



**SOIL PILE
AND
CONCRETE VAULT SAMPLING**

**4701 San Leandro Street
Oakland, California**

Prepared For

**Mr. Francis Collins
San Leandro Street Project
6050 Hollis Street
Emeryville, California 94608**

Prepared By:

Sequoia Environmental

**Project Code: SLS-05
October 9, 1996**



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Mr. Francis Collins
San Leandro Street Project
6050 Hollis Street
Oakland, CA 94608

Re: Soil Pile and Concrete Vault Sampling
4701 San Leandro Street
Oakland, California

Dear Mr. Collins:

This letter documents the soil sampling activities performed at the referenced site. The purpose of the soil sampling was to determine the levels of petroleum hydrocarbons and lead in the soil pile and any presence of methylene chloride in the former locations of two concrete vaults. The sampling was in response to the directive issued by the Alameda County Department of Environmental Health on April 2, 1996.

On July 31, 1996, Sequoia Environmental personnel collected soil samples from the soil pile and from former locations of two concrete vaults. The samples were collected with a portable rig with core sampler containing brass sleeve.

Soil Pile Sampling

The quantity of the soil pile is approximately 200 cubic yards. Samples were collected from 2 feet inside the pile. Nine samples were collected from different locations of the soil pile (SP-1, SP-2, SP-3, SP-4, SP-5, SP-6, SP-7, SP-8 and SP-9). Sampling locations are shown on attached site plan, Figure 1. At the end of each sampling run, the ends of the brass sleeve were covered with aluminum foil, capped and sealed with clear tape. The brass sleeve was labeled and kept in a cooler containing ice. The auger and sampler were triple rinsed before the next sampling.

Concrete Vault Sampling

Using a portable rig, soil samples were collected from the fill ends of the concrete vaults and in-between the vaults (CV-1, CV-2 and CV-3). The samples were collected at approximately 15 feet below ground surface. Sampling

locations are shown in attached site plan, Figure 1. Packaging of the brass sleeves after sampling and quality control measures are as described above.

Laboratory analyses

Soil samples from the soil pile and concrete vault were sent to McCampbell Analytical in Pacheco, California for chemical analyses. Under laboratory condition, nine soil samples from the soil pile were made to three composite samples (SP-A, SP-B and SP-C). The samples were analyzed for total petroleum hydrocarbons as diesel (TPH-D) and as gasoline TPH-G, aromatic hydrocarbons as benzene, toluene, ethylbenzene and xylenes (BTEX), CAM/CCR 17 Metals and volatile halocarbons.

Soil samples from the concrete vaults (CV-1, CV-2 and CV-3) were analyzed for volatile halocarbons.

Laboratory Results

Laboratory results for the soil pile indicated that samples SP-A and SP-C contained detectable levels of xylenes at 0.013 ppm and 0.010 ppm respectively. The results also indicated that samples SP-A, SP-B and SP-C were non-detect for TPH-G, and other components of BTEX. TPH-D was detected in samples SP-A, SP-B and SP-C at levels of 120 ppm, 200 ppm and 190 ppm respectively. The levels of lead in samples SP-A, SP-B and SP-C were 2,400 ppm, 7,600 ppm and 2,700 ppm respectively. Due to the levels of lead, Toxicity characteristics Leaching Procedure (TCLP) was performed on the samples. The results were 34 ppm, 48 ppm and 35 ppm for SP-A, SP-B and SP-C respectively.

Laboratory results for the concrete vault indicated that samples CV-1, CV-2 and CV-3 were non-detect for methylene chloride. Detailed laboratory results and chain of custody are attached.

Conclusion

On the basis of the laboratory results Sequoia Environmental contends that the methylene chloride, a component of volatile halocarbons, was non-detect in the former locations of two concrete vaults.

Disposal activities for the soil pile are in progress. Upon conclusive arrangement with the accepting facility, the soil pile will be hauled off site and the manifest will be sent to Alameda County Department of Environmental Health.

Please feel free to call if you have any question about the sampling.

Sincerely,

Chris Wabuzoh.

Chris Wabuzoh
Senior Geologist
DHS Lead Inspector/Assessor
REA

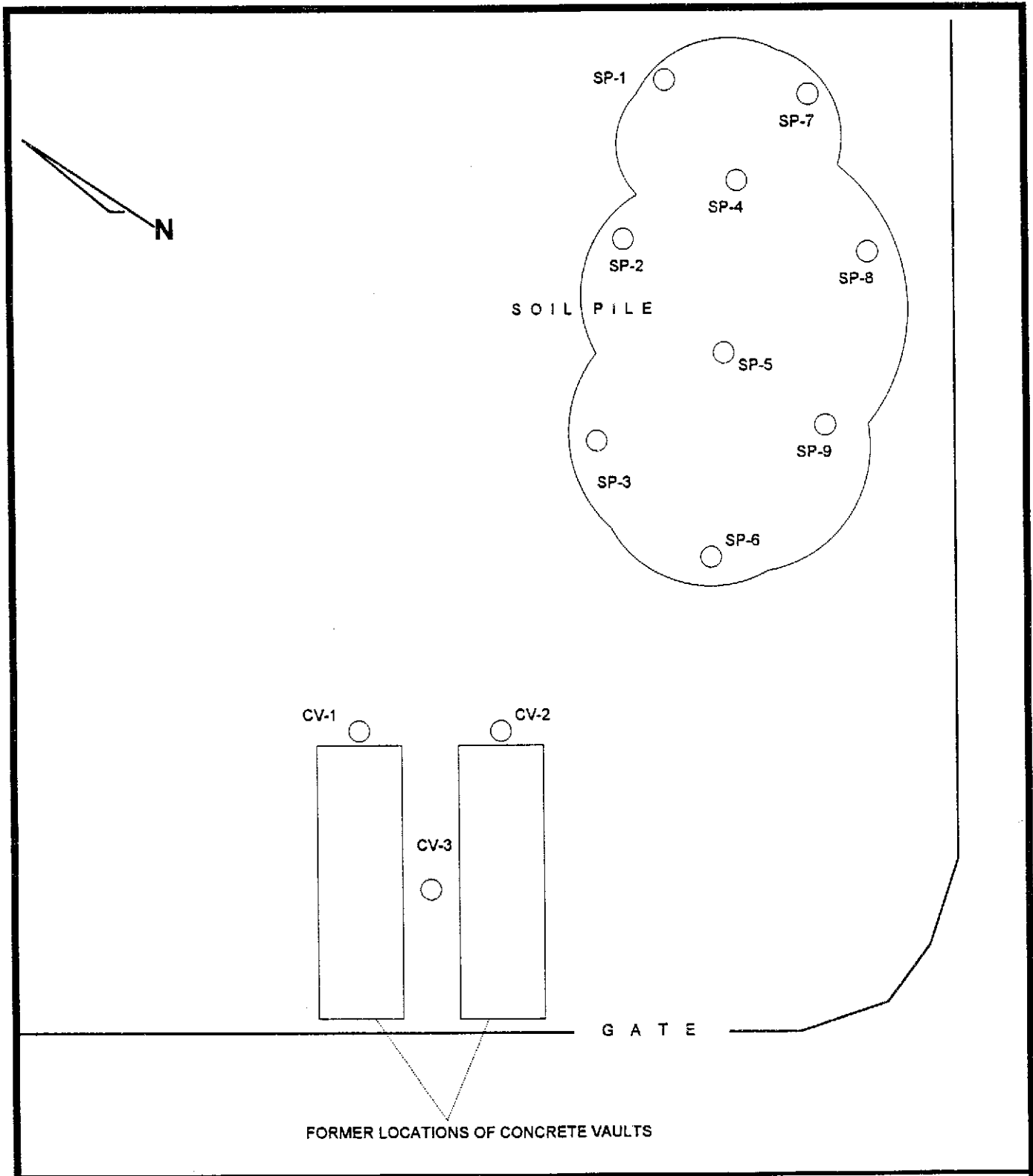


FIGURE 1

MAP TYPE: SITE PLAN ○ SAMPLE/BORING LOCATION

SITE ADDRESS: 4701 SAN LEANDRO STREET, OAKLAND, CALIFORNIA

DATE: OCTOBER 9, 1996 PROJECT CODE: SLS-01 SCALE: NOT TO SCALE

SEQUOIA ENVIRONMENTAL CONSULTING SERVICES (910) 624-1900
SAN LEANDRO, CA

Sequoia Environmental 1111 Aladdin Avenue, Suite B San Leandro, CA 94577	Client Project ID: SLSP; San Leandro Street	Date Sampled: 07/31/96
		Date Received: 08/01/96
	Client Contact: Chris Wabuzoh	Date Extracted: 08/02/96
	Client P.O.:	Date Analyzed: 08/02/96

Volatile Halocarbons

EPA method 601 or 8010

Lab ID	67463	67464	67465
Client ID	SP-A	SP-B	SP-C
Matrix	S	S	S
Compound	Concentration		
Bromodichloromethane	ND	ND	ND
Bromoform ^(b)	ND	ND	ND
Bromomethane	ND	ND	ND
Carbon Tetrachloride ^(c)	ND	ND	ND
Chlorobenzene	ND	ND	ND
Chloroethane	ND	ND	ND
2-Chloroethyl Vinyl Ether ^(d)	ND	ND	ND
Chloroform ^(e)	ND	ND	ND
Chloromethane	ND	ND	ND
Dibromochloromethane	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND
Dichlorodifluoromethane	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND
cis 1,2-Dichloroethene	ND	ND	ND
trans 1,2-Dichloroethene	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND
cis 1,3-Dichloropropene	ND	ND	ND
trans 1,3-Dichloropropene	ND	ND	ND
Methylene Chloride ^(f)	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND
Tetrachloroethene	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND
Trichloroethene	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND
Vinyl Chloride ^(g)	ND	ND	ND
% Recovery Surrogate	82	107	119
Comments			

* water and vapor samples are reported in ug/L, soil and sludge samples in ug/kg and all TCLP extracts in ug/L.

Reporting limit unless otherwise stated: water/TCLP extracts, ND < 0.5ug/L; soil and sludge, ND < 5ug/kg

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

(b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene;
 (h) a lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~ 5 vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

Sequoia Environmental 1111 Aladdin Avenue, Suite B San Leandro, CA 94577	Client Project ID: SLSP; San Leandro Street	Date Sampled: 07/31/96
		Date Received: 08/01/96
	Client Contact: Chris Wabuzoh	Date Extracted: 08/01/96
	Client P.O.:	Date Analyzed: 08/01-08/02/96

CAM / CCR 17 Metals*

EPA methods 6010/200.7; 7470/7471/245.1/245.5 (Hg); 7060/206.2 (As); 7740/270.2 (Se); 7841/279.2 (Tl); 239.2 (Pb, water matrix)

Lab ID	67463	67464	67465	Reporting Limit		
				S	W	STLC / TCLP
Client ID	SP-A	SP-B	SP-C			
Matrix	S	S	S			
Extraction ^o	TTLIC	TTLIC	TTLIC	TTLIC	TTLIC	
Compound	Concentration*			mg/kg	mg/L	mg/L
Antimony (Sb)	11	2.6	ND	2.5	0.05	0.05
Arsenic (As)	11	24	20	2.5	0.005	0.25
Barium (Ba)	180	270	210	1.0	0.05	0.05
Beryllium (Be)	ND	ND	ND	0.5	0.01	0.01
Cadmium (Cd)	0.94	1.0	0.69	0.5	0.005	0.01
Chromium (Cr)	52	61	60	0.5	0.005	0.05
Cobalt (Co)	15	13	11	2.0	0.05	0.05
Copper (Cu)	130	100	67	2.0	0.05	0.05
Lead (Pb)	2400	7600	2700	3.0	0.005	0.2
Mercury (Hg)	0.59	0.83	0.35	0.06	0.0008	0.0008
Molybdenum (Mo)	ND	ND	ND	2.0	0.05	0.05
Nickel (Ni)	110	95	85	2.0	0.05	0.05
Selenium (Se)	ND	ND	ND	2.5	0.005	0.25
Silver (Ag)	ND	ND	ND	1.0	0.01	0.05
Thallium (Tl)	ND	ND	ND	0.5	0.001	0.05
Vanadium (V)	39	62	43	2.0	0.05	0.05
Zinc (Zn)	100	230	200	1.0	0.05	0.05
% Recovery Surrogate	96	98	97			
Comments						

* water samples are reported in mg/L, soil and sludge samples in mg/kg and all TCLP & STLC extracts in mg/L

ND means not detected above the reporting limit

^o EPA extraction methods 1311(TCLP), 3010/3020(water, TTLIC), 3040(organic matrices, TTLIC), 3050(solids, TTLIC); STLC from CA Title 22^o surrogate diluted out of range; N/A means surrogate not applicable to this analysis^o reporting limit raised due matrix interference

i) liquid sample that contains greater than ~ 2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

Sequoia Environmental 1111 Aladdin Avenue, Suite B San Leandro, CA 94577	Client Project ID: SLSP; San Leandro Street	Date Sampled: 07/31/96
		Date Received: 08/01/96
	Client Contact: Chris Wabuzoh	Date Extracted: 08/16-08/17/96
	Client P.O:	Date Analyzed: 08/17/96

Lead*

EPA analytical methods 6010/200.7, 239.2[†]

Lab ID	Client ID	Matrix	Extraction ^o	Lead*	% Recovery Surrogate
67463	SP-A	S	TCLP	34	NA
67464	SP-B	S	TCLP	48	NA
67465	SP-C	S	TCLP	35	NA
Reporting Limit unless otherwise stated; ND means not detected above the re- porting limit	S	TTLIC	3.0 mg/kg		
	W	TTLIC	0.005 mg/L		
	--	STLC,TCLP	0.2 mg/L		

* soil and sludge samples are reported in mg/kg, and water samples and all STLC & TCLP extracts in mg/L
[†] Lead is analysed using EPA method 6010 (ICP) for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples
^o EPA extraction methods 1311(TCLP), 3010/3020(water,TTLIC), 3040(organic matrices,TTLIC), 3050(solids,TTLIC); STLC from CA Title 22
[#] surrogate diluted out of range; N/A means surrogate not applicable to this analysis
[&] reporting limit raised due matrix interference
 i) liquid sample that contains greater than ~ 2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

QC REPORT FOR AA METALS

Date: 08/17/96

Matrix: Soil/TCLP

Analyte	Concentration (mg/kg, mg/L)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
Total Lead	0.0	5.78	5.36	5.0	116	107	7.7
Total Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickel	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachrome	N/A	N/A	N/A	N/A	N/A	N/A	N/A

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

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	Client P.O.:	Date Analyzed: 08/02/96

Volatile Halocarbons

EPA method 601 or 8010

Lab ID	67460	67461	67462	
Client ID	CV-1	CV-2	CV-3	
Matrix	S	S	S	
Compound	Concentration*			
Bromodichloromethane	ND	ND	ND	
Bromoform ^(b)	ND	ND	ND	
Bromomethane	ND	ND	ND	
Carbon Tetrachloride ^(c)	ND	ND	ND	
Chlorobenzene	ND	ND	ND	
Chloroethane	ND	ND	ND	
2-Chloroethyl Vinyl Ether ^(d)	ND	ND	ND	
Chloroform ^(e)	ND	ND	ND	
Chloromethane	ND	ND	ND	
Dibromochloromethane	ND	ND	ND	
1,2-Dichlorobenzene	ND	ND	ND	
1,3-Dichlorobenzene	ND	ND	ND	
1,4-Dichlorobenzene	ND	ND	ND	
Dichlorodifluoromethane	ND	ND	ND	
1,1-Dichloroethane	ND	ND	ND	
1,2-Dichloroethane	ND	ND	ND	
1,1-Dichloroethene	ND	ND	ND	
cis 1,2-Dichloroethene	ND	ND	ND	
trans 1,2-Dichloroethene	ND	ND	ND	
1,2-Dichloropropane	ND	ND	ND	
cis 1,3-Dichloropropene	ND	ND	ND	
trans 1,3-Dichloropropene	ND	ND	ND	
Methylene Chloride ^(f)	ND	ND	ND	
1,1,2,2-Tetrachloroethane	ND	ND	ND	
Tetrachloroethene	ND	ND	ND	
1,1,1-Trichloroethane	ND	ND	ND	
1,1,2-Trichloroethane	ND	ND	ND	
Trichloroethene	ND	ND	ND	
Trichlorofluoromethane	ND	ND	ND	
Vinyl Chloride ^(g)	ND	ND	ND	
% Recovery Surrogate	119	118	119	
Comments				

* water and vapor samples are reported in ug/L, soil and sludge samples in ug/kg and all TCLP extracts in ug/L.

Reporting limit unless otherwise stated: water/TCLP extracts, ND < 0.5ug/L; soil and sludge, ND < 5ug/kg

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(b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene;

(h) a lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~ 5 vol. % sediment.

QC REPORT FOR EPA 8010/8020/EDB

Date: 08/02/96-08/03/96

Matrix: Soil

Analyte	Concentration (ug/kg)				% Recovery		
	Sample (#77777)	MS	MSD	Amount Spiked	MS	MSD	RPD
1,1-DCE	0	108	106	100	108	106	1.9
Trichloroethene	0	91	90	100	91	90	1.1
EDB	0	81	81	100	81	81	0.0
Chlorobenzene	0	94	93	100	94	93	1.1
Benzene	0	120	118	100	120	118	1.7
Toluene	0	108	107	100	108	107	0.9
Chlorobz (PID)	0	109	108	100	109	108	0.9

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

