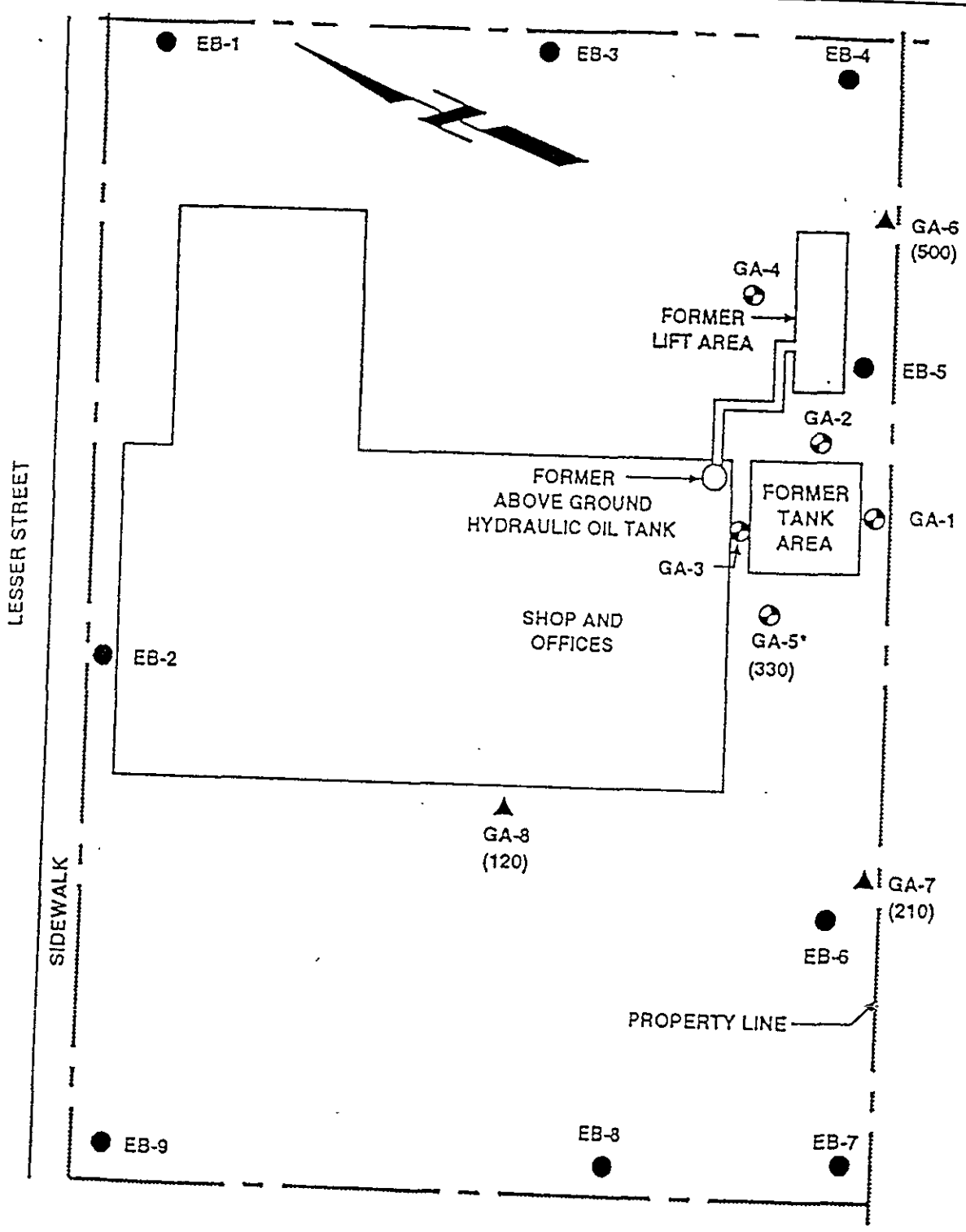
Project: Clark Forklift

REPORT OF ANALYTICAL RESULTS

Page 10

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
04-771-7	West Tank South	26 APR 89
PARAMETER	04-771-7	
Vinyl chloride, mg/kg	<0.1	
1,2-Dichloroethene (Total), mg/kg	<0.1	
trans-1,3-Dichloropropene, mg/kg	<0.1	
1,1,1-Trichloroethane, mg/kg	<0.1	
1,1,2,2-Tetrachloroethane, mg/kg	<0.1	
2-Hexanone, mg/kg	<0.1	
Acetone, mg/kg	<1	
Carbon Disulfide, mg/kg	<0.1	
Freon 113, mg/kg	<0.1	
Methyl ethyl ketone, mg/kg	<2	
Methyl isobutyl ketone, mg/kg	<0.1	
Styrene, mg/kg	<0.1	
Vinyl acetate, mg/kg	<0.1	
Total Xylene Isomers, mg/kg	<0.1	

Hedy J. Ficklin for
Sim D. Lessley, Ph.D., Laboratory Director



SEND :
 GA-1 Soil Borehole number and location. GA-6 ▲ Soil Borehole with Piezometer
 GA-5* Soil Borehole with Monitoring Well. EB-9 ● Exploratory Borehole drilled during previous investigations
) - Concentration of TPH as hydraulic oil (in µg/l) from 6/28/93 sampling event.


 <p>TAC ENVIRONMENTAL SERVICES Link Road, Cordelia, CA. 94585</p>	Project Name: EAST BAY CLARKLIFT		FIGURE: #2 AUGUST, 1993 GOLDER ASSOCIATES INITIAL CHARACTERIZATION
	Project Number: 95-013-021	Date: 15 JULY, 1996	
	Drawn By: SDS	Reviewed By: DCS	

TABLE 1
Previous Investigation Analytical Results for Soil
Eastbay Clarklift

Sample ID	Sample Date	TPH-d	TPH-ho	TPH-ss	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes
EB-1@6'	1/28/89	NA	NA	NA	ND	ND	ND	ND	ND
EB-2@7'	1/28/89	NA	NA	NA	ND	ND	ND	ND	ND
EB-2@11'	1/28/89	NA	NA	NA	ND	ND	ND	ND	ND
EB-4@3'	1/28/89	NA	NA	NA	ND	ND	ND	ND	ND
EB-7@3'	1/28/89	NA	NA	NA	ND	ND	ND	ND	ND
EB-9@6'	1/28/89	NA	NA	NA	ND	ND	ND	ND	ND
GA-1@5'	8/26/91	ND	2500	11	ND	0.068	0.21	0.2	0.45
GA-2@5.5'	8/26/91	ND	520	ND	1.0	0.036	0.025	0.057	0.093
GA-3@5.5'	8/26/91	ND	22	ND	0.8	0.033	0.027	0.048	0.09
GA-4@5.5'	8/26/91	ND	130	0.7	ND	0.009	0.022	0.009	0.02

*Soil sample results are presented in mg/kg, which is equivalent to parts per million (ppm).

In April 1989, a 1,000 gallon underground storage tank (UST) used for storing gasoline, a 550 gallon hydraulic oil UST, a 550 gallon Stoddard solvent UST, three product lines, and three vent lines were excavated and removed from the site under the supervision of J. Quarle and Associates. In addition, a single hydraulic lift located on the southeast corner of the site was decommissioned. The approximate locations of the tanks and lift area are shown on Figure 2.

During the excavation of the UST's and the decommissioning of the hydraulic lift, petroleum contaminated soils were encountered. The contaminated areas were over excavated and a portion of the impacted soils were removed from the site. Separate phase floating petroleum product was observed in the open excavation. The tank excavation remained open for unknown reasons until December 1989, when it was backfilled with sand and 3/4-inch diameter aggregate. Between June 1989 and December 1989, approximately 175 gallons of free fuel product were skimmed from the surface of the groundwater in the tank excavation.

Due to the presence of floating petroleum product, the Alameda County Department of Environmental Health (ACDEH) requested that a minimum of one groundwater monitoring well be installed down gradient of the former tank area to assess groundwater quality. The ACDEH also requested that a minimum of one year of quarterly groundwater monitoring be initiated.

TABLE 2
Previous Investigation Analytical Results for Water
Eastbay Clarklift

Sample ID	Sample Date	TPH-d	TPH-ho	TPH-ss	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes
EB-1	1/28/89	NA	ND	NA	ND	ND	ND	ND	ND
EB-2	1/28/89	NA	ND	NA	ND	ND	ND	ND	ND
EB-3	1/28/89	NA	ND	NA	ND	ND	ND	ND	ND
EB-4	1/28/89	NA	5.0	NA	5.0	ND	ND	ND	ND
EB-5	1/28/89	NA	1100	NA	1100	1.0	ND	ND	11
EB-6	1/28/89	NA	11	NA	11	ND	ND	ND	ND
EB-7	1/28/89	NA	13	NA	11	ND	ND	1.0	1.0
EB-8	1/28/89	NA	7.0	NA	7.0	ND	ND	ND	ND
EB-9	1/28/89	NA	5.0	NA	3.0	ND	ND	1.0	1.0
GA-5	8/91	ND	210	ND	ND	ND	ND	ND	ND
	5/92	ND	390	ND	70	18	ND	ND	ND
	6/93	ND	330	NA	120	26	ND	1.1	2.8
GA-6	8/91	ND	290	ND	ND	ND	ND	ND	ND
	5/92	ND	260	ND	ND	0.7	ND	ND	0.8
	6/93	ND	500	NA	50	1.2	ND	ND	ND
GA-7	8/91	ND	280	ND	ND	ND	ND	ND	ND
	5/92	ND	190	ND	ND	ND	ND	ND	ND
	6/93	ND	210	NA	ND	ND	ND	ND	ND
GA-8	8/91	ND	720	ND	ND	ND	ND	ND	ND
	5/92	ND	100	ND	100	ND	ND	ND	ND
	6/93	ND	120	NA	80	ND	ND	ND	ND

*Water sample results are presented in $\mu\text{g/l}$, which is equivalent to parts per billion (ppb).

Oakport Street

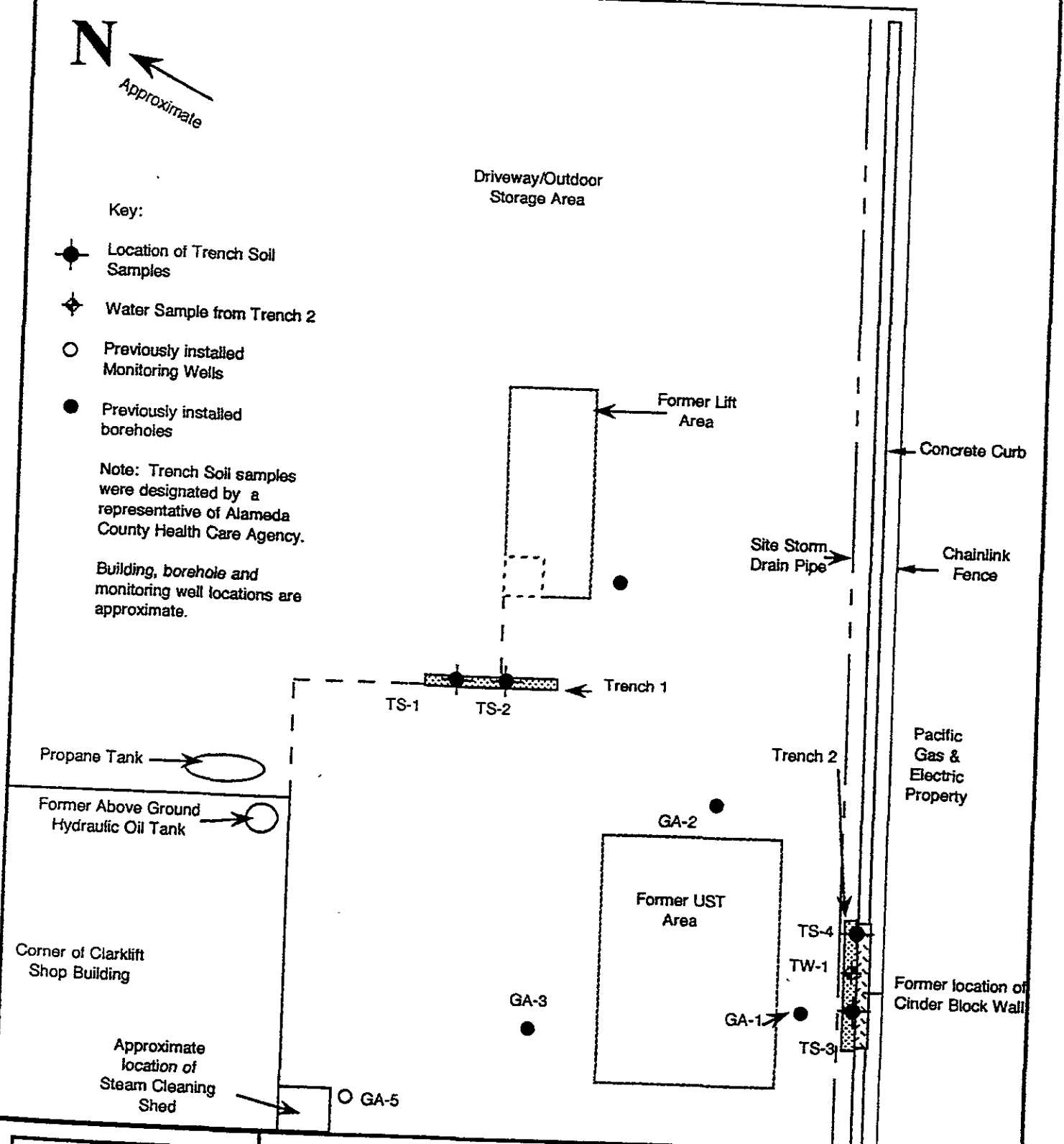


Key:

- ◆ Location of Trench Soil Samples
- ◆ Water Sample from Trench 2
- Previously installed Monitoring Wells
- Previously installed boreholes

Note: Trench Soil samples were designated by a representative of Alameda County Health Care Agency.

Building, borehole and monitoring well locations are approximate.



**Location of Trench Soil Samples
Claklift Facility
(aka Berman Property)
4701 Oakport Street
Oakland, California**

**FIGURE
3**

TABLE 3
ANALYTICAL RESULTS FOR
SAMPLES COLLECTED MARCH 21, 1994
4701 OAKPORT STREET, OAKLAND, CALIFORNIA

Sample No.	Depth feet	TPH as Hydraulic Oil mg/kg	TPH as Stoddard Solvent mg/kg	TPH as Diesel mg/kg	TPH as Motor Oil mg/kg	TPH as Gasoline mg/kg	Benzene ug/kg	Toluene ug/kg	Ethylbenzene ug/kg	Total Xylene Isomers ug/kg
Soil Samples										
TS-1	4.0	21,000	20	<10	<20,000	100	1,900	970	208	1,600
TS-2	4.0	45,000	<100	<100	<50,000	120	2,600	1,400	310	2,200
TS-3	3.9	18,000	310	<20	<20,000	360	650	1,600	960	4,900
TS-4	4.5	4,200	110	<1	<4,000	270	220	940	1,100	4,600

NOTE: Hydraulic Oil and Motor Oil have overlapping and interfering peak ranges.

Sample No.	Depth	TPH as Hydraulic Oil mg/l	TPH as Stoddard Solvent mg/l	TPH as Diesel mg/l	TPH as Motor Oil mg/l	TPH as Gasoline mg/l	Benzene ug/l	Toluene ug/l	Ethylbenzene ug/l	Total Xylene Isomers ug/l
Groundwater Sample										
TW-1		7,700	140	<20	<8,000	29	130	210	59	340

NOTE: Hydraulic Oil and Motor Oil have overlapping and interfering peak ranges.

California Maximum
Contaminant Levels*

Primary MCLs	na	na	na	na	na	na	0.001	na	0.680	1.750 ppm
U.S. EPA MCLs	na	na	na	na	na	na	0.005	1	0.700	10

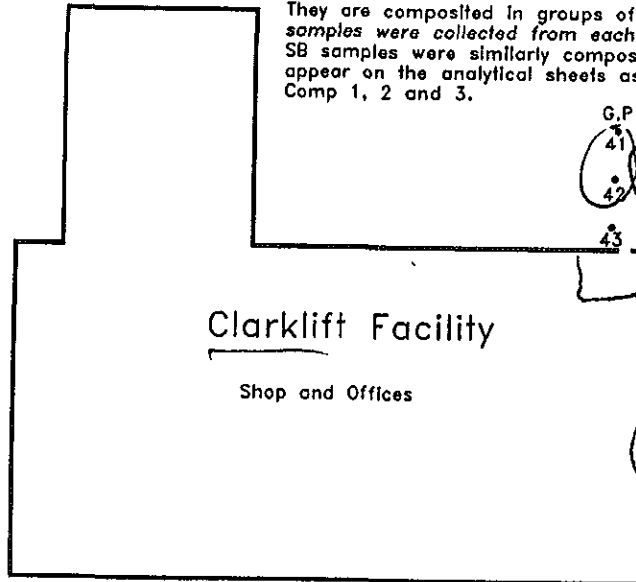
* Source: Marshack, Jon B., 1991

Oakport

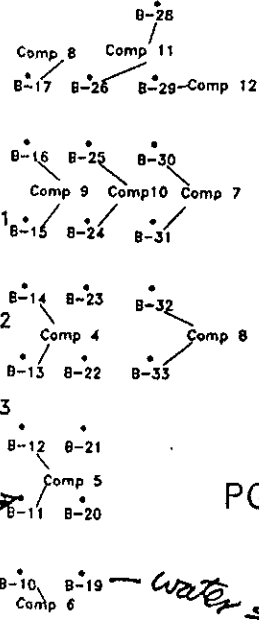
LESSER STREET

Sidewalk

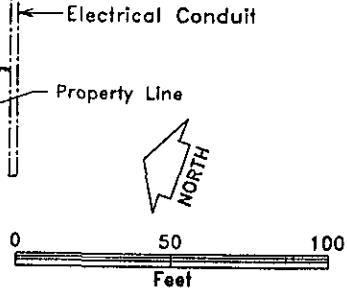
All samples beneath the G.P. columns are labeled as such on the chains of custody. They are composited in groups of four, two samples were collected from each probe. SB samples were similarly composited and appear on the analytical sheets as Comp 1, 2 and 3.



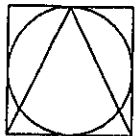
Clarkliff Facility
Shop and Offices



PG&E Property



Geoprobe borings on and off site



GROWTH
Growth Environmental Services, Inc.

DESCRIPTION Pre-Profile Soil Sample Locations	FIGURE Figure 3	PROJECT NUMBER SFD09431
	DRAWN BY	
PROJECT LOCATION 4701 Oakport St. Oakland, CA	REVISED M. Davis	FILE NAME Eastbay Clarkliff
	DRAWING DATE 6/14/95	PK Steve Long

**Table 4- Petroleum Hydrocarbon Analyses (Soil) - Eastbay Clarkliff
4701 Oakport Street, Oakland California**

Sample I.D.	TOG (mg/kg)	TPH-HO (mg/kg)	TPH-D (mg/kg)	TPH-G (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- benzene (mg/kg)	Xylenes (mg/kg)
GP 1, 24	ND	ND	1.2	ND	ND	ND	ND	ND
GP 9, 16	ND	ND	ND	ND	ND	ND	ND	ND
GP 2, 4 @ 4.5' & 6.0'	220	100	20	2.8	ND	0.006	0.006	0.031
GP 21, 4 @ 6.5' & 7.5'	11,000	3,200	710	150	0.55	0.27	0.81	4.9
GP 7, 8	12,000	6,700	1,300	8.5	0.052	0.046	0.018	0.089
GP 18, 19	6,000	2,900	590	3.5	0.013	0.008	ND	0.056
GP 20, 23	15,000	2,900	1,800	790	0.42	4.5	8.8	49
GP 26, 27	730	430	NA	52	0.30	0.32	0.28	1.9
GP 28, 29	5100	3,700	NA	470	1.8	5.1	4.5	27
GP 30, 31	3500	910	NA	ND	ND	ND	ND	0.008
GP 32, 40	ND	ND	NA	ND	ND	ND	ND	ND
GP 41, 42	ND	ND	NA	ND	ND	ND	ND	ND
GP 43-S	ND	ND	NA	ND	ND	ND	ND	ND
Comp. 1	1,700	210	NA	24	ND	0.006	ND	0.037
Comp. 2	ND	7,300	NA	1,100	6.0	1.8	6.0	39
Comp. 3	13,000	ND	NA	ND	ND	ND	ND	ND
Detection Limit	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	0.005 mg/kg	0.005 mg/kg	0.005 mg/kg	0.005 mg/kg

ND - Below Detection Limits NA - Not Analyzed *mg/kg = milligrams per kilogram

**Table 8- Petroleum Hydrocarbon Analyses (Soil) - PG&E Property
4801 Oakport Street, Oakland, California**

Sample ID	TOG (mg/kg)	TPH-HO (mg/kg)	TPH-G (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)
Comp 4	ND	ND	ND	ND	ND	ND	ND
Comp 5	ND	ND	ND	ND	ND	ND	ND
Comp 6	ND	ND	ND	ND	ND	ND	ND
Comp 7	ND	ND	ND	ND	ND	ND	ND
Comp 8	ND	ND	ND	ND	ND	ND	ND
Comp 9	ND	ND	ND	ND	ND	ND	ND
Comp 10	ND	6.1	ND	ND	ND	ND	ND
Comp 11	ND	8.2	ND	ND	ND	ND	ND
Comp 12	ND	ND	ND	ND	ND	ND	ND
Detection Limits	50 mg/kg	5 mg/kg	1.0 mg/kg	0.005 mg/kg	0.005 mg/kg	0.005 mg/kg	0.005 mg/kg

ND - Below Detection Limits

* mg/kg = parts per million

**Table 11 - Water Analytical Results
Eastbay Clarkliff and PG&E Sites
4701 and 4801 Oakport Street, Oakland, California**

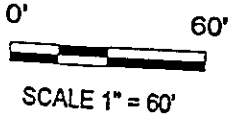
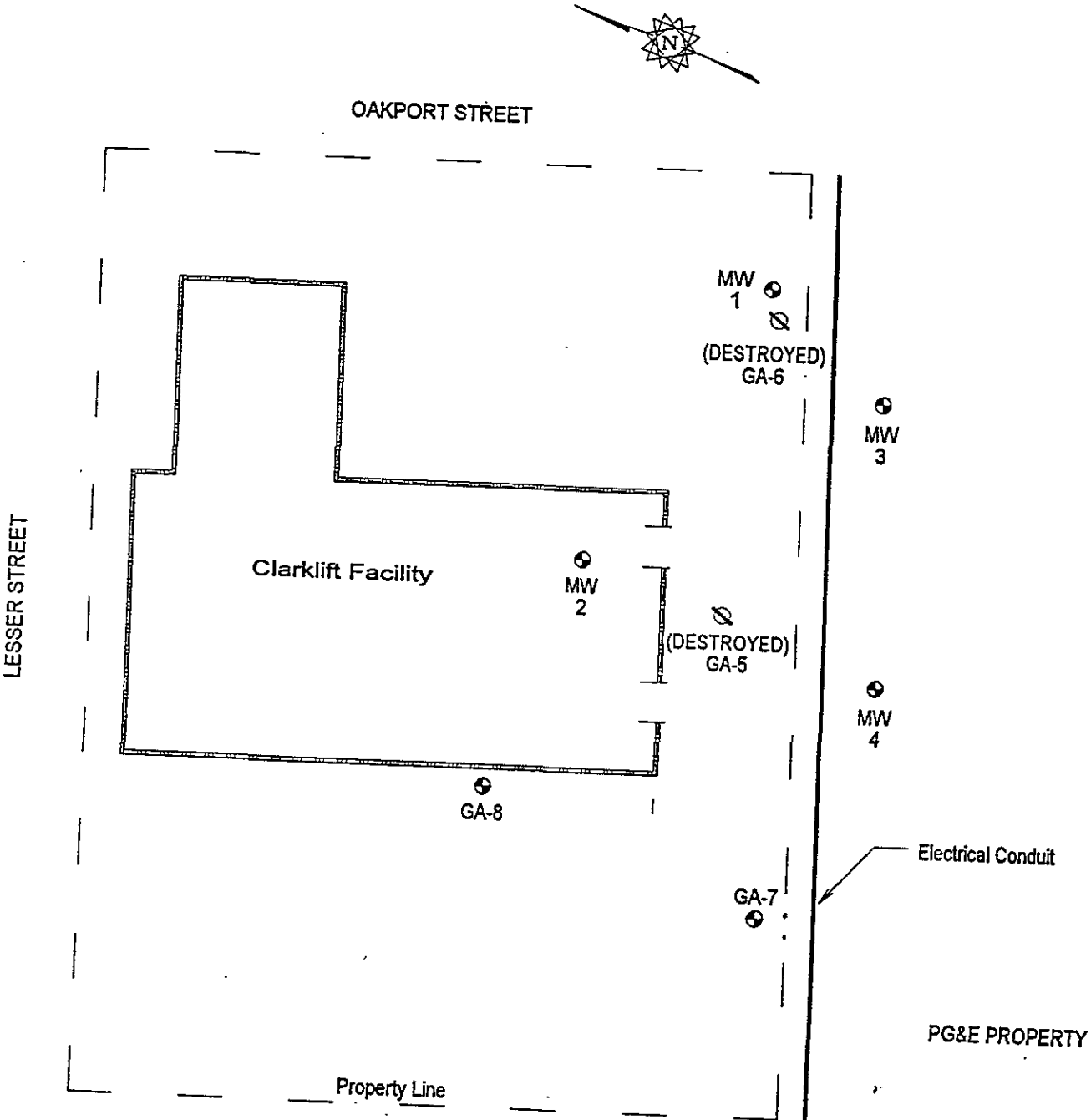
Sample I.D.	Date Sampled	TPH-HO $\mu\text{g/L}$	TRPH-O&G mg/L	TPH-G $\mu\text{g/L}$	Benzene $\mu\text{g/L}$	Toluene $\mu\text{g/L}$	Ethylbenzene $\mu\text{g/L}$	Xylenes $\mu\text{g/L}$
GP-43	4/20/95	ND	NA	ND	ND	ND	ND	ND
DP-1	5/18/95	9800	NA	260	ND	ND	ND	1.5
B-19	5/11/95	72	ND	NA	ND	ND	ND	ND
GA-7	4/18/95	ND	NA	ND	ND	ND	ND	ND
GA-8	4/18/95	ND	NA	NA	NA	NA	NA	NA
Detection Limits		250 $\mu\text{g/L}$	1.0 mg/L	50 $\mu\text{g/L}$	0.5 $\mu\text{g/L}$	0.5 $\mu\text{g/L}$	0.5 $\mu\text{g/L}$	0.5 $\mu\text{g/L}$

ND - Below Detection Limits

NA - Not Analyzed

mg/L (milligrams per liter) = ppm (parts per million)

$\mu\text{g/L}$ (micrograms per liter) = ppb (parts per billion)



LEGEND	
⊙	MONITOR WELL LOCATIONS
⊗	DESTROYED WELL

TAC
IRONMENTAL SERVICES
 Link Road, Cordelia, CA. 94585

Project Name: EAST BAY CLARKLIFT	
Project Number: 013-0021	Date: 3 JUNE, 1996
Drawn By: SDS	Reviewed By: DCS

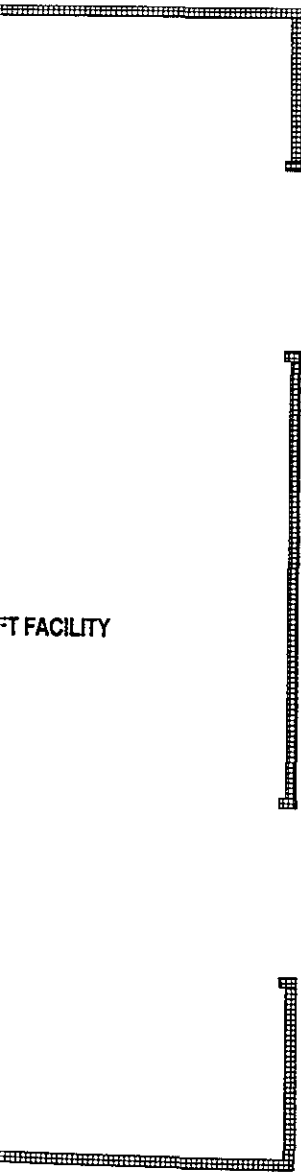
FIGURE:#
**SITE LAYOUT W/
 CURRENT & FORMER
 MONITORING WELL
 LOCATIONS**

TABLE 7

**Soil Sample Analytical Results from
Monitoring Well Installations**

Sample I.D.	TRPH	TPH-d	TPH-ho	TPH-g	Benzene	Toluene	Ethyl- benzene	Total Xylenes
MW-1@5'	39	3.4	15	ND	ND	ND	ND	ND
MW-1@10.5'	ND	ND	ND	ND	ND	ND	ND	ND
MW-1@15'	ND	1.8	ND	ND	ND	ND	ND	ND
MW-2@5.5'	ND	ND	ND	ND	ND	ND	ND	ND
MW-2@15'	ND	ND	ND	ND	ND	ND	ND	ND
MW-3@2.5'	1,800	160	390	5.2	ND	0.006	ND	ND
MW-3@5.5'	42	2.9	8.3	ND	ND	ND	ND	ND
MW-3@10'	ND	ND	ND	ND	ND	ND	ND	ND
MW-3@15.5'	ND	ND	ND	ND	ND	ND	ND	ND
MW-3@21.5'	56	5.1	11	ND	ND	ND	ND	ND
MW-3@25.5'	ND	ND	ND	ND	ND	ND	ND	ND
MW-4@2.5'	ND	ND	ND	ND	ND	ND	ND	ND
MW-4@5.5'	13	2.1	8.4	ND	ND	ND	ND	ND
MW-4@10.5'	ND	ND	ND	ND	ND	ND	ND	ND
MW-4@15'	ND	1.5	5.1	ND	ND	ND	ND	ND
MW-4@21.5'	ND	2.9	7.7	ND	ND	ND	ND	ND
MW-4@25.5'	ND	ND	ND	ND	ND	ND	ND	ND
Detection Limits	10 mg/kg	1.0 mg/kg	5.0 mg/kg	1.0 mg/kg	0.005 mg/kg	0.005 mg/kg	0.005 mg/kg	0.005 mg/kg

* Soil analytical results are presented in mg/kg, which is equivalent to parts per million (ppm)



FT FACILITY

HA-6			
DEPTH	2.5'	5'	6'
TPH-G	ND	ND	ND
TPH-D	ND	1.2	ND
TPH-HO	ND	ND	ND
TRPH	ND	ND	ND

HA-5			
DEPTH	2.3'	5'	6.5'
TPH-G	ND	19	ND
TPH-D	ND	120	2.2
TPH-HO	ND	5200	6.6
TRPH	ND	600	20

HA-4			
DEPTH	11'0"	6'	6.5'
TPH-G	4.0	3.3	1.4
TPH-D	33	49	1.9
TPH-HO	77	220	5.9
TRPH	45	140	75

HA-3			
DEPTH	1'9"	5.0'	—
TPH-G	290	98	—
TPH-D	1600	510	—
TPH-HO	7300	2400	—
TRPH	10,000	2700	—

HA-2			
DEPTH	3'	5.0'	6.5'
TPH-G	ND	ND	ND
TPH-D	ND	ND	ND
TPH-HO	ND	ND	11
TRPH	11	ND	ND

HA-1			
DEPTH	1.6'	2.0'	5.5'
TPH-G	ND	15	5.5
TPH-D	ND	510	130
TPH-HO	7.8	2400	530
TRPH	23	4600	530

LEGEND	
	HAND AUGER BORING

HA-7			
DEPTH	35"	5.0'	6.0'
TPH-G	ND	ND	ND
TPH-D	ND	ND	ND
TPH-HO	ND	ND	ND
TRPH	ND	ND	11

HA-8			
DEPTH	6'	—	—
TPH-G	ND	—	—
TPH-D	3.1	—	—
TPH-HO	11	—	—
TRPH	18	—	—

HA-9			
DEPTH	6.0'	—	—
TPH-G	ND	—	—
TPH-D	2.1	—	—
TPH-HO	ND	—	—
TRPH	ND	—	—

PG&E PROPERTY BOUNDARY

PG&E ELECTRICAL CONDUIT

HA-7

HA-6

HA-8

HA-5

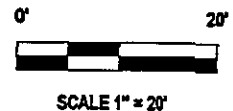
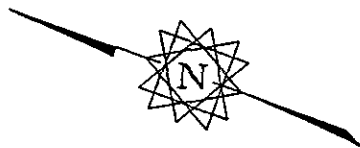
HA-4

HA-9

HA-3

HA-2

HA-1



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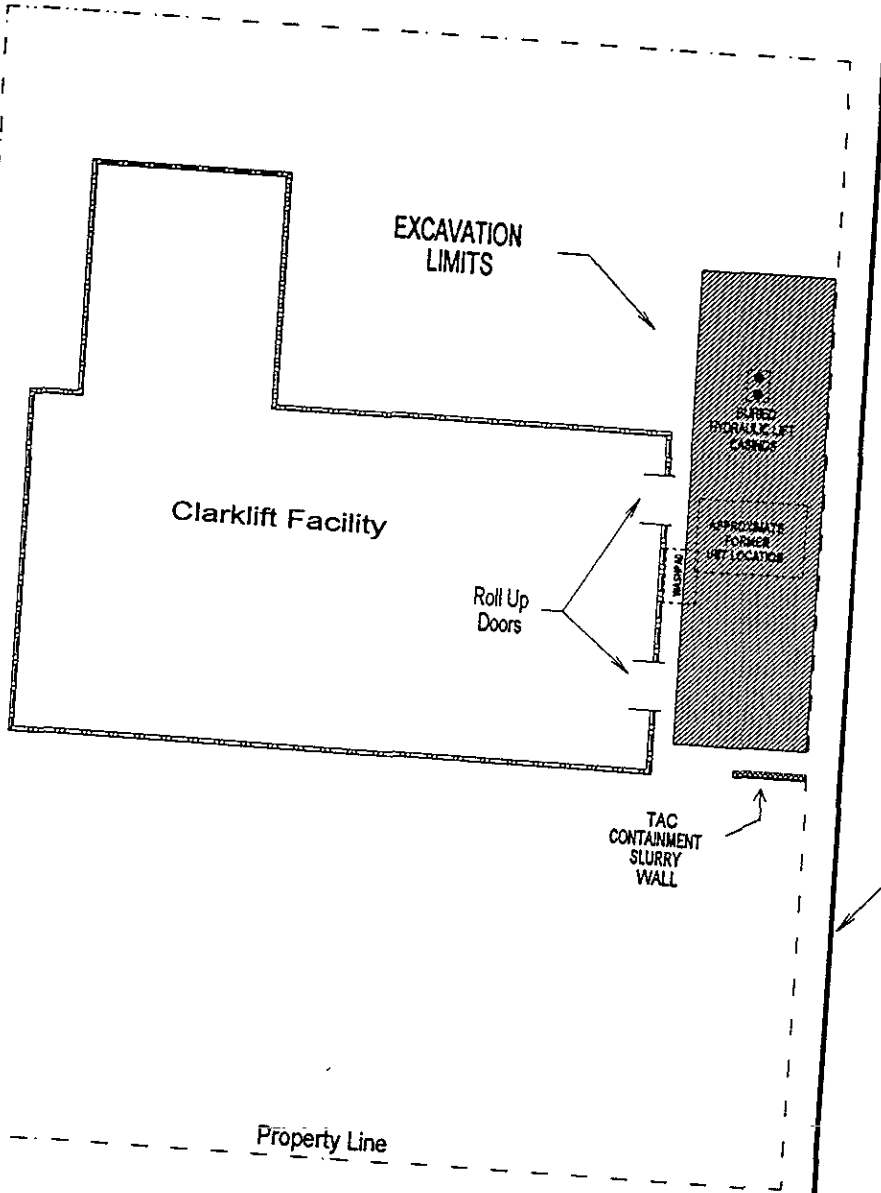
Project Name: EAST BAY CLARKLIFT	
Project Number: 95-013-021	Date: 15 JULY, 1996
Drawn By: SDS	Reviewed By: DCS

FIGURE: #6
 8 DECEMBER, 1995
 PG&E
 HAND AUGER
 INVESTIGATION
 BORINGS

OAKPORT STREET



LESSER STREET



PG&E PROPERTY

PG&E ELECTRICAL CONDUIT

TAC CONTAINMENT SLURRY WALL

Property Line

60'

SCALE 1" = 60'

LEGEND	
	TAC EXCAVATION
	SLURRY WALL

TAC
ENVIRONMENTAL SERVICES
 Road, Cordelia, CA. 94585

Project Name:
EAST BAY CLARKLIFT

FIGURE: #7

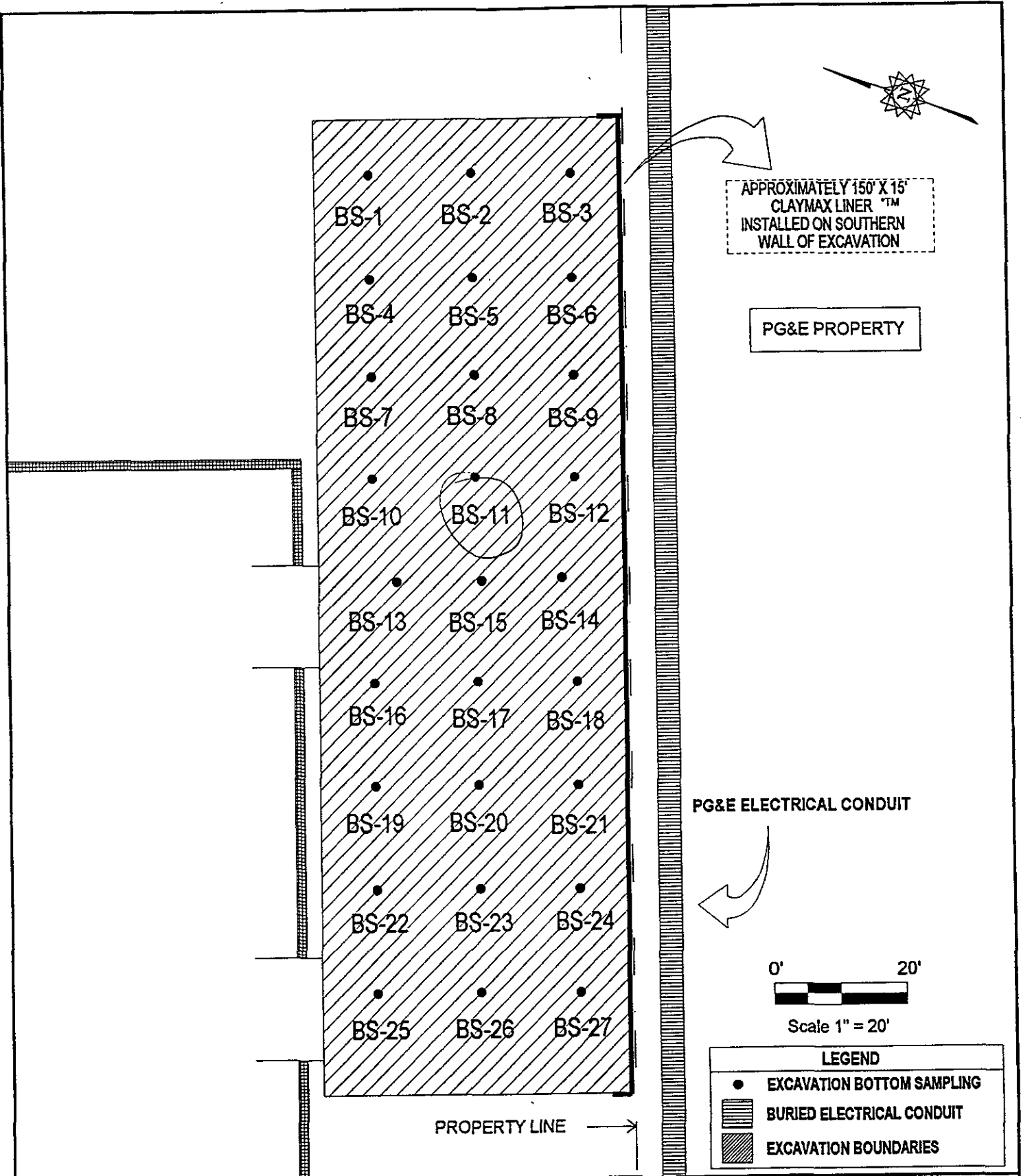
Project Number:
 013-0021

Date:
 15 JULY, 1996

Drawn By:
 SDS

Reviewed By:
 DCS

**TAC REMEDIAL
 EXCAVATION LIMITS
 AS OF 15 JULY, 1996**



Project Name: **EAST BAY CLARKLIFT**

Project Number: **95-013-021** Date: **15 JULY, 1996**

Drawn By: **SDS** Reviewed By: **DCS**

FIGURE: #8

**EXCAVATION LIMITS
&
BOTTOM SAMPLING
LOCATIONS**

TAC
ENVIRONMENTAL SERVICES
151 Link Road, Cordelia, CA. 94585

Table 10 - Excavation Bottom Sampling

Sample I.D.	TRPH	TPH-d	TPH-ho	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes
BS-1@5'6"	13	1.5	ND	ND	ND	ND	ND	ND
BS-2@5'8"	22	3.5	8.9	ND	ND	ND	ND	ND
BS-3@7'2"	ND	ND	ND	ND	ND	ND	ND	ND
BS-4@8'4"	ND	2.4	ND	ND	ND	ND	ND	ND
BS-5@8'0"	33	8.3	25	ND	ND	ND	ND	ND
BS-6@8'3"	ND	ND	ND	ND	ND	ND	ND	ND
BS-7@9'0"	21	5.8	8.6	ND	ND	ND	ND	ND
BS-8@9'0"	ND	1.4	ND	ND	ND	ND	ND	ND
BS-9@8'5"	ND	ND	ND	ND	ND	ND	ND	ND
BS-10@8'6"	17	2.5	ND	8.1	ND	0.016	ND	0.044
BS-11@8'10"	13	3.3	ND	8.3	0.051	0.022	0.13	0.25
BS-12@9'2"	ND	ND	ND	3.1	0.013	0.008	0.019	0.043
BS-13@9'8"	ND	ND	ND	ND	ND	ND	ND	ND
BS-14@14'7"	ND	ND	ND	ND	ND	ND	ND	ND
BS-15@15'0"	260	69	130	180	0.13	0.26	0.66	0.57
BS-16@7'11"	ND	ND	ND	ND	ND	ND	ND	ND
BS-17@8'0"	ND	ND	ND	ND	ND	ND	ND	ND
BS-18@7'9"	ND	ND	ND	ND	ND	ND	ND	ND
BS-19@7'9"	ND	ND	ND	ND	ND	ND	ND	ND
BS-20@7'10"	ND	ND	ND	ND	ND	ND	ND	ND
BS-21@7'9"	410	48	170	6.9	0.026	0.025	0.035	0.18
BS-22@6'10"	ND	ND	ND	ND	ND	ND	ND	ND
BS-23@7'1"	ND	ND	ND	ND	ND	ND	ND	ND
BS-24@6'9"	28	2.1	8.4	ND	ND	ND	ND	ND
BS-25@7'1"	ND	3.2	5.7	ND	ND	ND	ND	ND
BS-26@7'6"	ND	2.4	ND	ND	ND	ND	ND	ND
BS-27@7'0"	ND	1.6	ND	ND	ND	ND	ND	ND
Detection Limits	10.0 mg/kg	1.0 mg/kg	5.0 mg/kg	1.0 mg/kg	0.005 mg/kg	0.005 mg/kg	0.005 mg/kg	0.005 mg/kg

* Soil analytical results are presented in mg/kg, which is equivalent to parts per million (ppm)

OAKPORT STREET



NOTE:
BURIED DRAINAGE LINE
HAS UNDETERMINED OUTLET
OUTSIDE CLARKLIFT
PROPERTY BOUNDARY



APPROXIMATE LOCATION
OF REMAINING CORRUGATED
18" DRAINAGE PIPE
CONTAINING SUSPECTED HEAVY
HYDROCARBON CONSTITUENTS

PG&E PROPERTY BOUNDARY

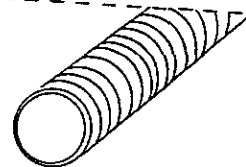
PG&E ELECTRICAL CONDUIT

4-12-96 SAMPLING			
	CS-1	CS-2	CS-3
DEPTH	1.5'	5.0'	7.0'
TPH-G	1.2	470	51
TPH-D	9.1	390	220
TPH-HO	45	1,400	710
TRPH	25	3,000	1,400

CONCRETE REMOVAL BOUNDARY

"A"

BACKFILLED
&
RESURFACED
TAC EXCAVATION



18" CORRUGATED DRAINAGE
PIPE @ 6" BGS



SCALE 1" = 10'

TAC
ENVIRONMENTAL SERVICES
1000 Cordelia Road, Cordelia, CA 94585

Project Name:

EAST BAY CLARKLIFT

Project Number:

95-013-021

Date:

15 JULY, 1996

Drawn By:

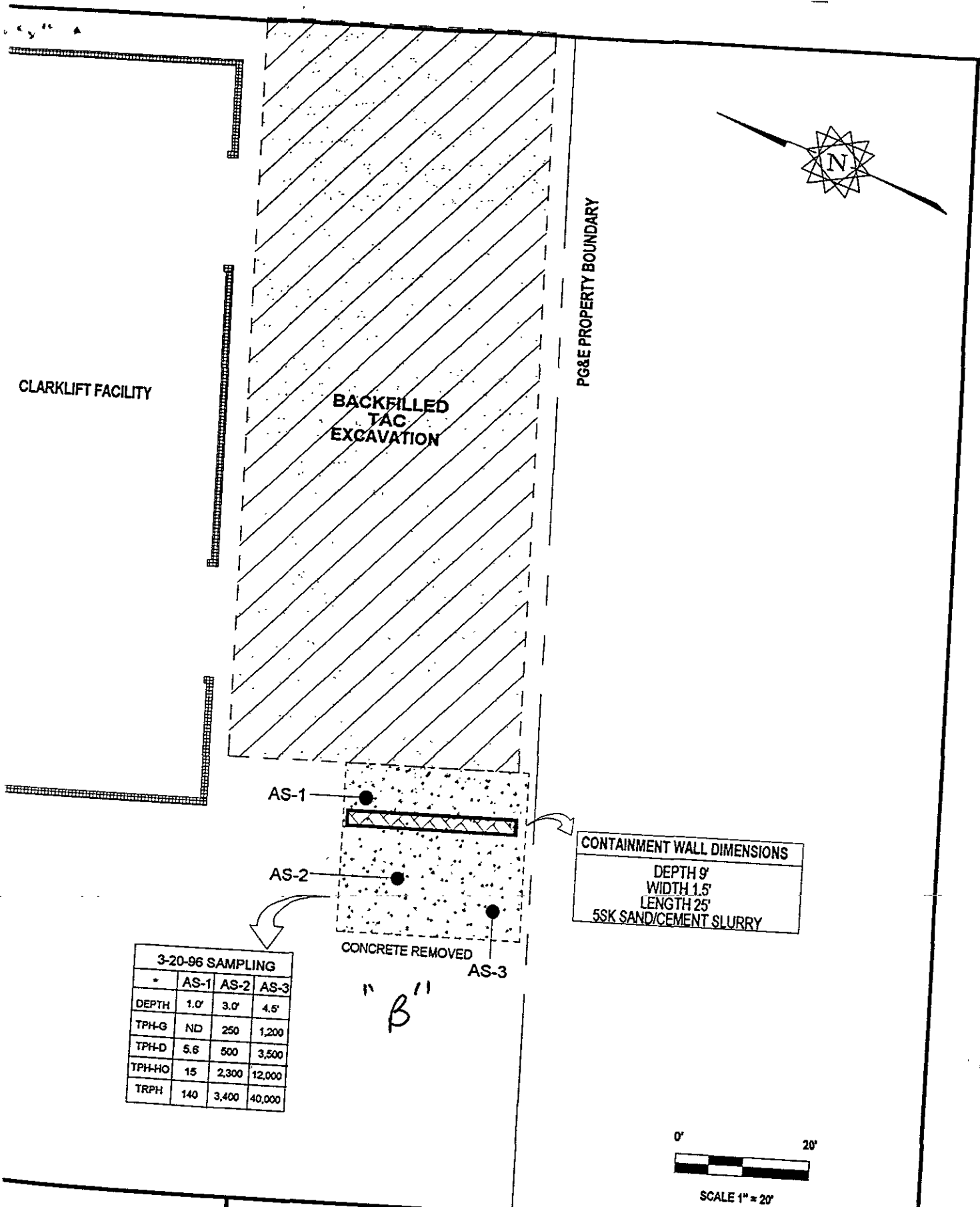
SDS

Reviewed By:

DCS

FIGURE #10

SUBSITE "A"
LOCATION
&
SAMPLING LOCATION



3-20-96 SAMPLING

	AS-1	AS-2	AS-3
DEPTH	1.0'	3.0'	4.5'
TPH-G	ND	250	1,200
TPH-D	5.6	500	3,500
TPH-HO	15	2,300	12,000
TRPH	140	3,400	40,000

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ENVIRONMENTAL SERVICES
 Road, Cordella, CA. 94585

Project Name:
EAST BAY CLARKLIFT

Project Number:
 95-013-021

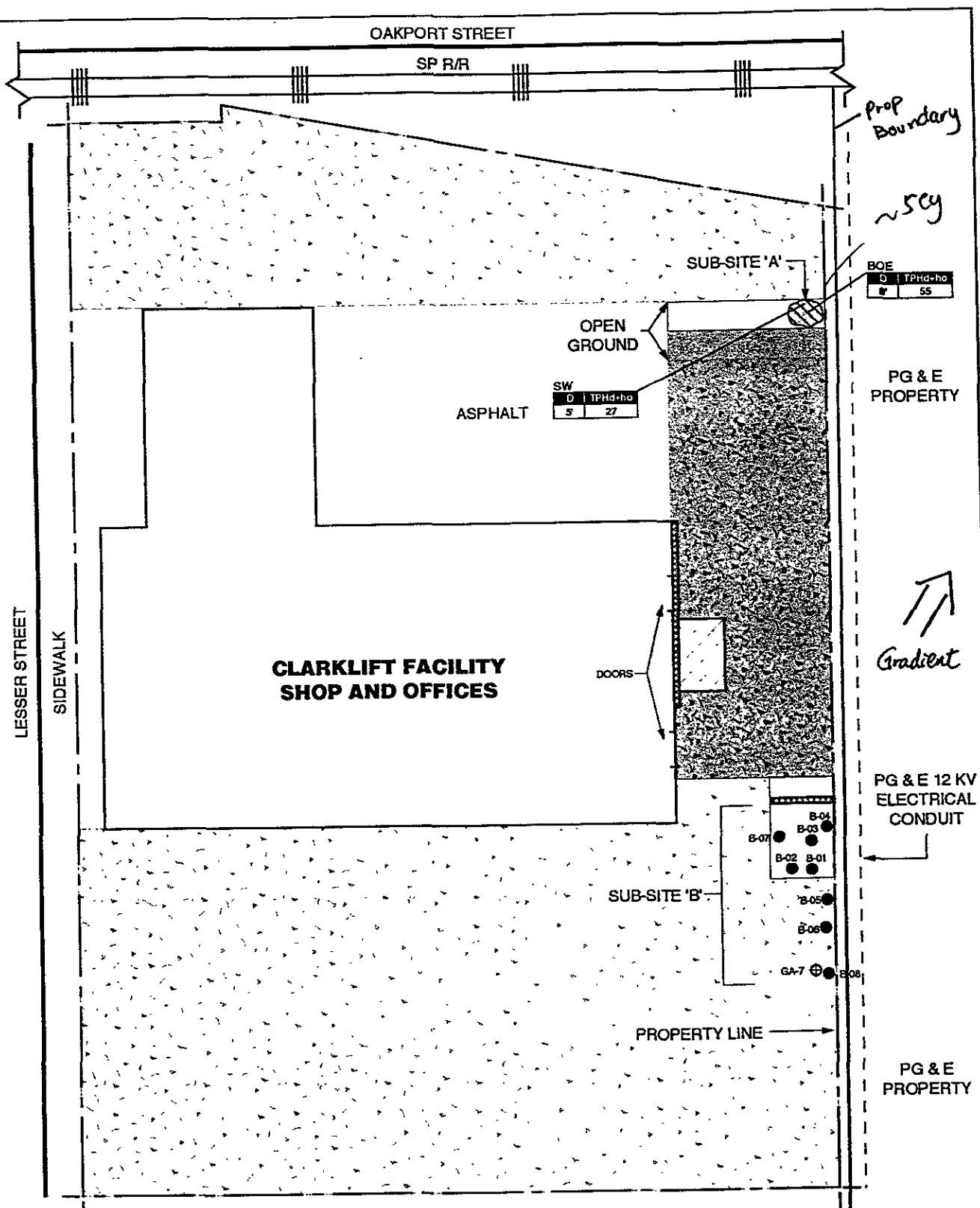
Date:
 15 JULY, 1996

Drawn By:
 SDS

Reviewed By:
 DCS

FIGURE: #9

SUBSITE "B"
 LOCATION
 &
 SAMPLING LOCATIONS



LEGEND

- EB-1 ● Exploratory Borehole drilled during previous investigations.
- GA-7 ⊕ Existing Soil Borehole number and location.
- ▬▬▬▬▬▬ Cut-off Slurry Wall
- BOE = Base of Excavation Sample
- ▨ TAC 1996 Excavation Area
- ▭ Concrete
- ▭ New Facility Treatment System
- SW = Sidewall
- ▨ June Sub-site at Excavation



POST EXCAVATION CONFIRMATION SAMPLING RESULTS AT SUBSITE A

Clarklift Facility
4710 Oakport Street
Oakland, California

By: BKY

Date: 7/6/96

Figure 6

★ **Stellar Environmental Solutions**
Geoscience & Engineering Consulting

In the process of the excavation, three subsurface pipes were discovered that did not show up on the local utility survey or as part of the projection of the USA piping survey markings along Lesser Street. These discoveries did not significantly inhibit the excavation but were avoided in case they were in some manner actively used. Discussions with Clarklift facility personnel indicated that they had no knowledge of the pipes. The piping was oriented generally north-south, encountered at depths of between about 3 and 4.5 feet bgs, varied in diameter from between an estimated 3-inches and 18-inches, and appeared to be intact. Sample BH-01 was collected between the 3 foot deep 3-inch metal pipe and 6 to 8-inch 3.5 foot deep cast iron pipe. A large 16 to 18-inch clay pipe, typical of old sewer piping, was discovered further southeast near BH-01. This pipe is not the current sewer pipe for the facility which runs parallel to Lesser Street.

Table 3 presents the confirmation sample depths and analytical results from Subsite B. The actual excavation limits, depths at various parts of the excavation, the location of subsurface piping discovered, and analytical results of the confirmation samples are shown in Figure 7. The analytical results are presented as additive concentrations of TPHd+ho on Figure 7. No analysis for TPHg or BTEX took place, since the results of the remedial investigation established that no TPHg or BTEX were present at subsite B.

4
TABLE 3: TPH CONFIRMATION SOIL SAMPLES FROM SUBSITE B
4701 OAKPORT STREET, OAKLAND, CALIFORNIA

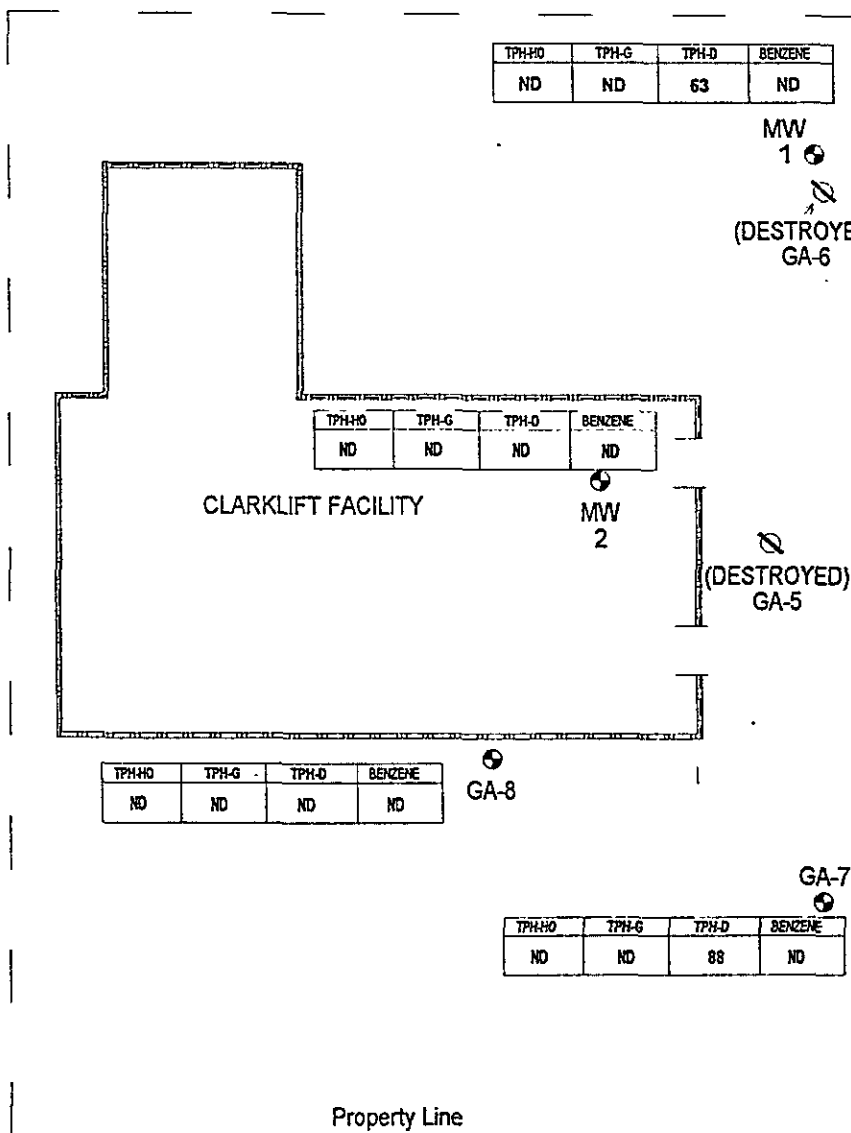
Borehole I.D (Depth in feet) TPHd, TPHho and ARAR Concentrations in mg/Kg			
Borehole I.D.	Depth, in feet	TPH diesel	TPH hydraulic
SES-B-BH-01-5	5.0	5.7	26
SES-B-BH-02-5	5.0	7.4	27
SES-B-BH-03-3	3.0	1.7	25
SES-B-BH-04-2	2.0	63	190
SES-B-BH-05-3.5	3.5	3.9	33
ARARs Action Levels		200	200

NOTES: ARARs (Applicable or Relevant and Appropriate Requirements) Action Level of 200 mg/kg from ACDEH.

As can be seen in Figure 7, all the confirmation samples with the exception of sample BH-04 are below the 200 mg/kg cleanup goal. Sample BH-04, at a concentration of 253 mg/kg (190 mg/kg TPHd and 63 mg/kg TPHho) is only marginally above the limit concentration and should not require further excavation based on discussions with Mr. Chan of ACDEH. The excavation and pattern of contamination in the shallow subsurface soils suggest that the TPH resulted from shallow leakage from the AGST with possible contributions by the piping to the UFST. The main migrational route

OAKPORT STREET

LESSER STREET



TPH-HO	TPH-G	TPH-D	BENZENE
ND	ND	82	ND

TPH-HO	TPH-G	TPH-D	BENZENE
ND	ND	110	ND

TPH-HO	TPH-G	TPH-D	BENZENE
ND	ND	ND	ND

TPH-HO	TPH-G	TPH-D	BENZENE
ND	ND	88	ND

Electrical Conduit

PG&E PROPERTY

0' 60'



SCALE 1" = 60'

LEGEND

☉ MONITOR WELL LOCATIONS

☉ DESTROYED WELL

TPH-HO TOTAL PETROLEUM HYDROCARBONS AS HYDRAULIC OIL
 TPH-G TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
 TPH-D TOTAL PETROLEUM HYDROCARBONS AS DIESEL
 *RESULTS IN PARTS PER BILLION OR MICROGRAMS PER LITER

GROUNDWATER FLOW DIRECTION
 SOUTH 87 EAST @ 0.0013 FT/FOOT

TAC
ENVIRONMENTAL SERVICES
 151 Link Road, Cordelia, CA. 94585

Project Name: EAST BAY CLARKLIFT	
Project Number: 013-0021	Date: 25 SEPTEMBER, 1996
Drawn By: SDS	Reviewed By: DCS

FIGURE: **SITE LAYOUT W/
 CURRENT & FORMER
 WELL LOCATIONS
 &
 HYDROCARBON CONCENTRATIONS
 IN GROUNDWATER**

Table 5
Groundwater Analytical Results
4701 Oakport Street

Well I.D.	Sample Date	TPH-HO	TPH-D	TPH-G	Benzene	Toluene	Ethyl-benzene	Total xylenes
MW-1	12/12/95 3/12/96	ND 270	ND 92	ND ND	ND ND	ND ND	ND ND	ND ND
	8/23/96	ND	63	ND	ND	ND	ND	ND
	12/12/95 3/12/96	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
MW-2	8/23/96	ND	ND	ND	ND	ND	ND	ND
	2/2/96 3/13/96	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
MW-3	8/23/96	ND	82	ND	ND	ND	ND	ND
	2/2/96 3/12/96	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
MW-4	8/23/96	ND	110	ND	ND	ND	ND	ND
	2/2/96 3/12/96	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
GA-7	8/91	280	ND	ND	ND	ND	ND	ND
	5/92	190	ND	ND	ND	ND	ND	ND
	6/93	210	ND	ND	ND	ND	ND	ND
	1/18/95	110	NA	ND	ND	ND	ND	ND
	4/18/95	ND	NA	ND	ND	ND	ND	ND
	10/18/95	ND	120	ND	ND	ND	ND	ND
	3/12/96	300	150	ND	ND	ND	ND	ND
	8/23/96	ND	88	ND	ND	ND	ND	ND
GA-8	8/91	720	ND	ND	ND	ND	ND	ND
	5/92	100	ND	100	ND	ND	ND	ND
	6/93	120	ND	80	ND	ND	ND	ND
	1/18/95	ND	NA	ND	ND	ND	ND	ND
	4/18/95	ND	NA	ND	ND	ND	ND	ND
	10/18/95	ND	ND	ND	ND	ND	ND	ND
	3/12/96	ND	ND	ND	ND	ND	ND	ND
	8/23/96	ND	ND	ND	ND	ND	ND	ND
Detection Limits		250 ppb	50 ppb	50 ppb	0.5 ppb	0.5 ppb	0.5 ppb	0.5 ppb

Results are listed in parts per billion (ppb) which is equivalent to µg/l.