

**SOILS SAMPLING REPORT**

**324 - 34th Street  
Oakland, CA**

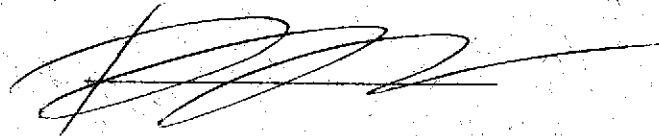
**PREPARED FOR:**

**Val Strough Company  
3330 Broadway  
Oakland, CA 94611**

**April 11, 1993**

**Prepared by:**

**Subsurface Environmental Corp.  
El Cerrito, CA**



**Roxanne M. Harris  
General "A" Engineering License No. 618766  
Hazardous Substances Removal & Remedial Actions  
OSHA Certified/EPA Certified**

## INTRODUCTION

The intent of this report is to provide information on soil located beneath underground storage tanks removed from the property located at Val Strough Chevrolet, 324-34th Street, Oakland, CA.

## BACKGROUND

On March 4 and March 5, 1993, Subsurface Environmental Corp., a California Licensed Contractor, removed two (2) underground storage tanks; one (1) 1,000 gallon gasoline tank and one (1) 1,000 gallon waste oil tank. Both tanks were removed from beneath the sidewalk on the north side of the property. (See attached map.)

The 1,000 gallon gasoline tank was removed on March 4, 1993. Mr. Brian Olivia of the Alameda County Department of Environmental Health (ACDEH) witnessed the removal of the tank and noted that there were no apparent holes, however, there appeared to be heavy contamination as there was odor and staining of the soil.

The 1,000 gallon waste oil tank was removed on March 5, 1993. Mr. Larry Seto of the ACDEH witnessed the removal of the tank. No apparent holes were found in the tank and no obvious contamination was observed.

## EXECUTION OF THE SOIL SAMPLING

On March 5, 1993, Roxanne Harris, of Subsurface Environmental arrived at the subject site to take soil samples. All samples were taken in accordance with the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) Guidelines and at the direction of Mr. Larry Seto of the ACDEH.

A total of four (4) samples were taken; two (2) from beneath the gasoline tank (Tank "A") and two (2) from beneath the waste oil tank (Tank "B"). The soil samples from Tank "A" excavation (Sample Nos. TA001 & TA002) were obtained from each tank end at a depth of approximately 11' below grade. The samples taken from Tank "B" excavation (Sample Nos. TB003 & TB004) were obtained from each tank end at

*approximately 9' below grade. (Individual sampling points are shown on the attached map.)*

After completion of the field work the samples were taken under Chain of Custody to Curtis and Tompkins, LTD., of Berkeley, CA, a State Certified Laboratory for testing. Sample Nos. TA001 & TA002 were analyzed for Total Volatile Hydrocarbons as Gasoline (EPA Method 8015), and Total Volatile Hydrocarbons as Benzene, Toluene, Ethylbenzene, and Xylenes (EPA Method 8020). Sample Nos. TB003 & TB004 were analyzed for Total Volatile Hydrocarbons as Gasoline (EPA Method 8020), Total Volatile Hydrocarbons as Benzene, Toluene, Xylenes, and Ethylbenzene (EPA Method 8020), Total Extractable Hydrocarbons as Diesel (EPA Method 8015), Oil & Grease (EPA 5520EF), Chlorinated Hydrocarbons (EPA Method 8010), and LUFT Metals; Chromium, Cadmium, Nickel, Lead & Zinc (EPA 6010).

*How about SVOCs?*

### SAMPLING METHODOLOGY

Samples were obtained from the tank excavations by using a backhoe to bring the native soil to the surface where a 2" diameter by 6" long brass tube was driven into the soil. Teflon was placed over both ends of the tube and then covered with plastic end caps. The samples were labeled and placed on ice in a portable cooler for transport to the laboratory. Sample information was entered on a Chain of Custody form as each sample was collected.

### ANALYTICAL RESULTS

Sample ID	Benzene ug/kg	Toluene ug/kg	Ethylbenzene ug/kg	Xylenes ug/kg	mg/kg
TA001	ND	ND	ND	ND	N/A
TA002	ND	ND	ND	ND	N/A
TB003	ND	ND	ND	ND	ND
TB004	ND	ND	ND	ND	ND

Sample ID	Oil & Grease mg/kg	Cadmium mg/kg	Lead mg/kg	mg/kg	mg/kg
TA001	N/A	N/A	N/A	N/A	N/A
TA002	N/A	N/A	N/A	N/A	N/A
TB003	ND	ND	ND	ND	ND
TB004	ND	ND	ND	ND	ND

Sample ID	Chlorinated Hydrocarbons ug/kg
TA001	N/A
TA002	N/A
TB003	ND
TB004	ND

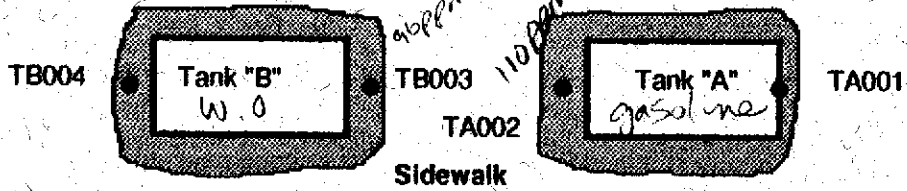
## **REPORTAGE**

**A copy of this report , the certified analytical reports, and chain of custody forms will be provided by Subsurface Environmental to the following agencies:**

**Water Quality Control Board  
San Francisco Bay Region  
1800 Harrison Street  
Oakland, CA 94612**

**Alameda County Department of Environmental Health  
80 Swan Way, #200  
Oakland, CA 94621**

**Val Strough Chevrolet  
Service Buiding**



Broadway

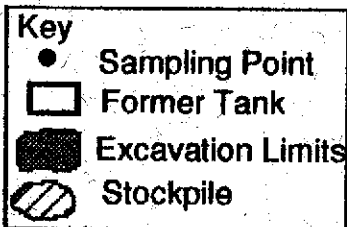
34th Street

**Val Strough Parking Lot**

Tank "A" Stockpile

Tank "B" Stockpile

not to scale



**Subsurface  
Environmental  
Corporation**

**Project #93124**

**Val Strough Company  
324 - 24th Street  
Oakland, CA**

**Tank Removal  
Soil Sampling**



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

DATE RECEIVED: 03/05/93

DATE REPORTED: 03/19/93

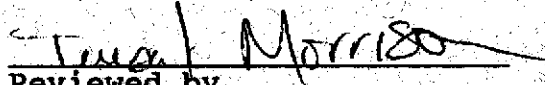
LABORATORY NUMBER: 110242

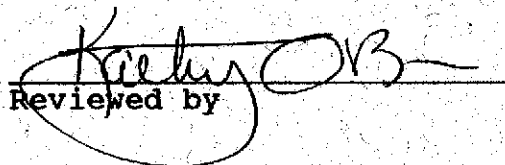
CLIENT: SUBSURFACE ENVIRONMENTAL

PROJECT ID: 93124

LOCATION: VAL STROUGH CHEVROLET

RESULTS: SEE ATTACHED

  
Reviewed by

  
Reviewed by

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LABORATORY NUMBER: 110242  
CLIENT: SUBSURFACE ENVIRONMENTAL  
PROJECT ID: 93124  
LOCATION: VAL STROUGH CHEVROLET

DATE SAMPLED: 03/04,05/93  
DATE RECEIVED: 03/05/93  
DATE ANALYZED: 03/12/93  
DATE REPORTED: 03/16/93  
DATE REVISED: 03/19/93

Total Volatile Hydrocarbons with BTXE in Soils & Wastes  
TVH by California DOHS Method/LUFT Manual October 1989  
BTXE by EPA 5030/8020

LAB ID	SAMPLE ID	TVH AS GASOLINE (mg/Kg)	BENZENE (ug/Kg)	TOLUENE (ug/Kg)	ETHYL BENZENE (ug/Kg)	TOTAL XYLENES (ug/Kg)
110242-001	TA001	5	ND(10)	ND(10)	480	280
110242-003	TB003	ND(1)	ND(5)	ND(5)	ND(5)	13

ND = Not detected at or above reporting limit; Reporting limit indicated in parentheses.

QC SUMMARY

LCS RECOVERY, %

112



Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 110242  
CLIENT: SUBSURFACE ENVIRONMENTAL  
PROJECT ID: 93124  
LOCATION: VAL STROUGH CHEVROLET

DATE SAMPLED: 03/04/93  
DATE RECEIVED: 03/05/93  
DATE ANALYZED: 03/15/93  
DATE REPORTED: 03/16/93  
DATE REVISED: 03/19/93

Total Volatile Hydrocarbons with BTXE in Soils & Wastes  
TVH by California DOHS Method/LUFT Manual October 1989  
BTXE by EPA 5030/8020

LAB ID	SAMPLE ID	TVH AS GASOLINE	BENZENE (ug/Kg)	TOLUENE (ug/Kg)	ETHYL BENZENE (ug/Kg)	TOTAL XYLENES (ug/Kg)
110242-002	TA002	[REDACTED]	ND(40)	ND(40)	2,100	4,000

ND = Not detected at or above reporting limit; Reporting limit indicated in parentheses.

QA/QC SUMMARY

RPD, % <1  
RECOVERY, % 100





LABORATORY NUMBER: 110242  
CLIENT: SUBSURFACE ENVIRONMENTAL  
PROJECT ID: 93124  
LOCATION: VAL STROUGH CHEVROLET

DATE SAMPLED: 03/05/93  
DATE RECEIVED: 03/05/93  
DATE ANALYZED: 03/11/93  
DATE REPORTED: 03/16/93  
DATE REVISED: 03/19/93

Total Volatile Hydrocarbons with BTXE in Soils & Wastes  
TVH by California DOHS Method/LUFT Manual October 1989  
BTXE by EPA 5030/8020

LAB ID	SAMPLE ID	TVH AS GASOLINE (mg/Kg)	BENZENE (ug/Kg)	TOLUENE (ug/Kg)	ETHYL BENZENE (ug/Kg)	TOTAL XYLENES (ug/Kg)
110242-004	TB004	ND(1)	ND(5)	ND(5)	ND(5)	ND(5)

ND = Not detected at or above reporting limit; Reporting limit indicated in parentheses.

QA/QC SUMMARY

RPD, % 19  
RECOVERY, % 86



LABORATORY NUMBER: 110242  
CLIENT: SUBSURFACE ENVIRONMENTAL  
PROJECT ID: 93124  
LOCATION: VAL STROUGH CHEVROLET

DATE SAMPLED: 03/04/93  
DATE RECEIVED: 03/05/93  
DATE EXTRACTED: 03/09/93  
DATE ANALYZED: 03/10/93  
DATE REPORTED: 03/12/93

Extractable Petroleum Hydrocarbons in Soils & Wastes  
California DOHS Method  
LUFT Manual October 1989

LAB ID	SAMPLE ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT* (mg/Kg)
110242-003	TB003	**	96	1
110242-004	TB004	**	7	1

\* Reporting limit applies to all analytes.  
\*\* Quantitated as diesel due to overlap of hydrocarbon ranges.

QA/QC SUMMARY

=====  
LCS RECOVERY, %

=====  
119  
=====



LABORATORY NUMBER: 110242-003  
CLIENT: SUBSURFACE ENVIRONMENTAL  
PROJECT ID: 93124  
LOCATION: VAL STROUGH CHEVROLET  
SAMPLE ID: TB003

DATE SAMPLED: 03/04/93  
DATE RECEIVED: 03/05/93  
DATE REPORTED: 03/12/93

METAL	RESULT	UNITS	REPORTING LIMIT	METHOD
Cadmium	ND	mg/Kg	0.3	EPA 6010
Chromium	49	mg/Kg	0.5	EPA 6010
Lead	8	mg/Kg	3	EPA 7420
Nickel	75	mg/Kg	2	EPA 6010
Zinc	160	mg/Kg	1	EPA 6010

QA/QC SUMMARY	ANALYSIS DATE	RPD, %	RECOVERY, %
Cadmium	03/11/93	7	101
Chromium	03/11/93	4	100
Lead	03/11/93	<1	86
Nickel	03/11/93	4	102
Zinc	03/11/93	3	93



LABORATORY NUMBER: 110242-004  
CLIENT: SUBSURFACE ENVIRONMENTAL  
PROJECT ID: 93124  
LOCATION: VAL STROUGH CHEVROLET  
SAMPLE ID: TB004

DATE SAMPLED: 03/04/93  
DATE RECEIVED: 03/05/93  
DATE REPORTED: 03/12/93

METAL	RESULT	UNITS	REPORTING LIMIT	METHOD
Cadmium	ND	mg/Kg	0.3	EPA 6010
Chromium	39	mg/Kg	0.5	EPA 6010
Lead	ND	mg/Kg	3	EPA 7420
Nickel	65	mg/Kg	2	EPA 6010
Zinc	22	mg/Kg	1	EPA 6010

QA/QC SUMMARY	ANALYSIS DATE	RPD, %	RECOVERY, %
Cadmium	03/11/93	7	101
Chromium	03/11/93	4	100
Lead	03/11/93	<1	86
Nickel	03/11/93	4	102
Zinc	03/11/93	3	93

Client: Subsurface Environmental

Laboratory Login Number: 110242

Project Name: Val Strough Chevrolet  
 Project Number: 93124

Report Date: 12 March 93

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric)

METHOD: SMWW 17:5520EP

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
110242-003	T8003	Soil	05-MAR-93	05-MAR-93	09-MAR-93	ND	mg/Kg	50	TR	8522
110242-004	T8004	Soil	05-MAR-93	05-MAR-93	09-MAR-93	ND	mg/Kg	50	TR	8522

ND = Not Detected at or above Reporting Limit (RL).

Q C B a t c h R e p o r t

Client: Subsurface Environmental  
 Project Name: Val Strough Chevrolet  
 Project Number: 93124

Laboratory Login Number: 110242  
 Report Date: 12 March 93

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric)

QC Batch Number: 8522

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
BLANK	ND	50	mg/Kg	SMWW 17:5520EF	09-MAR-93

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	95%	SMWW 17:5520EF	09-MAR-93
BSD	91%	SMWW 17:5520EF	09-MAR-93

		Control Limits
Average Spike Recovery	93%	80% - 120%
Relative Percent Difference	3.7%	< 20%



LABORATORY NUMBER: 110242-004  
CLIENT: SUBSURFACE ENVIRONMENTAL  
PROJECT ID: 93124  
LOCATION: VAL STROUGH CHEVROLET  
SAMPLE ID: TB004

DATE RECEIVED: 03/05/93  
DATE ANALYZED: 03/10/93  
DATE REPORTED: 03/12/93

EPA 8010 Compound List by EPA 8240  
Volatile Halocarbons in Soil & Wastes

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
1,1,2-Trichloroethane	ND	5
trans-1,3-Dichloropropene	ND	5
Dibromochloromethane	ND	5
Bromoform	ND	5
Tetrachloroethylene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Chlorobenzene	ND	5
1,3-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5
1,4-Dichlorobenzene	ND	5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	102 %
Toluene-d8	100 %
Bromofluorobenzene	100 %



LABORATORY NUMBER: 110242-METHOD BLANK  
 CLIENT: SUBSURFACE ENVIRONMENTAL  
 PROJECT ID: 93124  
 LOCATION: VAL STROUGH CHEVROLET

DATE ANALYZED: 03/10/93  
 DATE REPORTED: 03/12/93

EPA 8010 Compound List by EPA 8240  
 Volatile Halocarbons in Soil & Wastes

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
1,1,2-Trichloroethane	ND	5
trans-1,3-Dichloropropene	ND	5
Dibromochloromethane	ND	5
Bromoform	ND	5
Tetrachloroethylene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Chlorobenzene	ND	5
1,3-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5
1,4-Dichlorobenzene	ND	5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	107 %
Toluene-d8	99 %
Bromofluorobenzene	100 %





## LABORATORY CHECK SAMPLE SUMMARY SHEET FOR EPA 8240

Laboratory Number: 110242  
Client: Subsurface Environmental  
Sample type: SOIL

Analysis date: 03-10/93  
Spike file: ACA03

## BLANK SPIKE DATA (spiked at 50 ppb)

SPIKE COMPOUNDS	READING	RECOVERY	STATUS	LIMITS *
1,1-Dichloroethene	37.32	75 %	OK	59 - 172
Trichloroethene	49.36	99 %	OK	62 - 137
Benzene	49.06	98 %	OK	66 - 142
Toluene	49.14	98 %	OK	59 - 139
Chlorobenzene	50.73	101 %	OK	60 - 133
SURROGATES				
1,2-Dichloroethane-d4	51.96	104 %	OK	70 - 121
Toluene-d8	49.10	98 %	OK	81 - 117
Bromofluorobenzene	49.74	99 %	OK	74 - 121

\* Limits from CLP SOW 3/90



## MS/MSD SUMMARY SHEET FOR EPA 8240

Laboratory Number: 110242  
Client: Subsurface Environmental  
Matrix Sample Number: 110242-004  
Sample type: SOIL

Date Analyzed: 03/10/93  
Spike File: ACA06  
Spike Dup File: ACA07

## MATRIX SPIKE DATA (spiked at 50 ppb)

SPIKE COMPOUNDS	READING	RECOVERY	STATUS	LIMITS *
1,1-Dichloroethene	51.10	102 %	OK	59 - 172
Trichloroethene	50.38	101 %	OK	62 - 137
Benzene	48.82	98 %	OK	66 - 142
Toluene	50.97	102 %	OK	59 - 139
Chlorobenzene	52.04	104 %	OK	60 - 133
SURROGATES				
1,2-Dichloroethane-d4	57.37	115 %	OK	70 - 121
Toluene-d8	50.79	102 %	OK	81 - 117
Bromofluorobenzene	50.02	100 %	OK	74 - 121

## MATRIX SPIKE DUP DATA (spiked at 50 ppb)

SPIKE COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	51.98	104 %	OK	59 - 172
Trichloroethene	50.66	101 %	OK	62 - 137
Benzene	49.22	98 %	OK	66 - 142
Toluene	50.87	102 %	OK	59 - 139
Chlorobenzene	52.48	105 %	OK	60 - 133
SURROGATES				
1,2-Dichloroethane-d4	55.09	110 %	OK	70 - 121
Toluene-d8	50.03	100 %	OK	81 - 117
Bromofluorobenzene	49.97	100 %	OK	74 - 121

## MATRIX DATA

1,1-Dichloroethene	0
Trichloroethene	0
Benzene	0
Toluene	0
Chlorobenzene	0

## RPD DATA

SPIKE COMPOUNDS	SPIKE	SPIKE DUP	RPD	STATUS	LIMITS *
1,1-Dichloroethene	51.10	51.98	2 %	OK	< 22
Trichloroethene	50.38	50.66	1 %	OK	< 24
Benzene	48.82	49.22	1 %	OK	< 21
Toluene	50.97	50.87	0 %	OK	< 21
Chlorobenzene	52.04	52.48	1 %	OK	< 21

\* Limits from CLP SOW 3/90

# CHAIN OF CUSTODY FORM

**Curis & Tompkins, Ltd.**  
 2323 Fifth Street  
 Berkeley, CA 94710  
 (510) 486-0900 Phone  
 (510) 486-0532 Fax



Sampler: Roxanne Harris

Report to: Same

Company: Subsurface Environmental

Project No: 93124

Project Name: Valstrough Chevrolet

Telephone: 510 2152533

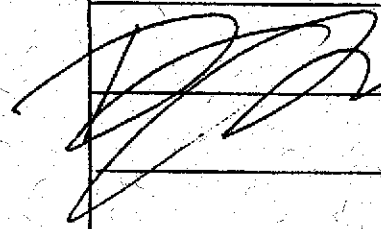
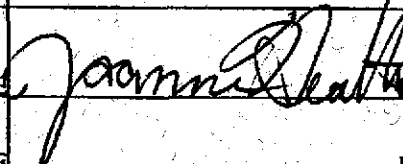
Turnaround Time: 5 days

Fax: 510 234 7521

**Analyses**

Laboratory Number	Sample ID.	Sampling Date	Time	Matrix			# of Containers	Preservative				Field Notes	Analyses									
				Soil	Water	Waste		HCL	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	ICE		TPH - MISC	TPH - GAS	BTEX	DII + GRIASE	Chlorinated Hydro	5 Metals (Cr, Pb, ...)				
110292	TA001	3/4/93	15:10	✓			1				✓	West end @ 11'		✓	✓							
	TA002	3/4/93	15:15	✓			1				✓	East end @ 10.5'		✓	✓							
	TB003	3/5/93	12:45	✓			1				✓	West end @ 9'2"	✓	✓	✓	✓	✓	✓				
	TB004	3/5/93	12:55	✓			1				✓	East end @ 9.5'	✓	✓	✓	✓	✓	✓				
	SP005	3/5/93	13:15	✓			1				✓	composite stockpile										
	SP005	3/5/93	13:20	✓			1				✓											
	SP005	3/5/93	13:22	✓			1				✓											
	SP005	3/5/93	13:25	✓			1				✓											

NOTES:  
 Hold SP005 until analyses determined.

RELINQUISHED BY:	RECEIVED BY:
 DATE/TIME: <u>3/5/93 1:45</u>	 DATE/TIME: _____
DATE/TIME: _____	DATE/TIME: _____
DATE/TIME: _____	DATE/TIME: _____