ORO LOMA SANITARY DISTRICT
2600 Grant Avenue
SAN LORENZO, CALIFORNIA 94580

(415) 276-4700 FAX (415) 276-1528

LETTER OF TRANSMITTAL

DATE	12-1-94
JOB NO.	45-264-03
ATTENTION	~~MIKE CORTEZ~~ JULIET SHIN
RE:	UST TANK REMOVAL

TO THE ALAMEDA COUNTY
DEPARTMENT OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
1131 HARBOR BAY PKWY, 2nd FLOOR
ALAMEDA, CA 94502-6577

WE ARE SENDING YOU ☐ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☒ REPORT

COPIES	DATE	NO.	DESCRIPTION
2	11-94		TANK REMOVAL INVESTIGATION REPORT.

DEC 2 '94

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☑ For review and comment ☐ _____
☐ FOR BIDS DUE _____ 19_____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS Pls. let us know if we can proceed with the tank removal. My phone no. is (510) 296-4700 ext. 131. Pls. fax any correspondence to (510) 276 1528.

Thanks!

Called Mike Cortez — who indicated work was to be scheduled sometime after the holidays.

COPY TO _____

SIGNED: Mike Cortez

PRODUCT 240-2 NEBS Inc., Groton, Mass. 01471

If enclosures are not as noted, kindly notify us at once.

REPORT

OF

STAGE IITANK REMOVAL INVESTIGATION,

1,000 GALLON GASOLINE TANK SITE

AT THE

ORO LOMA SANITARY DISTRICT SERVICE CENTER,

SAN LORENZO, CALIFORNIA

PREPARED FOR

Mr. Mike Cortez
Oro Loma Sanitary District
2600 Grant Avenue
San Lorenzo, CA, 94580

November 23, 1994

PREPARED BY

John R. Sutton,
Geotechnical Engineer No 812

THE SUTTON GROUP
51 Shuey Dr.
Moraga, CA, 94556-2620
(510) 631-1688, fax(510) 631-1371

Report of Tank Removal Investigation,
1,000 gallon Gasoline Tank Site Closure at the
Oro Loma Sanitary District Service Center,
2600 Grant Avenue
San Lorenzo, California

This report documents a supplementary site investigation that was designed to quantify the extent of contaminated soil that may most appropriately be removed from the tank vicinity as "source material" at the time of removing a 1,000 gallon, underground gasoline storage tank. The tank is located adjacent to the Maintenance Building at the Oro Loma Sanitary District (OLSD) Service Center, at 2600 Grant Avenue in San Lorenzo, un-incorporated Alameda County, California.

HISTORY

This 1,000 gallon tank was installed in about 1978. It stored leaded gasoline until 1985, at which time it was converted to unleaded gasoline service. This tank replaced an older tank which had been installed in the same location in 1961, which had been found to lose inventory.

A subsurface investigation of the tank area, was commenced by a previous consultant to the District in August, 1993. That program comprised drilling six hollow stem auger borings, collection of drive samples of soil, and collection of grab ground water samples from selected borings. Samples from the borings revealed soil contamination by gasoline to as much as 4,300 ppm, and ground water contamination up to 1,600 ppm. Ground water was recorded at 6 feet depth in all 6 borings and no free product was reported. That project was not completely documented. A boring location plan, (draft edition) drilling logs in and laboratory results, have been recovered from the consultant and are included as an attachment to this report.

FIELD INVESTIGATION

Introduction

This supplementary investigation comprised the excavation of seven test trenches in the parking lot adjacent to the District's offices and maintenance shops. Eight test trenches had been planned in the Work Plan dated October 26, 1994. Figure 1 shows the fuel island located over the subject tank and the test trench locations. The seven test trenches were excavated by an Oro Loma Sanitary District crew. Trenches were excavated to between four and 7.5 feet depth.

Prior to excavation, a Work Plan, dated October 26, 1994, was submitted to Alameda County Health's Hazardous Materials Division. The District had Underground Service Alert scan the site and mark the presence of underground utilities. The trench boundaries were then saw-cut through the asphalt paving.

Soil Sample Collection and Handling

Soil samples were collected from each test trench for observation and logging purposes. Samples to be sent for laboratory analysis were collected by driving a 2 in. diameter metal tube into the soil removed from the trench. Soil samples will be screened on-site using a portable photo-ionization detector (PID). calibrated to a known source. PID data was used in the field to identify sampling depths, and the need for further excavation. Up to three soil samples from each trench, representative of surficial and deeper soils, were selected for chemical laboratory analysis.

Planned water sample collection was abandoned after one of the early trenches caved badly at only five feet depth, raising concerns for maintaining the parking lot integrity.

Selected soil samples were documented, packed, entered into Chain Of Custody, and refrigerated prior to transport to the chemical laboratory, The sampling tools and field equipment were cleaned prior to, and also following the field investigation using Liquinox detergent followed by triple rinsing in distilled water. The District's contract chemical laboratory, Sequoia Analytical Laboratory, of Redwood City California picked up the samples from OLSD and transported them to their facility on October 31, 1994.

Trench Reinstatement

The soils removed from the trenches were hauled off site by the District. The trenches were then backfilled with imported pea gravel and base/sub base of gravely sand following completion of sampling.

LABORATORY TESTING PROGRAM

The chemical testing program entailed analyzing up to three soil samples from each of the test trenches The District's contractor, Sequoia Analytical Laboratory of Redwood City California, , transported and analyzed the samples. Sequoia is an independent, California EPA-certified hazardous waste testing laboratory, accredited to perform the analyses in accordance with the San Francisco Bay Regional Water Quality Control Board, and the Alameda County Health Department's Hazardous Materials Program's guidelines for analysis of petroleum fuels releases from underground tanks.

Soil samples were analyzed for total petroleum hydrocarbons as gasoline, benzene, toluene, ethyl benzene and xylenes using EPA Methods 5030, and 8020 respectively, and lead by EPA Method 6010. Following review of analytical results, selected samples were additionally analyzed for soluble lead using the California Waste Extraction Test.

SUBSURFACE CONDITIONS

The site subsurface profile comprises man-made fill placed over bayland deposits. Borings and test trenches excavated in the parking lot for the two investigation stages show the asphalt surfacing is about 2½ inches thick over ¾ inch sized crushed rock aggregate base, and a 1½ inch

sized crushed quarry stone sub-base that is typically a very gravely sand or sandy gravel with some clayey phases and is brown to tan to blue colored. The thickness of fill increased from a minimum nearer Grant Avenue to a maximum nearer the maintenance building. This well compacted fill material is underlain at from 2.5 to 4 feet depth by a " bridging fill" about 0.5 to one foot thick. This bridging fill includes broken concrete and general construction waste in a (typically crusted) Bay Mud matrix. This zone was absent in some locations. The bayland deposits as seen in the test trenches was variable in constituency, ranging from moderate to highly plastic clay to very silty and very "peaty" organic clay. These bayland deposits are black to green in color and are locally referred to as Bay Mud.

Ground water was noted at 7 feet depth in trench TT-3, about 4 feet deep in the Bay Mud deposits in the short time the excavation was open. While the Bay Mud was classified to be "wet" within about one foot of its surface, free water was not present in the majority of test trenches we excavated. A seepage zone was noted in trench TT-8 at the base of the granular fill. This is presumed to reflect garden irrigation. The 1993 investigation noted water in borings at 6 feet depth.

Logs of test trenches TT-1 through TT-8 excavated for this study are presented as Figures T-1 through T-8 respectively. Logs of borings SB1 through SB6 from the 1993 investigation are included in the Appendix.

ANALYTICAL RESULTS

Results from analysis of soil samples collected from the test trenches during this investigation and analyzed by Sequoia Analytical are summarized on Table 1. Results from analysis of soil and water samples collected in 1993 and analyzed by AEN Laboratory are summarized on Table 2. Complete sets of the laboratory test results are included in the Appendix to this report. The highest gasoline concentration in soil from this investigation was 1,600 mg/kg. In the previous investigation, the high was 4,300 mg/kg.

The highest total lead concentration was 57 mg/kg. Since three results exceeded the screening threshold for soluble lead, these three samples were further analyzed by the California Waste Extraction Test (WET). One of the three had a soluble lead result of 5.3 mg/kg, compared to the California soluble threshold limit concentration of 5 mg/kg. The one sample (TT-3 at 3.5 feet depth) had the lowest total lead presence of the samples submitted for soluble lead analysis. The other two samples had soluble lead results of 1.8 and 0.2 mg/kg.

CONCLUSIONS

Soil sample results show concentrations degraded gasoline in a plume emanating from the tank area in granular fill soils and Bay Mud at depths shallower than observed ground water. This plume appears to be moving towards Grant Avenue. The supplementary investigation successfully delineated the zone of significant soil contamination to about 50 feet from the tank (Trench TT-3). Of note, blue colored soils present in the aggregate fill material, when present

TABLE 1

ANALYTICAL RESULTS FOR SOILS

1994 INVESTIGATION

TRENCH No	DEPTH Ft.	TPH-GAS mg/kg	Benzene mg/kg	Toluene mg/kg	Ethyl Benzen mg/kg	Xylenes mg/kg	LEAD,Total mg/kg	LEAD, Sol. mg/kg
TT-1	4.5-5.0	ND	ND	ND	ND	ND	57	1.8
TT-2	2.5-3.0	ND	ND	ND	ND	0.007	ND	--
TT-2	6.0-6.5	ND	ND	ND	ND	ND	21	--
TT-2	7.0-7.5	ND	0.015	ND	ND	0.015	15	--
TT-3	2.0-2.5	ND	ND	ND	ND	ND	ND	--
TT-3	3.5-4.0	160	4.7	25	4.6	22	31	5.3
TT-3	6.0-6.5	1600	8.8	77	25	130	7.4	--
TT-4	5.0-5.5	ND	ND	.OO9	ND	0.008	9.3	--
TT-5	2.5-3.0	ND	ND	ND	ND	ND	ND	--
TT-5	5.5-6.0	ND	ND	ND	ND	ND	37	0.2
TT-8	2.0-2.5	ND	ND	ND	ND	ND	ND	--
MDLs*		1.0	0.005	0.005	0.005	0.005	5	0.1

* Refer to Laboratory Report for complete listing of results

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Moraga, California (510) 631-1688

ORO LOMA SANITARY DISTRICT
GASOLINE TANK SITE INVESTIGATION
NOVEMBER, 1994

TABLE 2
ANALYTICAL RESULTS FOR SOILS & WATERS

1993 INVESTIGATION

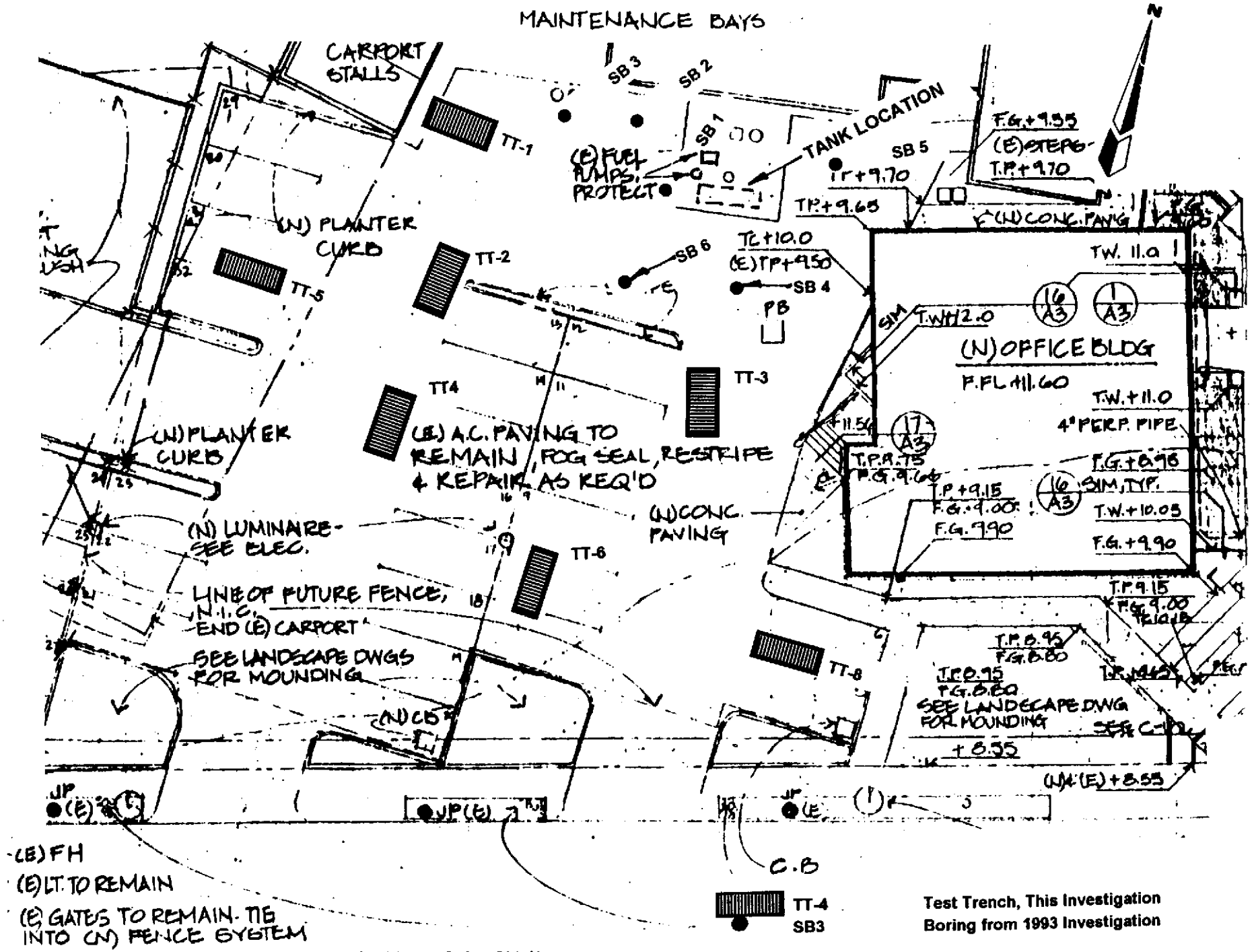
ANALYTICAL RESULTS FOR SOILS

BORING	DEPTH	TPH-GAS	Benzene	Toluene	Ethyl Ben	Xylenes	LEAD,Tot
	Ft.	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SB1	5.5	2,100	23	200	55	330	NA
SB2	3.5	4,300	14	250	130	680	NA
SB4	3.5	1,100	11	51	39	210	NA
SB5	3.5	3.2	0.25	ND	0.27	0.83	NA
SB6	3.5	160	2.8	14	5.9	26	NA
SB6	5.5	2,100	14	210	80	430	NA
SB6	7.5	1,500	4.8	120	61	340	NA
MDLs*	SOIL, mg/kg	0.2	0.005	0.005	0.005	0.005	5

ANALYTICAL RESULTS FOR WATERS

		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
SB3	GW	0.12	0.0007	ND	ND	ND	NA
SB4	GW	1,600	27	39	4.2	22	NA
SB5	GW	1,100	8.O	29	4.2	20	
MDLs*	WATER,mg/	0.05	0.0005	0.0005	0.0005	0.0005	NA

* Refer to Laboratory Report for complete listing of results



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51 Skuay Drive
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SITE PLAN
GASOLINE TANK REMOVAL INVESTIGATION
ORO LOMA SANITARY DISTRICT
San Lorenzo, California

PROJECT No 3022

FIGURE 1

REV. 0, 11/23/1994

EXCAVATION LOG

based on field visual-manual procedure

TRENCH No. TT -1

Sheet 1 of 1

Project Name	**OLSD Gas Tank Site**	Date of Field Work	**10/28/1994**
Project No.	**sg 3022**	Equipment Supplier	**OLSD**
Client	**Oro Loma Sanitary District**	Operator	**Lenny**
Site Location	**2600 Grant Av. San Lorenzo, CA**	Excavator Model	**JD 310 Extend-a-hoe**
Pit Location		Bucket Width	**12 in.**
		Sampling Method	**Driven Tube**
		Surface Elevation	**8±**
		Datum	**msl**
		water level	
Logged by **J R.S**	Checked by	date/time	

Depth (FT)	Graphic Soil Symbol	USCS Symbol	Field Soil/ Description	Sample, Type	PID Reading	Remarks
0-0.2			ASPHALT Paving			
0.2		SP/GP	Quarry Sand FILL:SAND, VERY GRAVELLY, Trace fines to clean, much rock fragment. dry to moist, brown, tan, blue		6	Blue stained soil from 0.5 feet depth.
						Organic odor at top of Bay Mud
4.0_		CL-CH	CLAY, moderate to high plasticity, black moist, BAY MUD		0	Petroleum odor at 5.0'
			Total depth of trench: 6.5 feet			
			Backfilled with pea gravel topped with granular fill			

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FIGURE No: T-1

EXCAVATION LOG

based on field visual-manual procedure

TRENCH No. TT-2

Sheet 1 of 1

Project Name	**OLSD Gas Tank Site**	Date of Field Work	**10/28/1994**
Project No.	**sg 3022**	Equipment Supplier	**OLSD**
Client	**Oro Loma Sanitary District**	Operator	**Lenny**
Site Location	**2600 Grant Av. San Lorenzo, CA**	Excavator Model	**JD 310 Extend-a-hoe**
Pit Location		Bucket Width	**12 in.**
		Sampling Method	**Driven Tube**
		Surface Elevation	**8±**
		Datum	**msl**
		water level	
Logged by **J R.S**	Checked by	date/time	

Depth (FT)	Graphic Soil Symbol	USCS Symbol	Field Soil/ Description	Sample, Type	PID Reading	Remarks
0-0.2'			ASPHALT Paving			
0.2		SC/CL GC	FILL:SAND, clayey with much rock fragment.Quarry fill dry to moist, brown.			
			blue color from 0.8 to 4' appears to be native	2'	150	
				3'	20	
				4'	50	
3.8'		CL	CLAY, moderate to high plasticity, black moist, sandy zones BAY MUD. Wood fragments in top 1' (3.8-4.8').			
			Peaty/fibrous, green, sandy @ 6'.			
7.0		SM	SAND, fine, silty,wet, black/green (Bay Mud phase)	7.	2,0	sample @ 7.0-7.5'
			Total depth of trench: 7.5 feet			
			Backfilled with pea gravel topped with granular fill			

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FIGURE No: T-2

EXCAVATION LOG

based on field visual-manual procedure

TRENCH No. TT-3

Sheet 1 of 1

Project Name	**OLSD Gas Tank Site**	Date of Field Work	**10/28/1994**
Project No.	**sg 3022**	Equipment Supplier	**OLSD**
Client	**Oro Loma Sanitary District**	Operator	**Lenny**
Site Location	**2600 Grant Av. San Lorenzo, CA**	Excavator Model	**JD 310 Extend-a-hoe**
Pit Location		Bucket Width	**12 in.**
		Sampling Method	**Driven Tube**
		Surface Elevation	**8±**
		Datum	**msl**
		water level	7.0'
Logged by **J R.S**	Checked by	date/time	10/28,

Depth (FT)	Graphic Soil Symbol	USCS Symbol	Field Soil/ Description	Sample, Type		PID Reading	Remarks
0-0.2'			ASPHALT Paving				
0.2		SP/CL GP	FILL:SAND, with much rock fragment, occas. very clayey. Quarry Fill moist, brown.		2'	10	
3.0		CL_CH	CLAY, moderate to high plasticity, black, moist, BAY MUD.		3.5	20	Blue staining 2" thick, petroleum odor in sand over Bay Mud surface
		▽	6.0' Becomes wet, very soft		6.5	150	Sample 6-6.5', PID 200 ppm
			7.0' water, caving				
			Total depth of trench: 7.5 feet				
			Backfilled with pea gravel topped with granular fill				

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FIGURE No: T-3

EXCAVATION LOG

based on field visual-manual procedure

TRENCH No. TT-4
Sheet 1 of 1

Project Name	**OLSD Gas Tank Site**	Date of Field Work	**10/28/1994**
Project No.	**sg 3022**	Equipment Supplier	**OLSD**
Client	**Oro Loma Sanitary District**	Operator	**Lenny**
Site Location	**2600 Grant Av. San Lorenzo, CA**	Excavator Model	**JD 310 Extend-a-hoe**
Pit Location		Bucket Width	**12 in.**
		Sampling Method	**Driven Tube**
		Surface Elevation	**8±**
		Datum	**msl**
		water level	
Logged by **J R.S**	Checked by	date/time	

Depth (FT)	Graphic Soil Symbol	USCS Symbol	Field Soil/ Description	Sample, Type		PID Reading	Remarks
0-0.2'			ASPHALT Paving				
0.2		SC/CL GC	FILL:SAND, clayey with much rock fragment to 1½". Quarry fill dry to moist, brown.				
			blue color from 0.8 to 4' appears to be native		2'	2	No odor
3.5'		CL	CLAY, moderate to high plasticity, , sandy, silty zones		4'	6	
			black moist.BAY MUD. Wood fragments in top 1' (3.8-4.8').				
			Sample @ 5-5.5' clay, very silty		5'	5	No free water
			Total depth of trench: 5.5 feet				
7.0							
			Backfilled with pea gravel topped with granular fill				

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FIGURE No: T-4

EXCAVATION LOG

based on field visual-manual procedure

TRENCH No. TT-5

Sheet 1 of 1

Project Name	**OLSD Gas Tank Site**	Date of Field Work	**10/28/1994**
Project No.	**sg 3022**	Equipment Supplier	**OLSD**
Client	**Oro Loma Sanitary District**	Operator	**Lenny**
Site Location	**2600 Grant Av. San Lorenzo, CA**	Excavator Model	**JD 310 Extend-a-hoe**
Pit Location		Bucket Width	**12 in.**
		Sampling Method	**Driven Tube**
		Surface Elevation	**8±**
		Datum	**msl**
		water level	
Logged by J R.S	Checked by	date/time	

Depth (FT)	Graphic Soil Symbol	USCS Symbol	Field Soil/ Description	Sample, Type		PID Reading	Remarks
0-0.2'			ASPHALT Paving				
0.2		GP/GM	FILL:GRAVEL, very sandy, Crushed rock base course/sub base dry to moist, brown.				
			2.5-3.3 blue color, appears to be native			1	
					2	1	
					2.5	2	sample 2.5-3.0'
					3	2	
3.3'		CL-OH	CLAY, moderate to high plasticity,organic odor , stiff at surface. black moist. BAY MUD. FILL				
			Wood , gravel in top 0.6' (3.3-3.9')				No free water
			4.5-5' concrete, rubble layer in mud matrix				
		CL/ML	@ 5' mottled gray and green, very silty		5.5	1	sample 5.5-6.0'
7.0			Total depth of trench: 6.0 feet				
			Backfilled with pea gravel topped with granular fill				

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FIGURE No: T-5

EXCAVATION LOG

based on field visual-manual procedure

TRENCH No. TT -6
Sheet 1 of 1

Project Name	**OLSD Gas Tank Site**	Date of Field Work	**10/28/1994**
Project No.	**sg 3022**	Equipment Supplier	**OLSD**
Client	**Oro Loma Sanitary District**	Operator	**Lenny**
Site Location	**2600 Grant Av. San Lorenzo, CA**	Excavator Model	**JD 310 Extend-a-hoe**
Pit Location		Bucket Width	**12 in.**
		Sampling Method	**Driven Tube**
		Surface Elevation	**8±**
		Datum	**msl**
		water level	
Logged by **J R.S**	Checked by	date/time	

Depth (FT)	Graphic Soil Symbol	USCS Symbol	Field Soil/ Description	Sample, Type	PID Reading	Remarks
0-0.2			ASPHALT Paving			
0.2		SP/GP	FILL:GRAVEL, very sandy, Crushed rock base course/sub base dry to moist, brown, blue/gray.		0 0	No odor
2.8		CH/OH	CLAY, moderate to high plasticity, black moist, Bay Mud			
		CL	CLAY, very moist, green black, Bay Mud		0	
4.0			Total depth of trench: 4.0 feet			No Samples Collected
			Backfilled with pea gravel topped with granular fill			

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FIGURE No: T-6

sg\3022log7.doc

EXCAVATION LOG

based on field visual-manual procedure

TRENCH No.TT-7
Sheet 1 of 1

Project Name	**OLSD Gas Tank Site**	Date of Field Work	
Project No.	**sg 3022**	Equipment Supplier	
Client	**Oro Loma Sanitart District**	Operator	
Site Location	**2600 Grant Av. San Lorenzo, CA**	Excavator Model	
Pit Location		Bucket Width	
		Sampling Method	
		Surface Elevation	8±
		Datum	msl
		water level	
Logged by J R.S	Checked by	date/time	

Depth (FT)	Graphic Soil Symbol	USCS Symbol	Field Soil/ Description	Sample, Type	PID Reading	Remarks
			Trench TT-7 was not excavated			

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FIGURE No: T-7

EXCAVATION LOG

based on field visual-manual procedure

TRENCH No.TT -8

Sheet 1 of 1

Project Name	OLSD Gas Tank Site	Date of Field Work	10/28/1994
Project No.	sg 3022	Equipment Supplier	OLSD
Client	Oro Loma Sanitary District	Operator	Lenny
Site Location	2600 Grant Av. San Lorenzo, CA	Excavator Model	JD 310 Extend-a-hoe
Pit Location		Bucket Width	12 in.
		Sampling Method	Driven Tube
		Surface Elevation	8±
		Datum	msl
		water level	
Logged by J R.S	Checked by	date/time	

Depth (FT)	Graphic Soil Symbol	USCS Symbol	Field Soil/ Description	Sample, Type	PID Reading	Remarks
0-0.2			ASPHALT Paving			
0.2		SP/GP	Quarry Sand FILL:GRAVEL very sandy, crushed rock Trace clay fines to clean moist to wet, brown, tan, bluegray much coarse rock fragment .0.7-2.7', seepage zone over mud		80	**Sample 2.0-2.5'**
2.7		CL	CLAY, moderate plasticity,organic,black moist, BAY MUD			
4.0			Total depth of trench: 4 feet		80	organic odor...not sampled due to rock
			Backfilled with pea gravel topped with granular fill			

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FIGURE No: T-8

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

The Sutton Group
51 Shuey Drive
Moraga, CA 94556-2620

Attention: John Sutton, PE

Client Proj. ID: SG3022

Lab Proj. ID: 9410J04

Sampled: 10/28/94
Received: 10/31/94
Analyzed: see below

Reported: 11/16/94

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9410J04-01 Sample Desc : SOLID,TT-1 @ 4.5-5				
Lead	mg/Kg	11/02/94	5.0	57
Lead: STLC Extraction	mg/L	11/15/94	0.10	1.8
Lab No: 9410J04-02 Sample Desc : SOLID,TT-2 @ 2.5-3				
Lead	mg/Kg	11/02/94	5.0	N.D.
Lab No: 9410J04-03 Sample Desc : SOLID,TT-2 @ 6.0-6.5				
Lead	mg/Kg	11/02/94	5.0	21
Lab No: 9410J04-04 Sample Desc : SOLID,TT-2 @ 7-7.5				
Lead	mg/Kg	11/02/94	5.0	15
Lab No: 9410J04-05 Sample Desc : SOLID,TT-3 @ 2-2.5				
Lead	mg/Kg	11/02/94	5.0	N.D.
Lab No: 9410J04-06 Sample Desc : SOLID,TT-3 @ 3.5-4				
Lead	mg/Kg	11/02/94	5.0	31
Lead: STLC Extraction	mg/L	11/15/94	0.10	5.3

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

The Sutton Group
51 Shuey Drive
Moraga, CA 94556-2620

Attention: John Sutton, PE

Client Proj. ID: SG3022

Lab Proj. ID: 9410J04

Sampled: 10/28/94
Received: 10/31/94
Analyzed: see below

Reported: 11/16/94

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9410J04-07 Sample Desc : SOLID,TT-3 @ 6-6.5				
Lead	mg/Kg	11/02/94	5.0	7.4
Lab No: 9410J04-08 Sample Desc : SOLID,TT-4 @ 5-5.5				
Lead	mg/Kg	11/02/94	5.0	9.3
Lab No: 9410J04-09 Sample Desc : SOLID,TT-5 @ 2.5-3				
Lead	mg/Kg	11/02/94	5.0	N.D.
Lab No: 9410J04-10 Sample Desc : SOLID,TT-5 @ 5.5-6				
Lead	mg/Kg	11/02/94	5.0	37
Lead: STLC Extraction	mg/L	11/15/94	0.10	0.20
Lab No: 9410J04-11 Sample Desc : SOLID,TT-8 @ 2-2.5				
Lead	mg/Kg	11/02/94	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite I, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

The Sutton Group
51 Shuey Drive
Moraga, CA 94556-2620
Attention: John Sutton, PE

Client Proj. ID: SG3022
Lab Proj. ID: 9410J04

Received: 10/31/94
Reported: 11/16/94

LABORATORY NARRATIVE

This report has been amended on November 16, 1994 to include STLC Lead analysis on 9410J04-01, 06, and 10.

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

The Sutton Group
51 Shuey Drive
Moraga, CA 94556-2620
Attention: John Sutton, PE

Client Project ID: SG3022
Matrix: Liquid

Work Order #: 9410-J04 -01, 06, 10

Reported: Nov 17, 1994

QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME1115946010MDA	ME1115946010MDA	ME1115946010MDA	ME1115946010MDA
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3010	EPA 3010	EPA 3010	EPA 3010
Analyst:	S. O'Donnell	S. O'Donnell	S. O'Donnell	S. O'Donnell
MS/MSD #:	941180903	941180903	941180903	941180903
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	11/15/94	11/15/94	11/15/94	11/15/94
Analyzed Date:	11/15/94	11/15/94	11/15/94	11/15/94
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L
Result:	0.98	0.98	0.94	0.96
MS % Recovery:	98	98	94	96
Dup. Result:	1.0	1.0	0.98	1.0
MSD % Recov.:	100	100	98	100
RPD:	2.0	2.0	4.2	4.1
RPD Limit:	0-30%	0-30%	0-30%	0-30%
LCS #:	BLK111594	BLK111594	BLK111594	BLK111594
Prepared Date:	11/15/94	11/15/94	11/15/94	11/15/94
Analyzed Date:	11/15/94	11/15/94	11/15/94	11/15/94
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L
LCS Result:	0.99	0.99	0.96	0.98
LCS % Recov.:	99	99	96	98
MS/MSD LCS Control Limits	75-125	75-125	75-125	75-125

SEQUOIA ANALYTICAL

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits

Formerly Quanteq Laboratories

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 94523-001

LEVINE-FRICKE
1900 POWELL ST., 12TH FL.
EMERYVILLE, CA 94608

ATTN: MICHAEL STOLL

CLIENT PROJECT ID: 2968
C.O.C. SERIAL NO: 11080
PROJ. NAME: ORO LOMA SANITARY DISTRICT

REPORT DATE: 09/08/93

DATE SAMPLED: 08/19/93
DATE RECEIVED: 08/20/93

ADDITIONAL ANALYSIS
REQUESTED: 08/23/93

AEN JOB NO: 9308234

PROJECT SUMMARY:

On August 20, 1993, this laboratory received eight (8) soil samples and three (3) water samples.

Client requested four (4) soil samples and the three (3) water samples be analyzed for Total Petroleum Hydrocarbons as Gasoline, Benzene, Toluene, Ethylbenzene and Total Xylenes by EPA Methods 8020, 5030 GCFID. Four (4) soil samples were placed on hold. On August 23, 1993, client requested three (3) soil samples be taken off hold and be analyzed for Total Petroleum Hydrocarbons as Gasoline, Benzene, Toluene, Ethylbenzene and Total Xylenes by EPA Methods 8020, 5030 GCFID. Sample identification, results and dates analyzed are summarized on the following pages.

All laboratory quality control parameters were found to be within established limits. Batch QC data is included at the end of this report.

If you have any questions, please contact Client Services at (510) 930-9090.

COPY

RECEIVED
SEP 10
LEVINE-FRICKE

Andrew Bradley for
Larry Klein
General Manager

Results FAXed 08/31/93

LEVINE-FRICKE

SAMPLE ID: SB1-5.5
CLIENT PROJ. ID: 2968
DATE SAMPLED: 08/19/93
DATE RECEIVED: 08/20/93
REPORT DATE: 09/08/93

AEN LAB NO: 9308234-02A
AEN JOB NO: 9308234
DATE ANALYZED: 08/30/93
INSTRUMENT: H

BTEX AND HYDROCARBONS
METHOD: EPA 8020, 5030 GCFID
(SOIL MATRIX)

COMPOUND	CAS #	CONCENTRATION (ug/kg)	REPORTING LIMIT (ug/kg)
Benzene	71-43-2	23,000	5
Toluene	108-88-3	200,000	5
Ethylbenzene	100-41-4	55,000	5
Xylenes, Total	1330-20-7	330,000	5
PURGEABLE HYDROCARBONS:			
as Gasoline		2,100 mg/kg	0.2 mg/kg

ND = Not Detected

LEVINE-FRICKE

SAMPLE ID: SB2-3.5
CLIENT PROJ. ID: 2968
DATE SAMPLED: 08/19/93
DATE RECEIVED: 08/20/93
REPORT DATE: 09/08/93

AEN LAB NO: 9308234-03A
AEN JOB NO: 9308234
DATE ANALYZED: 08/30/93
INSTRUMENT: H

BTEX AND HYDROCARBONS
METHOD: EPA 8020, 5030 GCFID
(SOIL MATRIX)

COMPOUND	CAS #	CONCENTRATION (ug/kg)	REPORTING LIMIT (ug/kg)
Benzene	71-43-2	14,000	5
Toluene	108-88-3	250,000	5
Ethylbenzene	100-41-4	130,000	5
Xylenes, Total	1330-20-7	680,000	5
PURGEABLE HYDROCARBONS:			
as Gasoline		4,300 mg/kg	0.2 mg/kg

ND = Not Detected

LEVINE-FRICKE

SAMPLE ID: SB4-3.5
CLIENT PROJ. ID: 2968
DATE SAMPLED: 08/19/93
DATE RECEIVED: 08/20/93
REPORT DATE: 09/08/93

AEN LAB NO: 9308234-05A
AEN JOB NO: 9308234
DATE ANALYZED: 08/30/93
INSTRUMENT: H

BTEX AND HYDROCARBONS
METHOD: EPA 8020, 5030 GCFID
(SOIL MATRIX)

COMPOUND	CAS #	CONCENTRATION (ug/kg)	REPORTING LIMIT (ug/kg)
Benzene	71-43-2	11,000	5
Toluene	108-88-3	51,000	5
Ethylbenzene	100-41-4	39,000	5
Xylenes, Total	1330-20-7	210,000	5
PURGEABLE HYDROCARBONS:			
as Gasoline		1,100 mg/kg	0.2 mg/kg

ND = Not Detected

American Environmental Network

LEVINE-FRICKE

SAMPLE ID: SB5-3.5
CLIENT PROJ. ID: 2968
DATE SAMPLED: 08/19/93
DATE RECEIVED: 08/20/93
REPORT DATE: 09/08/93

AEN LAB NO: 9308234-07A
AEN JOB NO: 9308234
DATE ANALYZED: 08/30/93
INSTRUMENT: H

BTEX AND HYDROCARBONS
METHOD: EPA 8020, 5030 GCFID
(SOIL MATRIX)

COMPOUND	CAS #	CONCENTRATION (ug/kg)	REPORTING LIMIT (ug/kg)
Benzene	71-43-2	250	5
Toluene	108-88-3	ND	5
Ethylbenzene	100-41-4	270	5
Xylenes, Total	1330-20-7	830	5
PURGEABLE HYDROCARBONS:			
as Gasoline		3.2 mg/kg	0.2 mg/kg

ND = Not Detected

LEVINE-FRICKE

SAMPLE ID: SB6-3.5
CLIENT PROJ. ID: 2968
DATE SAMPLED: 08/19/93
DATE RECEIVED: 08/20/93
REPORT DATE: 09/08/93

AEN LAB NO: 9308234-09A
AEN JOB NO: 9308234
DATE ANALYZED: 08/27-31/93
INSTRUMENT: H

BTEX AND HYDROCARBONS
METHOD: EPA 8020, 5030 GCFID
(SOIL MATRIX)

COMPOUND	CAS #	CONCENTRATION (ug/kg)	REPORTING LIMIT (ug/kg)
Benzene	71-43-2	2,800	5
Toluene	108-88-3	14,000	5
Ethylbenzene	100-41-4	5,900	5
Xylenes, Total	1330-20-7	26,000	5
PURGEABLE HYDROCARBONS:			
as Gasoline		160 mg/kg	0.2 mg/kg

ND = Not Detected

American Environmental Network

LEVINE-FRICKE

SAMPLE ID: SB6-5.5
CLIENT PROJ. ID: 2968
DATE SAMPLED: 08/19/93
DATE RECEIVED: 08/20/93
REPORT DATE: 09/08/93

AEN LAB NO: 9308234-10A
AEN JOB NO: 9308234
DATE ANALYZED: 08/31/93
INSTRUMENT: H

BTEX AND HYDROCARBONS
METHOD: EPA 8020, 5030 GCFID
(SOIL MATRIX)

COMPOUND	CAS #	CONCENTRATION (ug/kg)	REPORTING LIMIT (ug/kg)
Benzene	71-43-2	14,000	5
Toluene	108-88-3	210,000	5
Ethylbenzene	100-41-4	80,000	5
Xylenes, Total	1330-20-7	430,000	5
PURGEABLE HYDROCARBONS:			
as Gasoline		2,100 mg/kg	0.2 mg/kg

ND = Not Detected

LEVINE-FRICKE

SAMPLE ID: SB6-7.5
CLIENT PROJ. ID: 2968
DATE SAMPLED: 08/19/93
DATE RECEIVED: 08/20/93
REPORT DATE: 09/08/93

AEN LAB NO: 9308234-11A
AEN JOB NO: 9308234
DATE ANALYZED: 08/31/93
INSTRUMENT: H

BTEX AND HYDROCARBONS
METHOD: EPA 8020, 5030 GCFID
(SOIL MATRIX)

COMPOUND	CAS #	CONCENTRATION (ug/kg)	REPORTING LIMIT (ug/kg)
Benzene	71-43-2	4,800	5
Toluene	108-88-3	120,000	5
Ethylbenzene	100-41-4	61,000	5
Xylenes, Total	1330-20-7	340,000	5
PURGEABLE HYDROCARBONS:			
as Gasoline		1,500 mg/kg	0.2 mg/kg

ND = Not Detected

American Environmental Network

LEVINE-FRICKE

SAMPLE ID: SB3-GW
CLIENT PROJ. ID: 2968
DATE SAMPLED: 08/19/93
DATE RECEIVED: 08/20/93
REPORT DATE: 09/08/93

AEN LAB NO: 9308234-04A
AEN JOB NO: 9308234
DATE ANALYZED: 08/31/93
INSTRUMENT: F

BTEX AND HYDROCARBONS
METHOD: EPA 8020, 5030 GCFID
(WATER MATRIX)

COMPOUND	CAS #	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Benzene	71-43-2	0.7	0.5
Toluene	108-88-3	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
Xylenes, Total	1330-20-7	ND	2
PURGEABLE HYDROCARBONS:			
as Gasoline		0.12 mg/L	0.05 mg/L

ND = Not Detected

American Environmental Network

LEVINE-FRICKE

SAMPLE ID: SB4-GW
CLIENT PROJ. ID: 2968
DATE SAMPLED: 08/19/93
DATE RECEIVED: 08/20/93
REPORT DATE: 09/08/93

AEN LAB NO: 9308234-06A
AEN JOB NO: 9308234
DATE ANALYZED: 08/31/93
INSTRUMENT: F

BTEX AND HYDROCARBONS
METHOD: EPA 8020, 5030 GCFID
(WATER MATRIX)

COMPOUND	CAS #	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Benzene	71-43-2	27,000	0.5
Toluene	108-88-3	39,000	0.5
Ethylbenzene	100-41-4	4,200	0.5
Xylenes, Total	1330-20-7	22,000	2
PURGEABLE HYDROCARBONS:			
as Gasoline		1,600 mg/L	0.05 mg/L

ND = Not Detected

American Environmental Network

LEVINE-FRICKE

SAMPLE ID: SB5-GW
CLIENT PROJ. ID: 2968
DATE SAMPLED: 08/19/93
DATE RECEIVED: 08/20/93
REPORT DATE: 09/08/93

AEN LAB NO: 9308234-08A
AEN JOB NO: 9308234
DATE ANALYZED: 08/31/93
INSTRUMENT: F

BTEX AND HYDROCARBONS
METHOD: EPA 8020, 5030 GCFID
(WATER MATRIX)

COMPOUND	CAS #	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Benzene	71-43-2	8,000	0.5
Toluene	108-88-3	29,000	0.5
Ethylbenzene	100-41-4	4,200	0.5
Xylenes, Total	1330-20-7	20,000	2
PURGEABLE HYDROCARBONS:			
as Gasoline		1,100 mg/L	0.05 mg/L

ND = Not Detected

American Environmental Network

INSTRUMENT: H

CLIENT PROJ. ID: 2968

AEN JOB NO: 9308234
AEN LAB NO: 0827-BLANK
DATE ANALYZED: 08/27/93

BTEX AND HYDROCARBONS (METHOD BLANK)
METHOD: EPA 8020, 5030 GCFID
(SOIL MATRIX)

	CAS #	CONCENTRATION (ug/kg)	REPORTING LIMIT (ug/kg)
Benzene	71-43-2	ND	5
Toluene	108-88-3	ND	5
Ethylbenzene	100-41-4	ND	5
Xylenes, Total	1330-20-7	ND	5
PURGEABLE HYDROCARBONS AS:			
Gasoline		ND mg/kg	0.2 mg/kg

ND = Not Detected

INSTRUMENT: H

CLIENT PROJ. ID: 2968

AEN JOB NO: 9308234
AEN LAB NO: 0830-BLANK
DATE ANALYZED: 08/30/93

BTEX AND HYDROCARBONS (METHOD BLANK)
METHOD: EPA 8020, 5030 GCFID
(SOIL MATRIX)

	CAS #	CONCENTRATION (ug/kg)	REPORTING LIMIT (ug/kg)
Benzene	71-43-2	ND	5
Toluene	108-88-3	ND	5
Ethylbenzene	100-41-4	ND	5
Xylenes, Total	1330-20-7	ND	5
PURGEABLE HYDROCARBONS AS:			
Gasoline		ND mg/kg	0.2 mg/kg

ND = Not Detected

INSTRUMENT: H

CLIENT PROJ. ID: 2968

AEN JOB NO: 9308234
AEN LAB NO: 0831-BLANK
DATE ANALYZED: 08/31/93

BTEX AND HYDROCARBONS (METHOD BLANK)
METHOD: EPA 8020, 5030 GCFID
(SOIL MATRIX)

	CAS #	CONCENTRATION (ug/kg)	REPORTING LIMIT (ug/kg)
Benzene	71-43-2	ND	5
Toluene	108-88-3	ND	5
Ethylbenzene	100-41-4	ND	5
Xylenes, Total	1330-20-7	ND	5
PURGEABLE HYDROCARBONS AS:			
Gasoline		ND mg/kg	0.2 mg/kg

ND = Not Detected

QUALITY CONTROL DATA

CLIENT PROJ. ID: 2968

AEN JOB NO: 9308234

INSTRUMENT: H

SURROGATE STANDARD RECOVERY SUMMARY
METHOD: EPA 8020
(SOIL MATRIX)

Date Analyzed	SAMPLE IDENTIFICATION Client Id.	Lab Id.	SURROGATE RECOVERY (PERCENT) Fluorobenzene
08/30/93	SB1-5.5	02A	95.7
08/30/93	SB2-3.5	03A	92.5
08/30/93	SB4-3.5	05A	91.2
08/30/93	SB5-3.5	07A	101.8
08/31/93	SB6-3.5	09A	94.2
08/31/93	SB6-5.5	10A	91.1
08/31/93	SB6-7.5	11A	91.4
08/27/93		0827-METHOD BLANK	92.6
08/30/93		0830-METHOD BLANK	91.0
08/31/93		0831-METHOD BLANK	92.2

CURRENT QC LIMITS

ANALYTE	PERCENT RECOVERY

QUALITY CONTROL DATA

DATE ANALYZED: 08/27/93
SAMPLE SPIKED: 9308240-01A
CLIENT PROJ. ID: 2968

AEN JOB NO: 9308234
INSTRUMENT: H

MATRIX SPIKE RECOVERY SUMMARY
METHOD: EPA 8020, 5030 GCFID
(SOIL MATRIX)

ANALYTE	Spike Conc. (ug/kg)	Sample Result (ug/kg)	MS Result (ug/kg)	MSD Result (ug/kg)	Average Percent Recovery	RPD
Benzene	27.1	ND	25.5	26.8	96.5	5.0
Toluene	98.2	ND	85.4	93.4	91.1	8.9
Hydrocarbons as Gasoline	1,000	ND	674	729	70.2	7.8

CURRENT QC LIMITS (Revised 05/14/92)

Analyte	Percent Recovery	RPD
Benzene	(79.4-125.2)	9.8
Toluene	(84.4-116.8)	10.0
Gasoline	(53.7-124.2)	15.1

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

American Environmental Network

INSTRUMENT: F

CLIENT PROJ. ID: 2968

AEN JOB NO: 9308234
AEN LAB NO: 0831-BLANK
DATE ANALYZED: 08/31/93

BTEX AND HYDROCARBONS (METHOD BLANK)
METHOD: EPA 8020, 5030 GCFID
(WATER MATRIX)

	CAS #	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Benzene	71-43-2	ND	0.5
Toluene	108-88-3	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
Xylenes, Total	1330-20-7	ND	2
PURGEABLE HYDROCARBONS AS:			
Gasoline		ND mg/L	0.05 mg/L

ND = Not Detected

QUALITY CONTROL DATA

CLIENT PROJ. ID: 2968

AEN JOB NO: 9308234

INSTRUMENT: F

SURROGATE STANDARD RECOVERY SUMMARY
METHOD: EPA 8020
(WATER MATRIX)

Date Analyzed	SAMPLE IDENTIFICATION Client Id.	Lab Id.	SURROGATE RECOVERY (PERCENT) Fluorobenzene
08/31/93	SB3-GW	04A	99.7
08/31/93	SB4-GW	06B	96.6
08/31/93	SB5-GW	08B	94.4
08/31/93		0831-METHOD BLANK	97.1

CURRENT QC LIMITS

ANALYTE	PERCENT RECOVERY
Fluorobenzene	(70-115)

QUALITY CONTROL DATA

DATE ANALYZED: 08/31/93
SAMPLE SPIKED: 9308234-04B
CLIENT PROJ. ID: 2968

AEN JOB NO: 9308234

INSTRUMENT: F

MATRIX SPIKE RECOVERY SUMMARY
METHOD: EPA 8020, 5030 GCFID
(WATER MATRIX)

ANALYTE	Spike Conc. (ug/L)	Sample Result (ug/L)	MS Result (ug/L)	MSD Result (ug/L)	Average Percent Recovery	RPD
Benzene	12.6	0.7	14.6	13.9	107.5	4.9
Toluene	46.5	ND	47.4	44.1	98.4	7.2
Hydrocarbons as Gasoline	500	120	614	549	92.3	11.2

CURRENT QC LIMITS (Revised 05/14/92)

Analyte	Percent Recovery	RPD
Benzene	(81.4-115.3)	10.2
Toluene	(85.3-112.4)	9.4
Gasoline	(72.0-119.4)	12.8

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Diff

R-4.5-A

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

9308234

: 2968 | Field Logbook No.: | Date: 8-19-93 | Serial No.: 11080

ne: Ora Loma Sanitary District (Contract - Status) | Project Location: San Lorenzo, CA

gnature) : | Samplers: MJS

SAMPLES					ANALYSES							
DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	TPH gasoline	BTEX			HOLD	RUSH
8-19-93		01A	1	SOIL							X	
		02A	1	SOIL			X	X				
		03A	1	SOIL			X	X				
	9:45	04AB	2	LIQUID			X	X				
		05A	1	SOIL			✓	✓			X	
	10:40	06AB	2	LIQUID			X	X				
		07A	1	SOIL			X	X				
	12:20	08AB	2	LIQUID			X	X				
		09A	1	SOIL			✓	✓			X	
		10A	1	SOIL			X	X				
X		11A	1	SOIL			✓	✓			X	

REMARKS

- Regular TAT

08/23 - Per Mike Stohl pls take samples SB4-3.5 SB6-3.5 and SB6-7.5 off hold status and analyze for TPH-g and BTEX on a 5th TAT. MJS

BY: Mulugeta Stohl	DATE 8-20-93	TIME 10:05	RECEIVED BY: (Signature)
BY:	DATE 8-20-93	TIME 11:35	RECEIVED BY: (Signature) Gina Gillespie
BY:	DATE	TIME	RECEIVED BY: (Signature)
IPMENT:	DATE	TIME	LAB COMMENTS:

DATE 8-20-93	TIME 10:05		
DATE 8-20-93	TIME 1135		
DATE	TIME		

ollector: LEVINE-FRICKE
1900 Powell Street, 12th Floor
Emeryville, Ca 94608
510 (415) 652-4500

Analytical Laboratory:
American Environmental Network
Pleasanton, CA

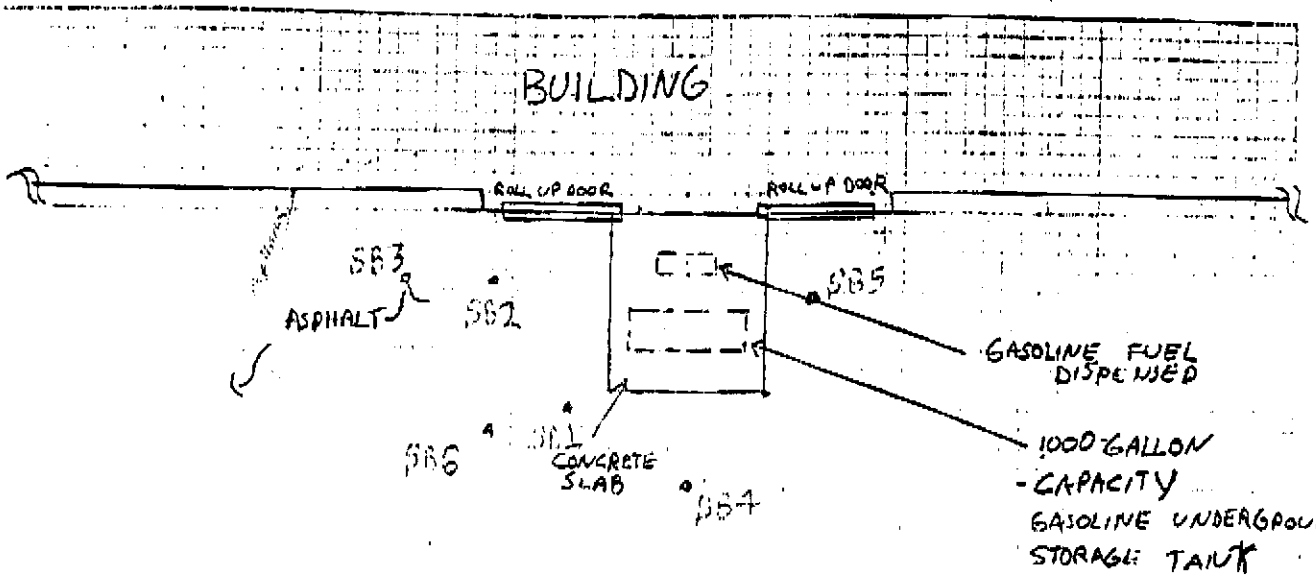
y (White) Lab Copy (Green) File Copy (Yellow) Field Copy (Pink)

FORM NO. 86/COC/ARF

LEVINE-FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

PROJECT:
SUBJECT:

SHEET ___ OF ___
JOB NO.:
DATE:
COMPUTED BY:
CHECKED BY:



DRAFT

Verify Loc. in field.

FIGURE 2: SITE PLAN
ORO LOMA SANITARY DISTRICT
GASOLINE STATION AREA
2600 GRANT AVENUE

2968

SB1

Depth, feet	WELL CONSTRUCTION (Type of Security:)	Graphic Log	LITHOLOGY — Description	SAMPLE DATA: Number	Interval	Penetration Rate (blows/ft.)
			2" AC			
			Gray-Green Sandy gravel, moist, petroleum odor (5G/5/2) FILL			9
			dark brown Silty clay, moist - v. moist, (5YR/3/1) petroleum odor, CL, stiff			6 6 12 20ppm
5	▽ ATD		Fine sand lenses, grades to clayey silty sand Strong odor	100ppm [illegible]		2 2 4 6 100ppm
			Dark Brown SILTY CLAY, V. SOFT, Strong odor wet, no sand (5YR/3/1)			1 1 1 2 150ppm
10						

heavy sheen on water

Bottom of boring at 7.5'

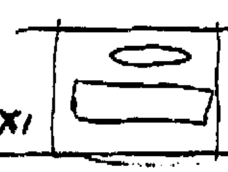
DRAFT

8-8:45

Well Permit No.:
Date well drilled: 8-19-93
Date water level measured:
Well elevation:

Drilling Company: WHD
Driller: Randy
Sampling Method: CMS
Hammer Weight: 140#

Sketch of Well Location:

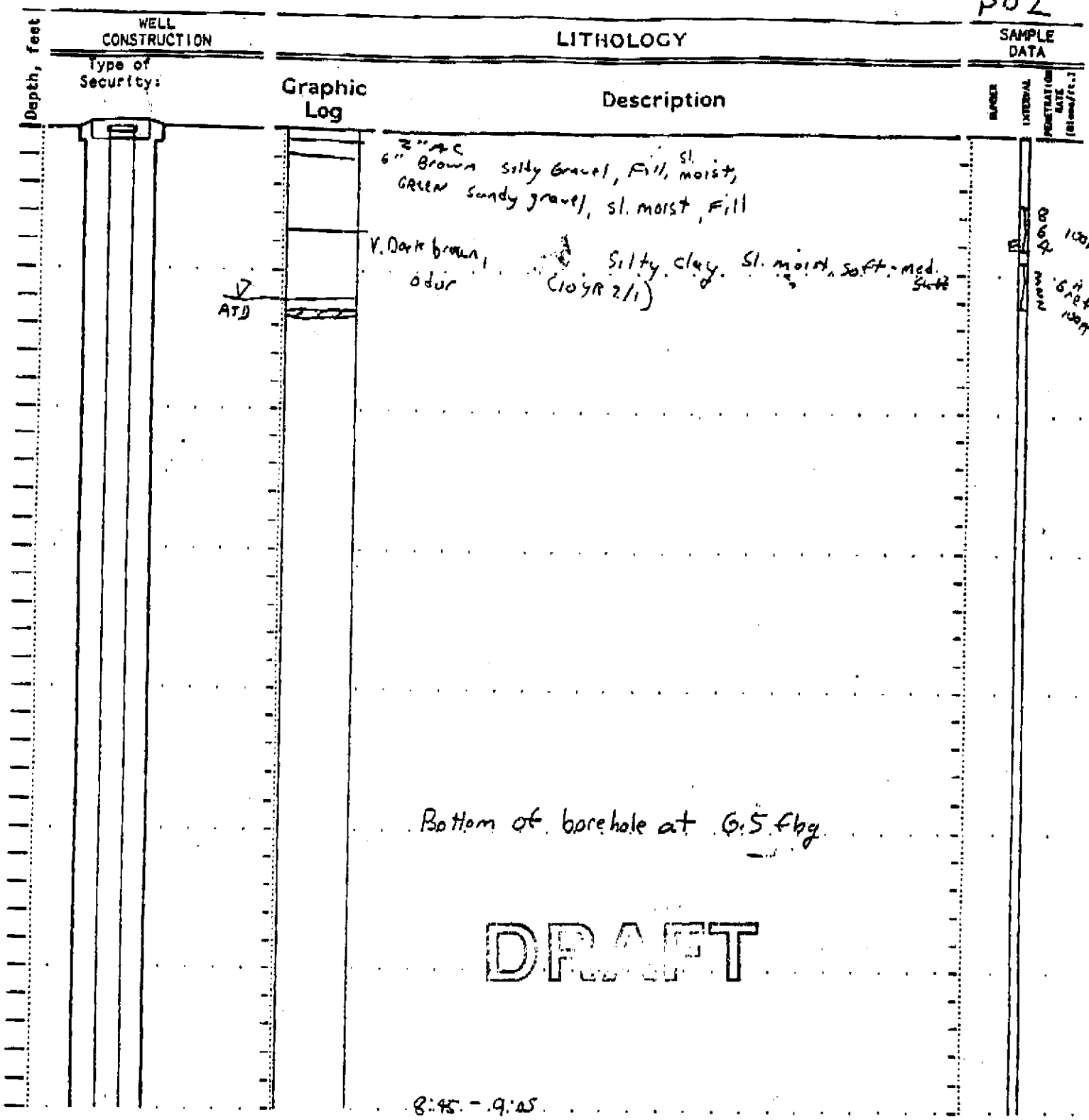


X1

LF Geologist/Engineer: MJS

FIELD LOG OF WELL CONSTRUCTION AND LITHOLOGY FOR SB1

SB2



Well Permit No.:
Date well drilled: 8-19-93
Date water level measured:
Well elevation:

Drilling Company: WHD
Driller: Randy
Sampling Method: CMS
Hammer Weight: 140#

LF Geologist/Engineer: MJS

Sketch of Well Location:

SB3

Depth, feet	WELL CONSTRUCTION (Type of Security:)	LITHOLOGY: Graphic Log	LITHOLOGY: Description	SAMPLE DATA: NUMBER	SAMPLE DATA: INTERVAL	SAMPLE DATA: PENETRATION RATE (Blows/ft.)
0			2" AC			
			6" Brown Silty Gravel FILL, sl. moist-dry (5YR/5/4)			
			Greenish Gray Sandy Gravel Fill (5G/5/2), sl. moist			
5	ATD		SILTY CLAY, Dark brown (10YR 2/1) mottled w/ dark green (5B 4/1) with slight small gravel, med. stiff, sl. moist			9 ? 15pp, none, No Sample, Hydropunch
10						
			Hydro punch (6-10') No sheen on sample - V. turbid, settled out has odor 9:45			
			No soil samples collected			
			9:05 - 9:30; hydro 9:30 - 10:05			

DRAFT

Well Permit No.:
Date well drilled: 8-19-93
Date water level measured:
Well elevation:

Drilling Company: WHD
Driller: Randy
Sampling Method: CMS
Hammer Weight: 140#

Sketch of Well Location:

LF Geologist/Engineer: MJS

SB4

Depth, feet	WELL CONSTRUCTION Type of Security:	LITHOLOGY Graphic Log	Description	SAMPLE DATA Number	Interval	Penetration Rate (blows/ft.)
0			3"AC			
			SANDY GRAVEL FILL, GRAY (5B6/5/1) sl. moist			
			SILTY CLAY, V. DK BRN (10YR/2/1) sl. moist			
5	ATD		strong odor (petroleum?)			
10						
			Hydropunch . looks sl. turbid 30ppm PID			
			10:05 - 10:20; punch: 10:20 - 10:40pm			

DRAFT

Well Permit No.:
Date well drilled: 8-19-93
Date water level measured:
Well elevation:

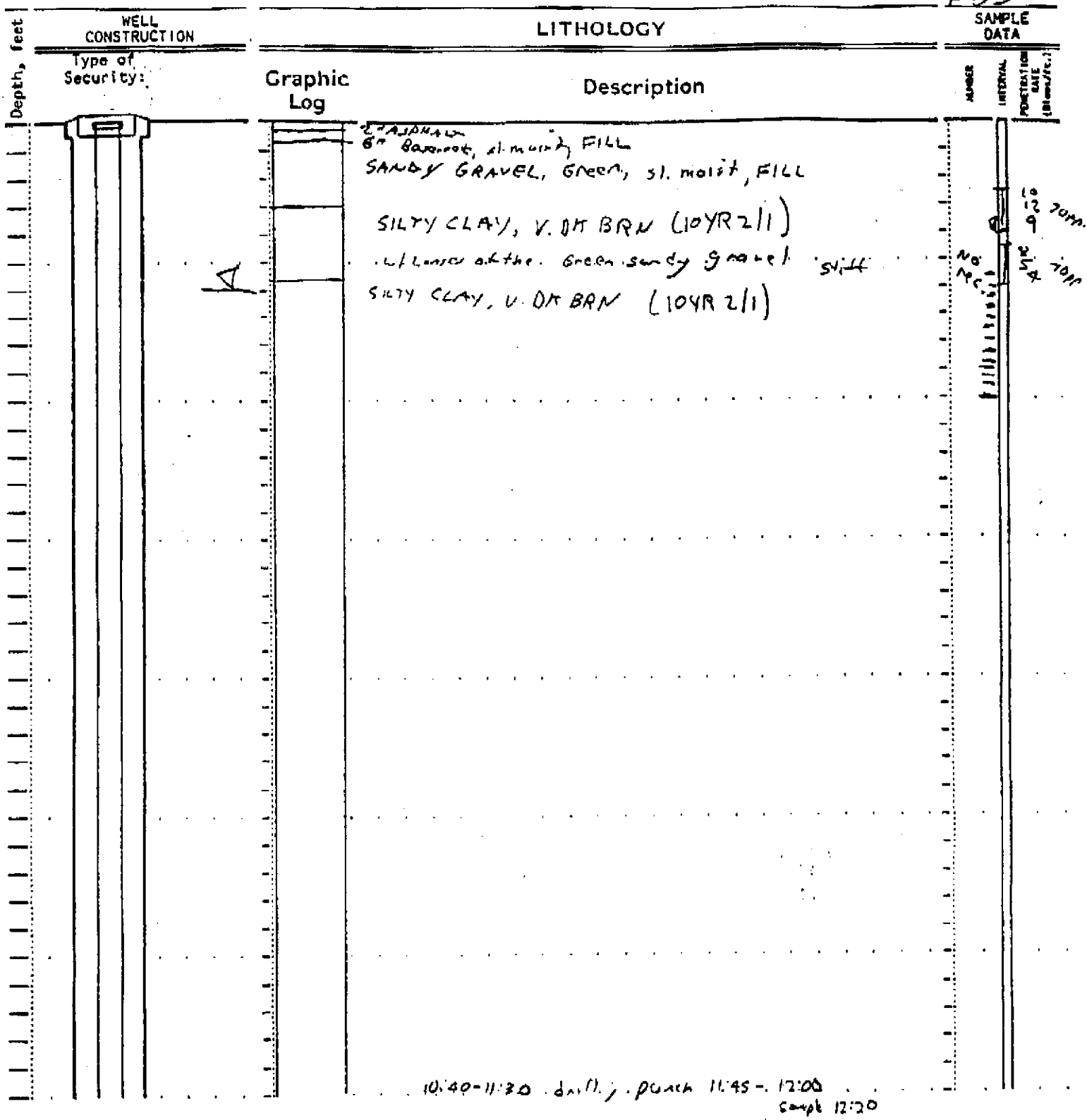
Drilling Company: WHD
Driller: Randy
Sampling Method: CM/S
Hammer Weight: 140#

Sketch of Well Location:

x4w

LF Geologist/Engineer: MJS

SB5



Well Permit No.:
Date well drilled: 8-19-93
Date water level measured:
Well elevation:

Drilling Company: WHD
Driller: Randy
Sampling Method: CME
Hammer Weight: 140#

Sketch of Well Location:

SB6

Depth, feet	WELL CONSTRUCTION Type of Security:	LITHOLOGY Graphic Log	Description	SAMPLE DATA NUMBER	INTERVAL	PENETRATION RATE (Blows/ft.)
			2.5 ASPHALT SANDY GRAVEL, Green, dry			
			SILTY CLAY, V. DK BRN, ~~and~~ stiff, moist (10YR/2/1)			6 6 5 30 ppm
	▽		SILTY CLAY (CH), DK BRN, ~~v.~~ soft, - m. stiff moist-wet (5YR/3/1) odor			3 3 4 40 ppm
			SAND, DK GRAY, ~~BRN~~ fine, with some silt, loose, ~~[illegible]~~ well graded, wet (5B 4/1), odor			5 5 5 30 ppm

DRAFT

12:05 - 12:40
6.1 D

Well Permit No.:
Date ~~well~~ drilled: 8-19-93
Date water level measured:
Well elevation:

Drilling Company: WHD
Driller: Randy
Sampling Method: CMS
Hammer Weight: 140#

Sketch of Well Location:

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