



## SP ENVIRONMENTAL SYSTEMS, INC.

9719 LINCOLN VILLAGE DR. SUITE 310 SACRAMENTO, CA 95827 (916) 369-8971, FAX (916) 369-8370

January 10, 1992

Mr. Don Cox  
California Environmental Protection Agency  
Department of Toxic Substance Control - Region 2  
700 Heinz Avenue, Building F  
Berkeley, CA 94710

**Subject: Pesticide Impacted Soil  
Southern Pacific Transportation Company Property  
Bobo's Junkyard  
Oakland, California  
SPEvS Project No. 05465**

Dear Mr. Cox:

SP Environmental System, Inc. (SPEvS), on behalf of Southern Pacific Transportation Company (SPTCo) is submitting this letter to supplement information previously provided to you regarding a portion of the SPTCo 5th and Kirkham Streets property located in Oakland, California (see Figure 1). Specifically, the site is the previous location of the former Bobo's Junkyard located at 1401 Third Street (see Figure 2). An in-house audit of this property was conducted by SPEvS for SPTCo, in connection with a possible transfer of the property to CalTrans for the relocation of Interstate 880. The attached analytical results (Attachment A) are being submitted for your information. Refer to Tables 1 through 4.

This information supplements information prepared by SPEvS on behalf of SPTCo, identified below, that has been previously provided to Alameda County Health Care Services Agency (ACHCSA) and other state agencies regarding chemical constituents found at the property. As you are aware, four USTs were removed from the 5th and Kirkham Streets property in February 1990. Two of these tanks were on the Bobo Junkyard portion of the property. On March 23, 1990, SPEvS submitted a report of tank removal, entitled "*Removal of Underground Storage Tanks, 330 Cypress Street, Oakland, California*" to ACHCSA. SPEvS' proposal to excavate and stockpile affected soil was presented to ACHCSA in the workplan dated September 27, 1990, entitled, "*Work Plan for Soil and Groundwater Investigation*". A letter dated November 15, 1990, advised the Department of Health Services of the tank removal. Implementation of the workplan was described in a report to ACHCSA dated March 1, 1991, entitled "*Phase II Environmental Site Assessment, Southern Pacific Transportation Company, 5th and Kirkham Streets Property, Oakland, California*". A proposal to separate the stockpile into unimpacted soil and impacted soil was presented to ACHCSA in a letter dated May 16, 1991. ACHCSA approved the workplan in a letter dated June 21, 1991. Results of confirmation sampling were also submitted to ACHCSA in a letter dated August 26, 1991. On September 6, 1991, SPEvS submitted a report to the California Environmental Protection Agency regarding soil impacted by DDT, DDD, DDE, and dieldrin that was discovered on the property adjacent to the Bobo Junkyard site. On October 11, 1991, SPEvS submitted a report describing the results of soil samples collected from soil undergoing bioremediation. On

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**Mr. Don Cox**  
**California Environmental Protection Agency**  
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November 12, 1991, SPEvS submitted a report summarizing the treatment and disposal of hydrocarbon affected soil. SPEvS is also presently conducting quarterly sampling of groundwater monitoring wells on-site in connection with the tank removals and submitting the results to ACHCSA.

Additional sampling is being conducted on the Oakland Railyard property by the State at this time prior to the possible transfer of the property to CalTrans for the I-880 relocation project. The results of this investigation will be submitted to you as soon as they are available.

SPEvS is in the process of developing a workplan to address the elevated levels of the indicated contaminants reflected in the attached pages, and will provide the workplan to you as soon as it is available.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark S. Dockum', with a long horizontal line extending to the right.

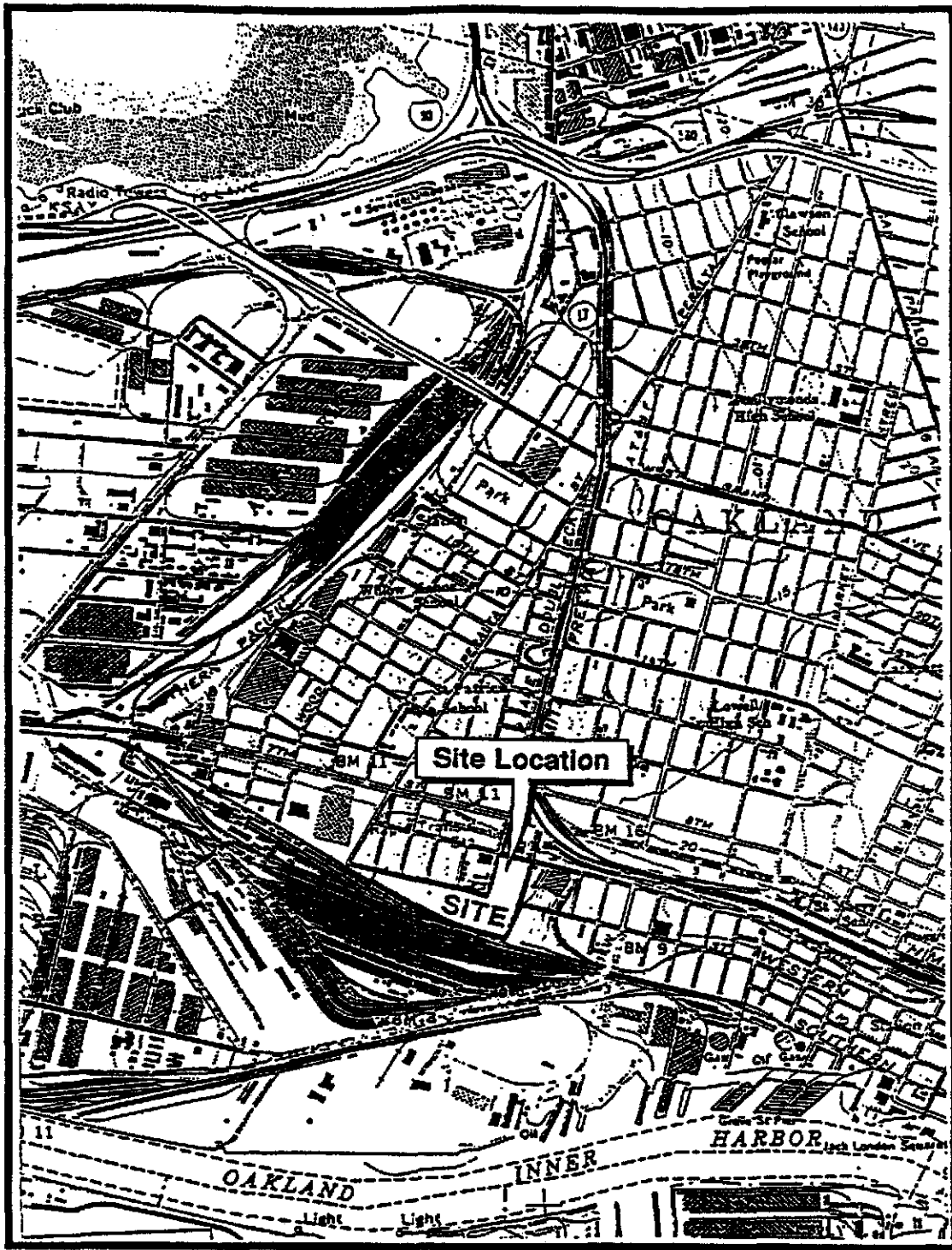
**Mark S. Dockum, C.E.G.**  
**Project Manager**

Enclosure

cc: **Mr. Dennis Byrnes**  
**Alameda County Health Care Services Agency**  
**80 Swan Road**  
**Oakland, CA 94621**


**Mr. Lester Feldman**  
**Regional Water Quality Control Board**  
**San Francisco Bay Region**  
**2101 Webster Street**  
**Suite 500**  
**Oakland, CA 94612**

**Ms. Irene Itamura**  
**Project Manager**  
**I-880/Cypress Relocation**  
**(Benicia-Martinez Bridge System Branch)**  
**30 Van Ness Avenue**  
**P. O. Box 7310**  
**San Francisco, CA 94120**



Approx. Scale in Miles  
 0 1/2

Reference:  
 USGS 7.5 Minute Series Topographic Map  
 Oakland California

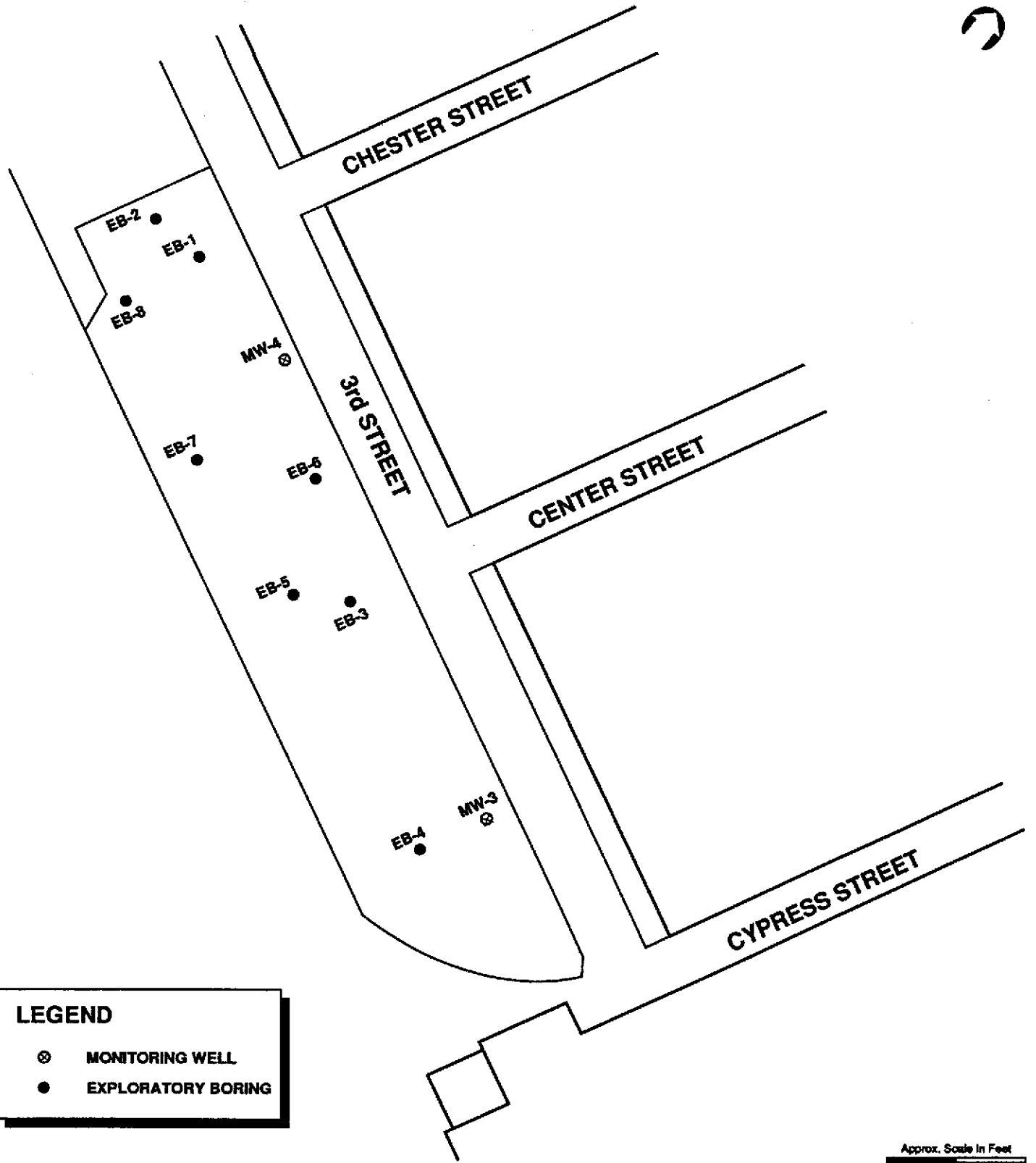
 <b>SP ENVIRONMENTAL SYSTEMS, INC.</b>	
PROJECT NO: 05465	DATE: 01/09/92
DRAWN BY: PD	CHECKED BY: WF

**SITE LOCATION MAP**  
**SOUTHERN PACIFIC TRANSPORTATION CO.**  
**5TH & KIRKHAM STREETS PROPERTY**  
**OAKLAND, CALIFORNIA**

FIGURE:  
 1

SCALE:  
 as shown

North



**LEGEND**

- ⊗ MONITORING WELL
- EXPLORATORY BORING



**SP ENVIRONMENTAL SYSTEMS, INC.**

**LOCATION OF MONITORING WELLS AND EXPLORATORY BORINGS AT "BOBO'S JUNKYARD" OAKLAND, CALIFORNIA**

**FIGURE 2**

PROJECT NO: 05465      DATE: 01/09/92

**SCALE as shown**

DRAWN BY: PD      CHECKED BY: WF

**Table 1**  
**Summary of TPH and VOC Analyses**  
**Southern Pacific Transportation Company**  
**Exploratory Borings - Bobo's Junkyard**  
**Oakland, California**  
**SPEvS Project No. 05465**

Boring <sup>a</sup> Number	Depth <sup>b</sup>	Total Petroleum Hydrocarbons (mg/kg)			VOCs (mg/kg) <sup>f</sup>		
		TPH-G <sup>c</sup>	TPH-D <sup>d</sup>	O & G <sup>e</sup>	DCE	TCE	Xylene
EB-1	Surface	NA	<10	<50	NA	NA	NA
	4	<10	<10	160	0.023	0.017	<.005
EB-2	Surface	NA	<10	1400	NA	NA	NA
	4	<10	<10	<50	<0.005	<0.005	0.0081
EB-3	Surface	NA	290	3300	NA	NA	NA
	4	<10	<10	<50	<0.005	<0.005	<0.005
EB-4	Surface	NA	15	1300	NA	NA	NA
	4	<10	<10	64	<0.005	<0.005	<0.005
EB-5	Surface	NA	270	7200	NA	NA	NA
	4	<10	56	<50	<0.025	<0.025	<0.005
EB-6	Surface	NA	220	1000	NA	NA	NA
	4	<10	<10	<50	<0.005	<0.005	<0.005
EB-7	1.5'	NA	<10	170	NA	NA	NA
	4	<10	<10	96	<0.005	<0.005	<0.005
EB-8	Surface	NA	<10	<50	NA	NA	NA
	4	<10	<10	4000	<0.005	<0.005	<0.005
MW-3	Surface	NA	210	<50	NA	NA	NA
	4	<10	<10	<50	<0.005	<0.005	<0.005
	8	<10	<10	7400	<0.005	<0.005	<0.005

a See Figure 2 for approximate boring locations

b Depth in feet below ground surface

c Total Petroleum Hydrocarbons as gasoline analyzed by EPA Method 8015 Modified

d Total Petroleum Hydrocarbons as diesel analyzed by EPA Method 8015 Modified

e Oil and Grease analyzed by EPA Method 413.1

f Volatile organic compounds analyzed by EPA Method 8240

DCE Dichloroethylene

TCE Trichloroethylene

mg/kg milligram per kilogram

< Indicates the analyte was not detected at or above the method detection limits as noted.

**Table 2**  
**Summary of Metal Analyses**  
**Southern Pacific Transportation Company**  
**Exploratory Borings - Bobo's Junkyard**  
**Oakland, California**  
**SPEvS Project No. 05465**

Boring <sup>a</sup> Number	Metals <sup>b</sup> (mg/kg)							
	Depth <sup>c</sup>	Cd	Cr	Cu	Pb	Hg	Ni	Zn
EB-1	Surface	<0.5	27.9	40.3	250	0.84	18.7	112
	4	<0.5	26.4	14.8	28.5	<0.1	14.8	33.9
EB-2	Surface	13.2	44.4	1,140	740	0.84	39	939
	4	<0.5	33.5	27.5	7.6	0.59	23.4	36.5
EB-3	Surface	3.0	69.9	3,440	953	0.31	68.8	636
	4	<0.5	29.6	46.1	<5	<0.1	17.2	22.9
EB-4	Surface	1.8	30.7	175	378	0.44	21.9	259
	4	<0.5	27.3	44.4	<5	<0.1	16.6	29.9
EB-5	Surface	<0.5	39.2	54.6	80.5	0.17	37.7	86.2
	4	<0.5	28.4	21	<5	<0.1	17.4	21.1
EB-6	Surface	1.3	42.9	194	228	1.9	36.1	307
	4	<0.5	23.1	10.2	<5	<0.1	14	14
EB-7	1.5	0.8	42	70.1	340	0.48	11.4	157
	4	<0.5	24.2	17.5	<5	<0.1	12.8	18.7
EB-8	Surface	<0.5	20.1	47.4	210	0.6	17	132
	4	<0.5	19	11	61.9	0.1	12.8	26.3
MW-3	Surface	6.3	49.2	262	603	1.2	32.7	623
	4	<0.5	26.3	9.9	<5	<0.1	16.7	15.7

a See Figure 2 for approximate location of borings.

b Analyzed using EPA 6000 and 700 series Methodology.

c Depth in feet below ground surface

Cd Cadmium

Cr Chromium

Cu Copper

Pb Lead

Hg Mercury

Ni Nickel

Zn Zinc

< Indicates the analyte was not detected at or above the method detection limits.

**Table 3**  
**Summary of PCB and Chlorinated Pesticide Analyses**  
**Southern Pacific Transportation Company**  
**Exploratory Borings on Bobo's Junkyard**  
**Oakland, California**  
**SPEVs Project No. 05465**

Sample Number	Depth <sup>b</sup>	Organochlorine Pesticides <sup>a</sup> (mg/kg)										PCB <sup>c</sup> (mg/kg)	
		Chlordane	Toxaphene	Lindane	DDT	DDD	DDE	Endrin	Dieldrin	PCB			
EB-1	Surface	<0.08	<0.16	<0.008	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.08
	4	1.8	<1	<0.012	<0.06	<0.05	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.5
EB-2	Surface	66	42	<0.012	5	<0.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5
	4	0.98	0.49	<0.008	<0.05	<0.05	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.08
EB-3	Surface	<2.5	<10	0.26	<0.5	<0.5	<1.2	<1.2	<1.2	<1.2	<1.2	<0.25	188
	4	<0.08	<0.16	<0.008	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.08
EB-4	Surface	<0.12	<0.5	<0.008	<0.12	<0.12	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.25
	4	<0.12	<0.16	<0.008	<0.016	<0.025	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.25
EB-5	Surface	<0.25	<1	<0.012	0.098	1.7	0.26	0.046	1.5	0.046	1.5	0.046	<0.5
	4	<0.25	<1	<0.012	<0.05	<0.05	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.5
EB-6	Surface	<0.62	<0.5	<0.008	0.1	<0.12	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.25
	4	<0.08	<0.16	<0.008	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.08
EB-7	1.5'	<0.08	<0.16	<0.008	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.08
	4	<0.08	<0.16	<0.008	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.08
EB-8	Surface	<0.12	<0.5	<0.008	<0.025	<0.025	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.25
	4	<0.12	<0.5	<0.008	<0.025	<0.025	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.25
MW-3	Surface	<2.5	<10	<0.12	5.3	<0.5	1.5	<0.25	0.40	<0.25	0.40	<0.25	<5
	4	<0.08	<0.16	<0.008	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.08

<sup>a</sup> See Figure 2 for approximate boring locations  
<sup>b</sup> Depth in feet below ground surface.  
<sup>c</sup> Analyzed by EPA Method 8080  
 < Indicates the analyte was not detected at or above the method detection limit as noted.

mg/kg    milligram per kilogram  
 DDT    Dichlorodiphenyltrichloroethane  
 DDD    Dichlorodiphenyldichloroethane  
 DDE    Dichlorodiphenyldichloroethylene  
 PCB    Polychlorinated Biphenyls

**Table 4**  
**Summary of Analyses**  
**Southern Pacific Transportation Company**  
**Debris Piles on Bobo's Junkyard**  
**Oakland, California**  
**SPEVS Project No. 05465**

Sample* Number	Total Petroleum Hydrocarbons (mg/kg)		Metals <sup>d</sup> (mg/kg)								Organochlorine Compounds <sup>e</sup> (mg/kg)					
	TPH-D <sup>b</sup>	O & G <sup>c</sup>	Cd	Cr	Cu	Pb	Hg	Ni	Zn	PCB	DDT	DDD	DDE	Endrin	Dieldrin	
P <sub>1</sub>	3,700	20,000	8.7	91.9	629	911	17.3	116	1,210	4.5	3.5	1.0	0.80	0.22	0.34	
P <sub>2</sub>	7,500	13,000	17.7	187	8,570	3,480	1.6	116	3,400	230	<5	<5	<2.5	<2.5	<5	
P <sub>3</sub>	2,900	13,000	10.6	104	7,320	2,140	0.76	716	4,640	87	<2.5	<2.5	<1.2	<1.2	<1.2	
P <sub>4</sub>	4,400	<50	10.7	90.4	569	1,860	0.51	77	1,210	560	<5	<5	<2.5	<2.5	<2.5	

a Samples were collected from 4 different debris piles located on the site.

b TPH as diesel analyzed by EPA Method 8015 Modified.

c Oil and Grease analyzed by EPA Method 413.1

d Analyzed by EPA 8000 and 7000 Series Methodology

e Analyzed by EPA Method 8080.

< Indicates the analyte was not detected at or above the method detection limits. Detection limits were adjusted to account for matrix interferences.

Cd Cadmium  
 Cr Chromium  
 Cu Copper  
 Pb Lead  
 Hg Mercury  
 Ni Nickel  
 Zn Zinc  
 DDT Dichlorodiphenyltrichloroethane  
 DDD Dichlorodiphenyldichloroethane  
 DDE Dichlorodiphenyldichloroethylene  
 PCB Polychlorinated Biphenyls



found 6-10-97

**ATTACHMENT A  
TO SPEvS LETTER DATED JANUARY 10, 1992**



November 2, 1990  
Lab ID: 055395

Walt Floyd  
S.P. Environmental  
9719 Lincoln Village Dr.  
Suite 310  
Sacramento, CA 95827

Dear Mr. Floyd:

Enclosed is the report for the eight soil samples for your 5th & Kirkham Project, #05032, which were received at Enseco-Cal Lab on 25 October 1990.

The report consists of the following sections:

- I Sample Description
- II Analysis Request
- III Quality Control Report
- IV Analysis Results

Preliminary data for this project was delivered to you in person on 30 October 1990 and the remainder transferred to you via facsimile on 31 October 1990.

If you have any questions, please feel free to call.

Sincerely,

Robert Weidenfeld  
Program Administrator

du

### I Sample Description

See the attached Sample Description Information.  
The samples were received under chain-of-custody.

### II Analysis Request

The following analytical tests were requested.

<u>Lab ID</u>	<u>Analysis Description</u>
055395-1 thru 8	Oil & Grease Total Petroleum Hydrocarbons (Diesel)
-1 thru 7	Organochlorine Pesticides/PCBs Selected Metals
-2, 4, 6, 7, 8	Total Petroleum Hydrocarbons (Gasoline)
-2, 4, 6, 7	Volatile Organics

### III Quality Control

- A. Project Specific QC. No project specific QC (i.e., spikes and/or duplicates) was requested.
- B. Method Blank Results. A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your samples.

No target parameters were detected in the method blanks associated with your samples at the reporting limit levels noted on the attached Method Blank Report.

#### C. Laboratory Control Samples - The LCS Program

Duplicate Control Samples. A DCS is a well-characterized matrix (blank water, sand or celite) which is spiked with certain target parameters and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The DCS results associated with your samples are on the attached Duplicate Control Sample Report.

Single Control Samples. An SCS consists of a control matrix that is spiked with surrogate compounds appropriate to the method being used. In cases where no surrogate is available, (e.g. metals or conventional analyses) a single control sample identical to the DCS serves as the control sample. An SCS is prepared for each sample lot. Accuracy is calculated identically to the DCS. The SCS results associated with your samples are on the attached Single Control Sample Report.

Accuracy is measured by Percent Recovery as in:

$$\% \text{ recovery} = \frac{(\text{measured concentration})}{(\text{actual concentration})} \times 100$$

Precision is measured using duplicate tests by Relative Percent Difference (RPD) as in:

$$\text{RPD} = \frac{(\% \text{ recovery test 1} - \% \text{ recovery test 2})}{(\% \text{ recovery test 1} + \% \text{ recovery test 2})/2} \times 100$$

Control limits for accuracy (percent recovery) are based on the average, historical percent recovery +/-3 standard deviation units. Control limits for precision (relative percent difference) range from 0 (identical duplicate DCS results) to the average, historical relative percent difference + 3 standard deviation units. In cases where there is not enough historical data, EPA limits or advisory limits are set, with the approval of the Quality Assurance department.

#### IV Analysis Results

Test methods may include minor modifications of published EPA Methods such as reporting limits or parameter lists. Reporting limits are adjusted to reflect dilution of the sample, when appropriate. Solid and waste samples are reported on an "as received" basis; i.e., no correction is made for moisture content, unless the method requires or the client requests that such correction be made.

Results are on the attached data sheets.

SAMPLE DESCRIPTION INFORMATION  
for  
SP Environmental

Lab ID	Client ID	Matrix	Sampled		Received Date
			Date	Time	
055395-0001-SA	EB-1-Surf	SOIL	24 OCT 90	16:30	25 OCT 90
055395-0002-SA	EB-1-4'	SOIL	24 OCT 90	16:45	25 OCT 90
055395-0003-SA	EB-2-Surf	SOIL	24 OCT 90	17:30	25 OCT 90
055395-0004-SA	EB-2-4'	SOIL	24 OCT 90	17:45	25 OCT 90
055395-0005-SA	EB-3-Surf	SOIL	24 OCT 90	18:00	25 OCT 90
055395-0006-SA	EB-3-4'	SOIL	24 OCT 90	18:15	25 OCT 90
055395-0007-SA	MW-4-4'	SOIL	24 OCT 90	10:40	25 OCT 90
055395-0008-SA	MW-4-8'	SOIL	24 OCT 90	10:50	25 OCT 90

QC LOT ASSIGNMENT REPORT  
GC Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
055395-0001-SA	SOIL	O&G-G-S	25 OCT 90-A	25 OCT 90-A
055395-0002-SA	SOIL	O&G-G-S	25 OCT 90-A	25 OCT 90-A
055395-0003-SA	SOIL	O&G-G-S	25 OCT 90-A	25 OCT 90-A
055395-0004-SA	SOIL	O&G-G-S	25 OCT 90-A	25 OCT 90-A
055395-0005-SA	SOIL	O&G-G-S	25 OCT 90-A	25 OCT 90-A
055395-0006-SA	SOIL	O&G-G-S	25 OCT 90-A	25 OCT 90-A
055395-0007-SA	SOIL	O&G-G-S	25 OCT 90-A	25 OCT 90-A
055395-0008-SA	SOIL	O&G-G-S	25 OCT 90-A	25 OCT 90-A

METHOD BLANK REPORT  
GC Preparation

Analyte	Result	Units	Reporting Limit
Test: O&G-G-S Matrix: SOIL QC Lot: 25 OCT 90-A    QC Run: 25 OCT 90-A			
Oil and Grease	ND	mg/kg	50
Test: O&G-G-S Matrix: SOIL QC Lot: 25 OCT 90-A    QC Run: 25 OCT 90-A			
Oil and Grease	ND	mg/kg	50
Test: O&G-G-S Matrix: SOIL QC Lot: 25 OCT 90-A    QC Run: 25 OCT 90-A			
Oil and Grease	ND	mg/kg	50

DUPLICATE CONTROL SAMPLE REPORT  
GC Preparation

Analyte	Concentration Spiked	Concentration Measured		AVG	Accuracy Average (%)		Precision (RPD)	
		DCS1	DCS2		DCS	Limits	DCS	Limit
Category: O&G-G-S								
Matrix: SOIL								
QC Lot: 25 OCT 90-A								
Concentration Units: mg/kg								
Oil and Grease	1000	972	946	959	96	42-115	2.7	37

Calculations are performed before rounding to avoid round-off errors in calculated results.



QC LOT ASSIGNMENT REPORT  
Semivolatile Organics by GC

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
055395-0001-SA	SOIL	TPH-D-S	25 OCT 90-A	25 OCT 90-A
055395-0001-SA	SOIL	OCP-S	24 OCT 90-A	25 OCT 90-35A
055395-0002-SA	SOIL	TPH-D-S	25 OCT 90-A	25 OCT 90-A
055395-0002-SA	SOIL	OCP-S	24 OCT 90-A	25 OCT 90-35A
055395-0003-SA	SOIL	TPH-D-S	25 OCT 90-A	25 OCT 90-A
055395-0003-SA	SOIL	OCP-S	24 OCT 90-A	25 OCT 90-35A
055395-0004-SA	SOIL	TPH-D-S	25 OCT 90-A	25 OCT 90-A
055395-0004-SA	SOIL	OCP-S	24 OCT 90-A	25 OCT 90-35A
055395-0005-SA	SOIL	TPH-D-S	25 OCT 90-A	25 OCT 90-A
055395-0005-SA	SOIL	OCP-S	24 OCT 90-A	25 OCT 90-35A
055395-0006-SA	SOIL	TPH-D-S	25 OCT 90-A	25 OCT 90-A
055395-0006-SA	SOIL	OCP-S	24 OCT 90-A	25 OCT 90-35A
055395-0007-SA	SOIL	TPH-D-S	25 OCT 90-A	25 OCT 90-A
055395-0007-SA	SOIL	OCP-S	24 OCT 90-A	25 OCT 90-35A
055395-0008-SA	SOIL	TPH-D-S	25 OCT 90-A	25 OCT 90-A

METHOD BLANK REPORT  
Semivolatile Organics by GC

Analyte	Result	Units	Reporting Limit
Test: TPH-GC-D-S			
Matrix: SOIL			
QC Lot: 25 OCT 90-A    QC Run: 25 OCT 90-A			
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown Hydrocarbons	ND	mg/kg	10

Test: 8080-TCL-S  
Matrix: SOIL  
QC Lot: 24 OCT 90-A    QC Run: 25 OCT 90-35A

alpha-BHC	ND	ug/kg	8.0
beta-BHC	ND	ug/kg	8.0
delta-BHC	ND	ug/kg	8.0
gamma-BHC (Lindane)	ND	ug/kg	8.0
Heptachlor	ND	ug/kg	8.0
Aldrin	ND	ug/kg	8.0
Heptachlor epoxide	ND	ug/kg	8.0
Endosulfan I	ND	ug/kg	8.0
Dieldrin	ND	ug/kg	16
4,4'-DDE	ND	ug/kg	16
Endrin	ND	ug/kg	16
Endosulfan II	ND	ug/kg	16
4,4'-DDD	ND	ug/kg	16
Endosulfan sulfate	ND	ug/kg	16
4,4'-DDT	ND	ug/kg	16
Endrin ketone	ND	ug/kg	16
Methoxychlor	ND	ug/kg	80
Chlordane	ND	ug/kg	80
Toxaphene	ND	ug/kg	160
Aroclor 1016	ND	ug/kg	80
Aroclor 1221	ND	ug/kg	80
Aroclor 1232	ND	ug/kg	80
Aroclor 1242	ND	ug/kg	80
Aroclor 1248	ND	ug/kg	80
Aroclor 1254	ND	ug/kg	160
Aroclor 1260	ND	ug/kg	160

METHOD BLANK REPORT  
Semivolatile Organics by GC (cont.)

Analyte	Result	Units	Reporting Limit
Test: TPH-GC-D-S			
Matrix: SOIL			
QC Lot: 25 OCT 90-A    QC Run: 25 OCT 90-A			
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown Hydrocarbons	ND	mg/kg	10

Test: 8080-TCL-S  
Matrix: SOIL  
QC Lot: 24 OCT 90-A    QC Run: 25 OCT 90-35A

alpha-BHC	ND	ug/kg	8.0
beta-BHC	ND	ug/kg	8.0
delta-BHC	ND	ug/kg	8.0
gamma-BHC (Lindane)	ND	ug/kg	8.0
Heptachlor	ND	ug/kg	8.0
Aldrin	ND	ug/kg	8.0
Heptachlor epoxide	ND	ug/kg	8.0
Endosulfan I	ND	ug/kg	8.0
Dieldrin	ND	ug/kg	16
4,4'-DDE	ND	ug/kg	16
Endrin	ND	ug/kg	16
Endosulfan II	ND	ug/kg	16
4,4'-DDD	ND	ug/kg	16
Endosulfan sulfate	ND	ug/kg	16
4,4'-DDT	ND	ug/kg	16
Endrin ketone	ND	ug/kg	16
Methoxychlor	ND	ug/kg	80
Chlordane	ND	ug/kg	80
Toxaphene	ND	ug/kg	160
Aroclor 1016	ND	ug/kg	80
Aroclor 1221	ND	ug/kg	80
Aroclor 1232	ND	ug/kg	80
Aroclor 1242	ND	ug/kg	80
Aroclor 1248	ND	ug/kg	80
Aroclor 1254	ND	ug/kg	160
Aroclor 1260	ND	ug/kg	160

METHOD BLANK REPORT  
Semivolatile Organics by GC (cont.)

Analyte	Result	Units	Reporting Limit
Test: TPH-GC-D-S			
Matrix: SOIL			
QC Lot: 25 OCT 90-A    QC Run: 25 OCT 90-A			
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown Hydrocarbons	ND	mg/kg	10

DUPLICATE CONTROL SAMPLE REPORT  
Semivolatile Organics by GC

Analyte	Concentration Spiked	Concentration Measured		AVG	Accuracy Average(%)		Precision (RPD)		
		DCS1	DCS2		DCS	Limits	DCS	Limit	
Category: TPH-D-S									
Matrix: SOIL									
QC Lot: 25 OCT 90-A									
Concentration Units: ug/kg									
Diesel Fuel	100	85.6	85.3	85.4	85	52-128	0.3	35	
Category: OCP-S									
Matrix: SOIL									
QC Lot: 24 OCT 90-A									
Concentration Units: ug/kg									
gamma-BHC (Lindane)	100	77.6	73.6	75.6	76	40- 93	5.3	53	
Heptachlor	100	73.6	73.8	73.7	74	37- 87	0.3	68	
Aldrin	100	82.2	80.6	81.4	81	34-104	2.0	59	
Dieldrin	250	204	193	198	79	47-111	5.5	29	
Endrin	250	218	206	212	85	43-114	5.7	29	
4,4'-DDT	250	204	203	204	81	33-118	0.5	30	

Calculations are performed before rounding to avoid round-off errors in calculated results.

QC LOT ASSIGNMENT REPORT  
Metals Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
055395-0001-SA	SOIL	ICP-S	25 OCT 90-N	26 OCT 90-A
055395-0001-SA	SOIL	HG-CVAA-S	29 OCT 90-A	29 OCT 90-A
055395-0002-SA	SOIL	ICP-S	25 OCT 90-N	26 OCT 90-A
055395-0002-SA	SOIL	HG-CVAA-S	29 OCT 90-A	29 OCT 90-A
055395-0003-SA	SOIL	ICP-S	25 OCT 90-N	26 OCT 90-A
055395-0003-SA	SOIL	HG-CVAA-S	29 OCT 90-A	29 OCT 90-A
055395-0004-SA	SOIL	ICP-S	25 OCT 90-N	26 OCT 90-A
055395-0004-SA	SOIL	HG-CVAA-S	29 OCT 90-A	29 OCT 90-A
055395-0005-SA	SOIL	ICP-S	25 OCT 90-N	26 OCT 90-A
055395-0005-SA	SOIL	HG-CVAA-S	29 OCT 90-A	29 OCT 90-A
055395-0006-SA	SOIL	ICP-S	25 OCT 90-N	26 OCT 90-A
055395-0006-SA	SOIL	HG-CVAA-S	29 OCT 90-A	29 OCT 90-A
055395-0007-SA	SOIL	ICP-S	25 OCT 90-N	26 OCT 90-A
055395-0007-SA	SOIL	HG-CVAA-S	29 OCT 90-A	29 OCT 90-A

METHOD BLANK REPORT  
Metals Analysis and Preparation

Analyte	Result	Units	Reporting Limit
Test: ICP-SCAN-S			
Matrix: SOIL			
QC Lot: 25 OCT 90-N    QC Run: 26 OCT 90-A			
Cadmium	ND	mg/kg	0.50
Chromium	ND	mg/kg	1.0
Copper	ND	mg/kg	2.0
Lead	ND	mg/kg	5.0
Nickel	ND	mg/kg	4.0
Zinc	ND	mg/kg	2.0

Test: HG-CVAA-S  
Matrix: SOIL  
QC Lot: 29 OCT 90-A    QC Run: 29 OCT 90-A

Mercury	ND	mg/kg	0.10
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Test: ICP-SCAN-S  
Matrix: SOIL  
QC Lot: 25 OCT 90-N    QC Run: 26 OCT 90-A

Cadmium	ND	mg/kg	0.50
Chromium	ND	mg/kg	1.0
Copper	ND	mg/kg	2.0
Lead	ND	mg/kg	5.0
Nickel	ND	mg/kg	4.0
Zinc	ND	mg/kg	2.0

Test: HG-CVAA-S  
Matrix: SOIL  
QC Lot: 29 OCT 90-A    QC Run: 29 OCT 90-A

Mercury	ND	mg/kg	0.10
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DUPLICATE CONTROL SAMPLE REPORT  
Metals Analysis and Preparation

Analyte	Spiked	Concentration		AVG	Accuracy		Precision		
		DCS1	Measured DCS2		DCS	Average (%) Limits	(RPD) DCS Limit	DCS Limit	
Category: ICP-S									
Matrix: SOIL									
QC Lot: 25 OCT 90-N									
Concentration Units: mg/kg									
Aluminum	200	187	186	186	93	84-115	0.5	11	
Antimony	50	50.6	47.5	49.1	98	81-115	6.2	10	
Arsenic	200	198	198	198	99	82-115	0.0	10	
Barium	200	190	191	190	95	85-115	0.5	10	
Beryllium	5.0	5.28	5.31	5.30	106	70-110	0.6	10	
Boron	100	92.6	90.7	91.6	92	85-115	2.0	10	
Cadmium	5.0	4.46	4.29	4.38	88	72-110	3.9	15	
Calcium	10000	9890	9730	9810	98	85-115	1.7	10	
Chromium	20	19.5	19.5	19.5	98	84-115	0.2	17	
Cobalt	50	48.0	46.5	47.3	95	80-115	3.1	10	
Copper	25	24.4	24.5	24.4	98	81-115	0.5	10	
Iron	100	94.4	93.6	94.0	94	85-115	0.9	14	
Lead	50	43.7	44.7	44.2	88	80-115	2.3	11	
Lithium	20.0	18.9	19.2	19.0	95	85-115	1.6	10	
Magnesium	5000	4770	4740	4760	95	85-115	0.6	10	
Manganese	50.0	46.8	46.4	46.6	93	80-115	0.8	10	
Molybdenum	20.0	18.3	18.3	18.3	92	85-115	0.0	10	
Nickel	50.0	46.0	46.4	46.2	92	80-115	0.8	10	
Potassium	5000	4810	4810	4810	96	82-115	0.0	10	
Selenium	200.0	198	207	202	101	84-115	4.4	10	
Silver	5.0	4.93	4.69	4.81	96	62-115	5.0	10	
Sodium	10000	9700	8780	9240	92	85-115	9.9	10	
Thallium	200	190	190	190	95	68-110	0.0	10	
Tin	40.0	38.4	40.6	39.5	99	80-122	5.7	10	
Titanium	20.0	17.3	17.2	17.2	86	85-115	0.6	10	
Vanadium	50.0	46.6	46.1	46.3	93	85-115	1.0	10	
Zinc	50	46.6	47.0	46.8	94	82-115	0.9	10	

Category: HG-CVAA-S  
Matrix: SOIL  
QC Lot: 29 OCT 90-A  
Concentration Units: mg/kg

Mercury	0.50	0.443	0.481	0.462	92	84-126	8.2	30
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Calculations are performed before rounding to avoid round-off errors in calculated results.



SINGLE CONTROL SAMPLE REPORT  
Metals Analysis and Preparation

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits
Category: ICP-S				
Matrix: SOIL				
QC Lot: 25 OCT 90-N    QC Run: 26 OCT 90-A				
Concentration Units: mg/Kg				
Aluminum	200	187	93	84-115
Antimony	50.0	47.2	94	81-115
Arsenic	200	186	93	82-115
Barium	200	198	99	85-115
Beryllium	5.00	5.14	103	70-110
Boron	100	92.7	93	85-115
Cadmium	5.00	4.61	92	72-110
Calcium	10000	9720	97	85-115
Chromium	20.0	19.9	99	84-115
Cobalt	50.0	47.0	94	80-115
Copper	25.0	26.7	107	81-115
Iron	100	101	101	85-115
Lead	50.0	45.4	91	80-115
Lithium	20.0	19.8	99	85-115
Magnesium	5000	4760	95	85-115
Manganese	50.0	46.2	92	80-115
Molybdenum	20.0	18.7	93	85-115
Nickel	50.0	46.4	93	80-115
Potassium	5000	4910	98	82-115
Selenium	200	190	95	84-115
Silver	5.00	4.19	84	62-115
Sodium	10000	10000	100	85-115
Thallium	200	194	97	68-110
Tin	40.0	36.2	90	80-122
Titanium	20.0	20.0	100	85-115
Vanadium	50.0	46.3	93	85-115
Zinc	50.0	45.3	91	82-115

Calculations are performed before rounding to avoid round-off errors in calculated results.

QC LOT ASSIGNMENT REPORT  
Volatile Organics by GC

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
055395-0002-SA	SOIL	TPH-GAS-S	24 OCT 90-A	26 OCT 90-19A
055395-0004-SA	SOIL	TPH-GAS-S	24 OCT 90-A	26 OCT 90-19A
055395-0006-SA	SOIL	TPH-GAS-S	24 OCT 90-A	26 OCT 90-19A
055395-0007-SA	SOIL	TPH-GAS-S	24 OCT 90-A	26 OCT 90-19A
055395-0008-SA	SOIL	TPH-GAS-S	24 OCT 90-A	26 OCT 90-19A

METHOD BLANK REPORT  
Volatile Organics by GC

Analyte	Result	Units	Reporting Limit
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Test: TPH-GC-GAS-S  
Matrix: SOIL  
QC Lot: 24 OCT 90-A    QC Run: 26 OCT 90-19A

Gasoline	ND	mg/kg	10
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Test: TPH-GC-GAS-S  
Matrix: SOIL  
QC Lot: 24 OCT 90-A    QC Run: 26 OCT 90-19A

Gasoline	ND	mg/kg	10
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DUPLICATE CONTROL SAMPLE REPORT  
Volatile Organics by GC

Analyte	Concentration Spiked	Concentration Measured		AVG	Accuracy Average(%)		Precision
		DCS1	DCS2		DCS	Limits	(RPD) DCS Limit
Category: TPH-GAS-S Matrix: SOIL QC Lot: 24 OCT 90-A Concentration Units: ug/kg							
Gasoline	2500	2640	2520	2580	103	75-123	4.7 13

Calculations are performed before rounding to avoid round-off errors in calculated results.

QC LOT ASSIGNMENT REPORT  
Volatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
055395-0002-SA	SOIL	8240-SL	03 OCT 90-03A	25 OCT 90-03A
055395-0004-SA	SOIL	8240-SL	03 OCT 90-03A	25 OCT 90-03A
055395-0006-SA	SOIL	8240-SL	03 OCT 90-03A	25 OCT 90-03A
055395-0007-SA	SOIL	8240-SL	03 OCT 90-03A	25 OCT 90-03A

METHOD BLANK REPORT  
Volatile Organics by GC/MS

Analyte	Result	Units	Reporting Limit
Test: 8240-DPURGE-S			
Matrix: SOIL			
QC Lot: 03 OCT 90-03A QC Run: 25 OCT 90-03A			
Chloromethane	ND	ug/kg	10
Bromomethane	ND	ug/kg	10
Vinyl chloride	ND	ug/kg	10
Chloroethane	ND	ug/kg	10
Methylene chloride	ND	ug/kg	5.0
Acetone	ND	ug/kg	10
Carbon disulfide	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
1,2-Dichloroethene	ND	ug/kg	5.0
(total)	ND	ug/kg	5.0
Chloroform	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
2-Butanone (MEK)	ND	ug/kg	10
1,1,1-Trichloroethane	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Vinyl acetate	ND	ug/kg	10
Bromodichloromethane	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
cis-1,3-Dichloropropene	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Dibromochloromethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Benzene	ND	ug/kg	5.0
trans-1,3-Dichloropropene	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
2-Hexanone	ND	ug/kg	10
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10
Tetrachloroethene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
Styrene	ND	ug/kg	5.0
Xylenes (total)	ND	ug/kg	5.0

DUPLICATE CONTROL SAMPLE REPORT  
Volatile Organics by GC/MS

Analyte	Concentration Spiked	Concentration Measured		AVG	Accuracy Average (%)		Precision (RPD)	
		DCS1	DCS2		DCS	Limits	DCS	Limit
Category: 8240-SL								
Matrix: SOIL								
QC Lot: 03 OCT 90-03A								
Concentration Units: ug/kg								
1,1-Dichloroethene	50	38.1	41.3	39.7	79	54-144	8.1	18
Trichloroethene	50	49.9	53.2	51.6	103	64-128	6.4	17
Toluene	50	50.9	55.4	53.2	106	73-126	8.5	17
Benzene	50	44.3	48.4	46.4	93	69-132	8.8	21
Chlorobenzene	50	52.2	57.1	54.6	109	79-127	9.0	12

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT  
Volatile Organics by GC/MS

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits
Category: 8240-SL				
Matrix: SOIL				
QC Lot: 03 OCT 90-03A QC Run: 25 OCT 90-03A				
Concentration Units: ug/kg				
1,2-Dichloroethane-d4	50.0	48.3	97	70-121
Toluene-d8	50.0	50.3	101	81-117
4-Bromofluorobenzene	50.0	49.9	100	74-121

Calculations are performed before rounding to avoid round-off errors in calculated results.



Oil & Grease, Gravimetric

Method 413.1 Modified for Soil

Client Name: SP Environmental  
Matrix: SOIL  
Units: mg/kg

Received: 25 OCT 90  
Authorized: 25 OCT 90

Lab ID	Client ID	Result	Reporting Limit	Date Prepared	Date Analyzed
055395-0001-SA	EB-1-Surf	ND	50	26 OCT 90	26 OCT 90
055395-0002-SA	EB-1-4'	160	50	26 OCT 90	27 OCT 90
055395-0003-SA	EB-2-Surf	1400	50	26 OCT 90	27 OCT 90
055395-0004-SA	EB-2-4'	ND	50	26 OCT 90	27 OCT 90
055395-0005-SA	EB-3-Surf	3300	50	26 OCT 90	27 OCT 90
055395-0006-SA	EB-3-4'	ND	50	26 OCT 90	27 OCT 90
055395-0007-SA	MW-4-4'	ND	50	26 OCT 90	27 OCT 90
055395-0008-SA	MW-4-8'	ND	50	26 OCT 90	27 OCT 90

ND = Not detected  
NA = Not applicable

Reported By: Salome Rosos

Approved By: Linda Ellithorpe

The cover letter is an integral part of this report.

Rev 230787

Total Petroleum Hydrocarbons

Method GC/FID

Client Name: SP Environmental  
 Client ID: EB-1-Surf  
 Lab ID: 055395-0001-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: 26 OCT 90

Received: 25 OCT 90  
 Analyzed: 29 OCT 90

Parameter	Result	Units	Reporting Limit
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown Hydrocarbons	ND	mg/kg	10

ND = Not detected  
 NA = Not applicable

Reported By: Kris Rogers

Approved By: Lisa Stafford

The cover letter is an integral part of this report.

Rev 230787

Total Petroleum Hydrocarbons

Method GC/FID

Client Name: SP Environmental  
 Client ID: EB-1-4'  
 Lab ID: 055395-0002-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: 26 OCT 90

Received: 25 OCT 90  
 Analyzed: 29 OCT 90

Parameter	Result	Units	Reporting Limit
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown Hydrocarbons	ND	mg/kg	10

ND = Not detected  
 NA = Not applicable

Reported By: Kris Rogers

Approved By: Lisa Stafford

The cover letter is an integral part of this report.  
 Rev 230787

Total Petroleum Hydrocarbons

Method GC/FID

Client Name: SP Environmental  
 Client ID: EB-2-Surf  
 Lab ID: 055395-0003-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: 26 OCT 90

Received: 25 OCT 90  
 Analyzed: 29 OCT 90

Parameter	Result	Units	Reporting Limit	
Kerosene	ND	mg/kg	10	
Stoddard Solvent	ND	mg/kg	10	
Aviation Fuel (JP4)	ND	mg/kg	10	
Diesel Fuel	ND	mg/kg	10	
Unknown Hydrocarbons	ND	mg/kg	10	1

Note 1 : This sample contains an unknown hydrocarbon pattern in the approximate range of C-13 to C-24. Due to the nature of the pattern's appearance, quantitation could not be performed.

ND = Not detected  
 NA = Not applicable

Reported By: Kris Rogers

Approved By: Lisa Stafford

The cover letter is an integral part of this report.

Rev 230787

Total Petroleum Hydrocarbons

Method GC/FID

Client Name: SP Environmental  
Client ID: EB-2-4'  
Lab ID: 055395-0004-SA  
Matrix: SOIL  
Authorized: 25 OCT 90

Sampled: 24 OCT 90  
Prepared: 26 OCT 90

Received: 25 OCT 90  
Analyzed: 29 OCT 90

Parameter	Result	Units	Reporting Limit
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown Hydrocarbons	ND	mg/kg	10

ND = Not detected  
NA = Not applicable

Reported By: Kris Rogers

Approved By: Lisa Stafford

The cover letter is an integral part of this report.  
Rev 230787

Total Petroleum Hydrocarbons

Method GC/FID

Client Name: SP Environmental  
Client ID: EB-3-Surf  
Lab ID: 055395-0005-SA  
Matrix: SOIL  
Authorized: 25 OCT 90

Sampled: 24 OCT 90  
Prepared: 26 OCT 90

Received: 25 OCT 90  
Analyzed: 29 OCT 90

Parameter	Result	Units	Reporting Limit	
Kerosene	ND	mg/kg	10	
Stoddard Solvent	ND	mg/kg	10	
Aviation Fuel (JP4)	ND	mg/kg	10	
Diesel Fuel	ND	mg/kg	50	R
Unknown Hydrocarbons	290	mg/kg	10	1

Note R : Raised reporting limit(s) due to high analyte level(s).

Note 1 : This sample contains an unknown hydrocarbon pattern in the approximate range of C-10 to C-26. Quantitation was based on a diesel reference.

ND = Not detected  
NA = Not applicable

Reported By: Kris Rogers

Approved By: Lisa Stafford

The cover letter is an integral part of this report.

Rev 230787

Total Petroleum Hydrocarbons

Method GC/FID

Client Name: SP Environmental  
 Client ID: EB-3-4'  
 Lab ID: 055395-0006-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: 26 OCT 90

Received: 25 OCT 90  
 Analyzed: 29 OCT 90

Parameter	Result	Units	Reporting Limit
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown Hydrocarbons	ND	mg/kg	10

ND = Not detected  
 NA = Not applicable

Reported By: Kris Rogers

Approved By: Lisa Stafford

The cover letter is an integral part of this report.  
 Rev 230787

Total Petroleum Hydrocarbons

Method GC/FID

Client Name: SP Environmental  
 Client ID: MW-4-4'  
 Lab ID: 055395-0007-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: 26 OCT 90

Received: 25 OCT 90  
 Analyzed: 30 OCT 90

Parameter	Result	Units	Reporting Limit
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown Hydrocarbons	ND	mg/kg	10

ND = Not detected  
 NA = Not applicable

Reported By: Kris Rogers

Approved By: Lisa Stafford

The cover letter is an integral part of this report.

Rev 230787



Total Petroleum Hydrocarbons

Method GC/FID

Client Name: SP Environmental  
 Client ID: MW-4-8'  
 Lab ID: 055395-0008-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: 26 OCT 90

Received: 25 OCT 90  
 Analyzed: 30 OCT 90

Parameter	Result	Units	Reporting Limit
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown Hydrocarbons	ND	mg/kg	10

ND = Not detected  
 NA = Not applicable

Reported By: Kris Rogers

Approved By: Lisa Stafford

The cover letter is an integral part of this report.

Rev 230787

TCL Organochlorine Pesticides/PCBs

Method 8080

Client Name: SP Environmental  
 Client ID: EB-1-Surf  
 Lab ID: 055395-0001-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: 25 OCT 90  
 Received: 25 OCT 90  
 Analyzed: 27 OCT 90

Parameter	Result	Wet wt. Units	Reporting Limit
alpha-BHC	ND	ug/kg	8.0
beta-BHC	ND	ug/kg	8.0
delta-BHC	ND	ug/kg	8.0
gamma-BHC (Lindane)	ND	ug/kg	8.0
Heptachlor	ND	ug/kg	8.0
Aldrin	ND	ug/kg	8.0
Heptachlor epoxide	ND	ug/kg	8.0
Endosulfan I	ND	ug/kg	8.0
Dieldrin	ND	ug/kg	16
4,4'-DDE	ND	ug/kg	16
Endrin	ND	ug/kg	16
Endosulfan II	ND	ug/kg	16
4,4'-DDD	ND	ug/kg	16
Endosulfan sulfate	ND	ug/kg	16
4,4'-DDT	ND	ug/kg	16
Endrin ketone	ND	ug/kg	16
Methoxychlor	ND	ug/kg	80
Chlordane	ND	ug/kg	80
Toxaphene	ND	ug/kg	160
Aroclor 1016	ND	ug/kg	80
Aroclor 1221	ND	ug/kg	80
Aroclor 1232	ND	ug/kg	80
Aroclor 1242	ND	ug/kg	80
Aroclor 1248	ND	ug/kg	80
Aroclor 1254	ND	ug/kg	160
Aroclor 1260	ND	ug/kg	160
Surrogate	Recovery		
Dibutyl chlorendate	91	%	--

ND = Not detected  
 NA = Not applicable

Reported By: Lisa Weiskopf

Approved By: Randy Hill

The cover letter is an integral part of this report.  
 Rev 230787

TCL Organochlorine Pesticides/PCBs

Method 8080

Client Name: SP Environmental  
 Client ID: EB-1-4'  
 Lab ID: 055395-0002-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: 25 OCT 90  
 Received: 25 OCT 90  
 Analyzed: 27 OCT 90

Parameter	Result	Wet wt. Units	Reporting Limit	
alpha-BHC	ND	ug/kg	12	R
beta-BHC	ND	ug/kg	25	
delta-BHC	ND	ug/kg	25	
gamma-BHC (Lindane)	ND	ug/kg	12	
Heptachlor	ND	ug/kg	25	
Aldrin	ND	ug/kg	25	
Heptachlor epoxide	ND	ug/kg	25	
Endosulfan I	ND	ug/kg	25	
Dieldrin	ND	ug/kg	25	
4,4'-DDE	ND	ug/kg	25	
Endrin	ND	ug/kg	25	
Endosulfan II	ND	ug/kg	50	
4,4'-DDD	ND	ug/kg	50	
Endosulfan sulfate	ND	ug/kg	50	
4,4'-DDT	ND	ug/kg	50	
Endrin ketone	ND	ug/kg	50	
Methoxychlor	ND	ug/kg	250	
Chlordane	1800	ug/kg	250	
Toxaphene	ND	ug/kg	1000	
Aroclor 1016	ND	ug/kg	500	
Aroclor 1221	ND	ug/kg	500	
Aroclor 1232	ND	ug/kg	500	
Aroclor 1242	ND	ug/kg	500	
Aroclor 1248	ND	ug/kg	500	
Aroclor 1254	ND	ug/kg	500	
Aroclor 1260	ND	ug/kg	500	
Surrogate	Recovery			
Dibutyl chlorendate	92	%	--	

Note R : Raised reporting limit(s) due to high analyte level(s).

ND = Not detected  
 NA = Not applicable

Reported By: Lisa Weiskopf

Approved By: Randy Hill

The cover letter is an integral part of this report.

Rev 230787

TCL Organochlorine Pesticides/PCBs

Method 8080

Client Name: SP Environmental  
Client ID: EB-2-Surf  
Lab ID: 055395-0003-SA  
Matrix: SOIL  
Authorized: 25 OCT 90

Sampled: 24 OCT 90  
Prepared: 25 OCT 90

Received: 25 OCT 90  
Analyzed: 27 OCT 90

Parameter	Result	Wet wt. Units	Reporting Limit	
alpha-BHC	ND	ug/kg	120	R
beta-BHC	ND	ug/kg	250	
delta-BHC	ND	ug/kg	250	
gamma-BHC (Lindane)	ND	ug/kg	120	
Heptachlor	ND	ug/kg	250	
Aldrin	ND	ug/kg	250	
Heptachlor epoxide	ND	ug/kg	2500	
Endosulfan I	ND	ug/kg	2500	
Dieldrin	ND	ug/kg	2500	
4,4'-DDE	ND	ug/kg	2500	
Endrin	ND	ug/kg	2500	
Endosulfan II	ND	ug/kg	5000	
4,4'-DDD	ND	ug/kg	500	
Endosulfan sulfate	ND	ug/kg	5000	
4,4'-DDT	5000	ug/kg	5000	
Endrin ketone	ND	ug/kg	500	
Methoxychlor	ND	ug/kg	2500	
Chlordane	66000	ug/kg	25000	
Toxaphene	42000	ug/kg	20000	
Aroclor 1016	ND	ug/kg	5000	
Aroclor 1221	ND	ug/kg	5000	
Aroclor 1232	ND	ug/kg	5000	
Aroclor 1242	ND	ug/kg	5000	
Aroclor 1248	ND	ug/kg	5000	
Aroclor 1254	ND	ug/kg	50000	
Aroclor 1260	ND	ug/kg	5000	
Surrogate	Recovery			
Dibutyl chlorendate	NA	%	--	H

Note R : Raised reporting limit(s) due to high analyte level(s).

Note H : Surrogate not detected because of required sample dilution.

ND = Not detected  
NA = Not applicable

Reported By: Lisa Weiskopf

Approved By: Randy Hill

The cover letter is an integral part of this report.  
Rev 230787

TCL Organochlorine Pesticides/PCBs

Method 8080

Client Name: SP Environmental  
 Client ID: EB-2-4'  
 Lab ID: Q55395-0004-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: 25 OCT 90  
 Received: 25 OCT 90  
 Analyzed: 27 OCT 90

Parameter	Result	Wet wt. Units	Reporting Limit	
alpha-BHC	ND	ug/kg	8.0	
beta-BHC	ND	ug/kg	8.0	
delta-BHC	ND	ug/kg	8.0	
gamma-BHC (Lindane)	ND	ug/kg	8.0	
Heptachlor	ND	ug/kg	8.0	
Aldrin	ND	ug/kg	8.0	
Heptachlor epoxide	ND	ug/kg	25	G
Endosulfan I	ND	ug/kg	25	G
Dieldrin	ND	ug/kg	25	G
4,4'-DDE	ND	ug/kg	25	G
Endrin	ND	ug/kg	25	G
Endosulfan II	ND	ug/kg	50	G
4,4'-DDD	ND	ug/kg	50	G
Endosulfan sulfate	ND	ug/kg	50	G
4,4'-DDT	ND	ug/kg	50	G
Endrin ketone	ND	ug/kg	16	
Methoxychlor	ND	ug/kg	80	
Chlordane	980	ug/kg	250	R
Toxaphene	490	ug/kg	200	R
Aroclor 1016	ND	ug/kg	80	
Aroclor 1221	ND	ug/kg	80	
Aroclor 1232	ND	ug/kg	80	
Aroclor 1242	ND	ug/kg	80	
Aroclor 1248	ND	ug/kg	500	G
Aroclor 1254	ND	ug/kg	500	G
Aroclor 1260	ND	ug/kg	160	
Surrogate	Recovery			
Dibutyl chlorendate	103	%	--	

Note G : Reporting Limit raised due to matrix interference.

Note R : Raised reporting limit(s) due to high analyte level(s).

ND = Not detected  
 NA = Not applicable

Reported By: Lisa Weiskopf

Approved By: Randy Hill

The cover letter is an integral part of this report.

Rev 230787

TCL Organochlorine Pesticides/PCBs

Method 8080

Client Name: SP Environmental  
Client ID: EB-3-Surf  
Lab ID: 055395-0005-SA  
Matrix: SOIL  
Authorized: 25 OCT 90

Sampled: 24 OCT 90  
Prepared: 25 OCT 90

Received: 25 OCT 90  
Analyzed: 27 OCT 90

Parameter	Result	Wet wt. Units	Reporting Limit	
alpha-BHC	ND	ug/kg	120	R
beta-BHC	ND	ug/kg	250	
delta-BHC	260	ug/kg	250	
gamma-BHC (Lindane)	ND	ug/kg	120	
Heptachlor	ND	ug/kg	250	
Aldrin	ND	ug/kg	1200	
Heptachlor epoxide	ND	ug/kg	1200	
Endosulfan I	ND	ug/kg	250	
Dieldrin	ND	ug/kg	250	
4,4'-DDE	ND	ug/kg	1200	
Endrin	ND	ug/kg	1200	
Endosulfan II	ND	ug/kg	2500	
4,4'-DDD	ND	ug/kg	500	
Endosulfan sulfate	ND	ug/kg	500	
4,4'-DDT	ND	ug/kg	500	
Endrin ketone	ND	ug/kg	500	
Methoxychlor	ND	ug/kg	2500	
Chlordane	ND	ug/kg	2500	
Toxaphene	ND	ug/kg	10000	
Aroclor 1016	ND	ug/kg	5000	
Aroclor 1221	ND	ug/kg	5000	
Aroclor 1232	ND	ug/kg	5000	
Aroclor 1242	ND	ug/kg	5000	
Aroclor 1248	160000	ug/kg	50000	
Aroclor 1254	ND	ug/kg	5000	
Aroclor 1260	28000	ug/kg	12000	
Surrogate	Recovery			
Dibutyl chlorendate	ND	%	--	H

Note R : Raised reporting limit(s) due to high analyte level(s).

Note H : Surrogate not detected because of required sample dilution.

ND = Not detected  
NA = Not applicable

Reported By: Lisa Weiskopf

Approved By: Randy Hill

The cover letter is an integral part of this report.  
Rev 230787

TCL Organochlorine Pesticides/PCBs

Method 8080

Client Name: SP Environmental  
 Client ID: EB-3-4'  
 Lab ID: 055395-0006-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: 25 OCT 90  
 Received: 25 OCT 90  
 Analyzed: 27 OCT 90

Parameter	Result	Wet wt. Units	Reporting Limit
alpha-BHC	ND	ug/kg	8.0
beta-BHC	ND	ug/kg	8.0
delta-BHC	ND	ug/kg	8.0
gamma-BHC (Lindane)	ND	ug/kg	8.0
Heptachlor	ND	ug/kg	8.0
Aldrin	ND	ug/kg	8.0
Heptachlor epoxide	ND	ug/kg	8.0
Endosulfan I	ND	ug/kg	8.0
Dieldrin	ND	ug/kg	16
4,4'-DDE	ND	ug/kg	16
Endrin	ND	ug/kg	16
Endosulfan II	ND	ug/kg	16
4,4'-DDD	ND	ug/kg	16
Endosulfan sulfate	ND	ug/kg	16
4,4'-DDT	ND	ug/kg	16
Endrin ketone	ND	ug/kg	16
Methoxychlor	ND	ug/kg	80
Chlordane	ND	ug/kg	80
Toxaphene	ND	ug/kg	160
Aroclor 1016	ND	ug/kg	80
Aroclor 1221	ND	ug/kg	80
Aroclor 1232	ND	ug/kg	80
Aroclor 1242	ND	ug/kg	80
Aroclor 1248	ND	ug/kg	80
Aroclor 1254	ND	ug/kg	160
Aroclor 1260	ND	ug/kg	160
Surrogate	Recovery		
Dibutyl chlorendate	107	%	--

ND = Not detected  
 NA = Not applicable

Reported By: Lisa Weiskopf

Approved By: Randy Hill

The cover letter is an integral part of this report.  
 Rev 230787

TCL Organochlorine Pesticides/PCBs



Method 8080

Client Name: SP Environmental  
 Client ID: MW-4-4'  
 Lab ID: 055395-0007-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: 25 OCT 90

Received: 25 OCT 90  
 Analyzed: 27 OCT 90

Parameter	Result	Wet wt. Units	Reporting Limit
alpha-BHC	ND	ug/kg	8.0
beta-BHC	ND	ug/kg	8.0
delta-BHC	ND	ug/kg	8.0
gamma-BHC (Lindane)	ND	ug/kg	8.0
Heptachlor	ND	ug/kg	8.0
Aldrin	ND	ug/kg	8.0
Heptachlor epoxide	ND	ug/kg	8.0
Endosulfan I	ND	ug/kg	8.0
Dieldrin	ND	ug/kg	16
4,4'-DDE	ND	ug/kg	16
Endrin	ND	ug/kg	16
Endosulfan II	ND	ug/kg	16
4,4'-DDD	ND	ug/kg	16
Endosulfan sulfate	ND	ug/kg	16
4,4'-DDT	ND	ug/kg	16
Endrin ketone	ND	ug/kg	16
Methoxychlor	ND	ug/kg	80
Chlordane	ND	ug/kg	80
Toxaphene	ND	ug/kg	160
Aroclor 1016	ND	ug/kg	80
Aroclor 1221	ND	ug/kg	80
Aroclor 1232	ND	ug/kg	80
Aroclor 1242	ND	ug/kg	80
Aroclor 1248	ND	ug/kg	80
Aroclor 1254	ND	ug/kg	160
Aroclor 1260	ND	ug/kg	160
Surrogate	Recovery		
Dibutyl chlorendate	109	%	--

ND = Not detected  
 NA = Not applicable

Reported By: Lisa Weiskopf

Approved By: Randy Hill

The cover letter is an integral part of this report.

Rev 230787



METALS

(Soil/Solid - Total)

Client Name: SP Environmental  
 Client ID: EB-1-Surf  
 Lab ID: 055395-0001-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: See Below

Received: 25 OCT 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	ND	mg/kg	0.50	Method 6010	26 OCT 90	26 OCT 90
Chromium	27.9	mg/kg	1.0	Method 6010	26 OCT 90	26 OCT 90
Copper	40.3	mg/kg	2.0	Method 6010	26 OCT 90	26 OCT 90
Lead	250	mg/kg	5.0	Method 6010	26 OCT 90	26 OCT 90
Mercury	0.84	mg/kg	0.10	Method 7471	29 OCT 90	30 OCT 90
Nickel	18.7	mg/kg	4.0	Method 6010	26 OCT 90	26 OCT 90
Zinc	112	mg/kg	2.0	Method 6010	26 OCT 90	26 OCT 90

ND = Not detected  
 NA = Not applicable

Reported By: Evin Mckinney

Approved By: Barry Votaw

The cover letter is an integral part of this report.

Rev 230787

METALS

(Soil/Solid - Total)

Client Name: SP Environmental  
 Client ID: EB-1-4'  
 Lab ID: 055395-0002-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: See Below

Received: 25 OCT 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	ND	mg/kg	0.50	Method 6010	26 OCT 90	26 OCT 90
Chromium	26.4	mg/kg	1.0	Method 6010	26 OCT 90	26 OCT 90
Copper	14.8	mg/kg	2.0	Method 6010	26 OCT 90	26 OCT 90
Lead	28.5	mg/kg	5.0	Method 6010	26 OCT 90	26 OCT 90
Mercury	ND	mg/kg	0.10	Method 7471	29 OCT 90	30 OCT 90
Nickel	14.8	mg/kg	4.0	Method 6010	26 OCT 90	26 OCT 90
Zinc	33.9	mg/kg	2.0	Method 6010	26 OCT 90	26 OCT 90

ND = Not detected  
 NA = Not applicable

Reported By: Evin McKinney

Approved By: Barry Votaw

The cover letter is an integral part of this report.  
 Rev 230787

METALS

(Soil/Solid - Total)

Client Name: SP Environmental  
 Client ID: EB-2-Surf  
 Lab ID: 055395-0003-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: See Below

Received: 25 OCT 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	13.2	mg/kg	0.50	Method 6010	26 OCT 90	26 OCT 90
Chromium	44.4	mg/kg	1.0	Method 6010	26 OCT 90	26 OCT 90
Copper	1140	mg/kg	2.0	Method 6010	26 OCT 90	26 OCT 90
Lead	741	mg/kg	5.0	Method 6010	26 OCT 90	26 OCT 90
Mercury	0.84	mg/kg	0.10	Method 7471	29 OCT 90	30 OCT 90
Nickel	39.0	mg/kg	4.0	Method 6010	26 OCT 90	26 OCT 90
Zinc	939	mg/kg	2.0	Method 6010	26 OCT 90	26 OCT 90

ND = Not detected  
 NA = Not applicable

Reported By: Evin McKinney

Approved By: Barry Votaw

The cover letter is an integral part of this report.  
 Rev 230787

METALS

(Soil/Solid - Total)

Client Name: SP Environmental  
 Client ID: EB-2-4'  
 Lab ID: 055395-0004-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: See Below

Received: 25 OCT 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	ND	mg/kg	0.50	Method 6010	26 OCT 90	26 OCT 90
Chromium	33.5	mg/kg	1.0	Method 6010	26 OCT 90	26 OCT 90
Copper	27.5	mg/kg	2.0	Method 6010	26 OCT 90	26 OCT 90
Lead	7.6	mg/kg	5.0	Method 6010	26 OCT 90	26 OCT 90
Mercury	0.59	mg/kg	0.10	Method 7471	29 OCT 90	30 OCT 90
Nickel	23.4	mg/kg	4.0	Method 6010	26 OCT 90	26 OCT 90
Zinc	36.5	mg/kg	2.0	Method 6010	26 OCT 90	26 OCT 90

ND = Not detected  
 NA = Not applicable

Reported By: Evin Mckinney

Approved By: Barry Votaw

The cover letter is an integral part of this report.  
 Rev 230787

METALS

(Soil/Solid - Total)

Client Name: SP Environmental  
 Client ID: EB-3-Surf  
 Lab ID: 055395-0005-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: See Below

Received: 25 OCT 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	3.0	mg/kg	0.50	Method 6010	26 OCT 90	26 OCT 90
Chromium	69.9	mg/kg	1.0	Method 6010	26 OCT 90	26 OCT 90
Copper	3440	mg/kg	2.0	Method 6010	26 OCT 90	26 OCT 90
Lead	953	mg/kg	5.0	Method 6010	26 OCT 90	26 OCT 90
Mercury	0.31	mg/kg	0.10	Method 7471	29 OCT 90	30 OCT 90
Nickel	68.8	mg/kg	4.0	Method 6010	26 OCT 90	26 OCT 90
Zinc	636	mg/kg	2.0	Method 6010	26 OCT 90	26 OCT 90

ND = Not detected  
 NA = Not applicable

Reported By: Evin Mckinney

Approved By: Barry Votaw

The cover letter is an integral part of this report.  
 Rev 230787

METALS

(Soil/Solid - Total)

Client Name: SP Environmental  
 Client ID: EB-3-4'  
 Lab ID: 055395-0006-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: See Below

Received: 25 OCT 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	ND	mg/kg	0.50	Method 6010	26 OCT 90	26 OCT 90
Chromium	29.6	mg/kg	1.0	Method 6010	26 OCT 90	26 OCT 90
Copper	46.1	mg/kg	2.0	Method 6010	26 OCT 90	26 OCT 90
Lead	ND	mg/kg	5.0	Method 6010	26 OCT 90	26 OCT 90
Mercury	ND	mg/kg	0.10	Method 7471	29 OCT 90	30 OCT 90
Nickel	17.2	mg/kg	4.0	Method 6010	26 OCT 90	26 OCT 90
Zinc	22.9	mg/kg	2.0	Method 6010	26 OCT 90	26 OCT 90

ND = Not detected  
 NA = Not applicable

Reported By: Evin Mckinney

Approved By: Barry Votaw

The cover letter is an integral part of this report.  
 Rev 230787

METALS

(Soil/Solid - Total)

Client Name: SP Environmental  
 Client ID: MW-4-4'  
 Lab ID: 055395-0007-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: See Below

Received: 25 OCT 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	ND	mg/kg	0.50	Method 6010	26 OCT 90	26 OCT 90
Chromium	31.7	mg/kg	1.0	Method 6010	26 OCT 90	26 OCT 90
Copper	23.9	mg/kg	2.0	Method 6010	26 OCT 90	26 OCT 90
Lead	ND	mg/kg	5.0	Method 6010	26 OCT 90	26 OCT 90
Mercury	ND	mg/kg	0.10	Method 7471	29 OCT 90	30 OCT 90
Nickel	16.5	mg/kg	4.0	Method 6010	26 OCT 90	26 OCT 90
Zinc	23.3	mg/kg	2.0	Method 6010	26 OCT 90	26 OCT 90

ND = Not detected  
 NA = Not applicable

Reported By: Evin Mckinney

Approved By: Barry Votaw

The cover letter is an integral part of this report.  
 Rev 230787

Total Petroleum Hydrocarbons (Gasoline)

Purge and Trap Method TPH-GC/FID

Client Name: SP Environmental  
Matrix: SOIL  
Units: mg/kg

Received: 25 OCT 90  
Authorized: 25 OCT 90

Lab ID	Client ID	Result	Reporting Limit	Date Prepared	Date Analyzed
055395-0002-SA	EB-1-4'	ND	10	NA	26 OCT 90
055395-0004-SA	EB-2-4'	ND	10	NA	26 OCT 90
055395-0006-SA	EB-3-4'	ND	10	NA	26 OCT 90
055395-0007-SA	MW-4-4'	ND	10	NA	26 OCT 90
055395-0008-SA	MW-4-8'	ND	10	NA	26 OCT 90

ND = Not detected  
NA = Not applicable

Reported By: Jon Edmondson

Approved By: Kris Rogers

The cover letter is an integral part of this report.

Rev 230787



TCL Volatile Organics

8240

Client Name: SP Environmental  
Client ID: EB-1-4'  
Lab ID: 055395-0002-SA  
Matrix: SOIL  
Authorized: 25 OCT 90

Sampled: 24 OCT 90  
Prepared: NA

Received: 25 OCT 90  
Analyzed: 25 OCT 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	10
Bromomethane	ND	ug/kg	10
Vinyl chloride	ND	ug/kg	10
Chloroethane	ND	ug/kg	10
Methylene chloride	ND	ug/kg	5.0
Acetone	31	ug/kg	10
Carbon disulfide	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
1,2-Dichloroethene	ND	ug/kg	5.0
(total)	23	ug/kg	5.0
Chloroform	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
2-Butanone (MEK)	ND	ug/kg	10
1,1,1-Trichloroethane	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Vinyl acetate	ND	ug/kg	10
Bromodichloromethane	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
cis-1,3-Dichloropropene	ND	ug/kg	5.0
Trichloroethene	17	ug/kg	5.0
Dibromochloromethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Benzene	ND	ug/kg	5.0
trans-1,3-Dichloropropene	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
2-Hexanone	ND	ug/kg	10
4-Methyl-2-pentanone	ND	ug/kg	10
(MIBK)	ND	ug/kg	10
Tetrachloroethene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
Styrene	ND	ug/kg	5.0
Xylenes (total)	ND	ug/kg	5.0
Surrogate	Recovery		
1,2-Dichloroethane-d4	105	%	--
Toluene-d8	102	%	--

(continued on following page)

ND = Not detected  
NA = Not applicable

Reported By: John Gildersleeve

Approved By: Donald Taylor

The cover letter is an integral part of this report.

Rev 230787

TCL Volatile Organics (CONT.)

8240

Client Name: SP Environmental  
 Client ID: EB-1-4'  
 Lab ID: 055395-0002-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: NA

Received: 25 OCT 90  
 Analyzed: 25 OCT 90

Surrogate	Recovery	
4-Bromofluorobenzene	90	%

Note b : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected  
 NA = Not applicable

Reported By: John Gildersleeve                      Approved By: Donald Taylor

The cover letter is an integral part of this report.

Rev 230787

TCL Volatile Organics

8240

Client Name: SP Environmental  
Client ID: EB-2-4'  
Lab ID: 055395-0004-SA  
Matrix: SOIL  
Authorized: 25 OCT 90

Sampled: 24 OCT 90  
Prepared: NA

Received: 25 OCT 90  
Analyzed: 25 OCT 90

Parameter	Result	Units	Reporting Limit	
Chloromethane	ND	ug/kg	10	
Bromomethane	ND	ug/kg	10	
Vinyl chloride	ND	ug/kg	10	
Chloroethane	ND	ug/kg	10	
Methylene chloride	ND	ug/kg	5.0	
Acetone	30	ug/kg	10	b
Carbon disulfide	ND	ug/kg	5.0	
1,1-Dichloroethene	ND	ug/kg	5.0	
1,1-Dichloroethane	ND	ug/kg	5.0	
1,2-Dichloroethene (total)	ND	ug/kg	5.0	
Chloroform	ND	ug/kg	5.0	
1,2-Dichloroethane	ND	ug/kg	5.0	
2-Butanone (MEK)	ND	ug/kg	10	
1,1,1-Trichloroethane	ND	ug/kg	5.0	
Carbon tetrachloride	ND	ug/kg	5.0	
Vinyl acetate	ND	ug/kg	10	
Bromodichloromethane	ND	ug/kg	5.0	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	
1,2-Dichloropropane	ND	ug/kg	5.0	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	
Trichloroethene	ND	ug/kg	5.0	
Dibromochloromethane	ND	ug/kg	5.0	
1,1,2-Trichloroethane	ND	ug/kg	5.0	
Benzene	ND	ug/kg	5.0	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	
Bromoform	ND	ug/kg	5.0	
2-Hexanone	ND	ug/kg	10	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10	
Tetrachloroethene	ND	ug/kg	5.0	
Toluene	ND	ug/kg	5.0	
Chlorobenzene	ND	ug/kg	5.0	
Ethylbenzene	ND	ug/kg	5.0	
Styrene	ND	ug/kg	5.0	
Xylenes (total)	8.1	ug/kg	5.0	
Surrogate	Recovery			
1,2-Dichloroethane-d4	107	%	--	
Toluene-d8	105	%	--	

(continued on following page)

ND = Not detected  
NA = Not applicable

Reported By: John Gildersleeve

Approved By: Donald Taylor

The cover letter is an integral part of this report.

Rev 230787

TCL Volatile Organics (CONT.)

8240

Client Name: SP Environmental  
 Client ID: EB-2-4'  
 Lab ID: 055395-0004-SA  
 Matrix: SOIL  
 Authorized: 25 OCT 90

Sampled: 24 OCT 90  
 Prepared: NA

Received: 25 OCT 90  
 Analyzed: 25 OCT 90

Surrogate	Recovery		
4-Bromofluorobenzene	89	%	--

Note b : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected  
 NA = Not applicable

Reported By: John Gildersleeve                      Approved By: Donald Taylor

The cover letter is an integral part of this report.  
 Rev 230787

TCL Volatile Organics

8240

Client Name: SP Environmental  
Client ID: EB-3-4'  
Lab ID: 055395-0006-SA  
Matrix: SOIL  
Authorized: 25 OCT 90

Sampled: 24 OCT 90  
Prepared: NA

Received: 25 OCT 90  
Analyzed: 25 OCT 90

Parameter	Result	Units	Reporting Limit	
Chloromethane	ND	ug/kg	10	
Bromomethane	ND	ug/kg	10	
Vinyl chloride	ND	ug/kg	10	
Chloroethane	ND	ug/kg	10	
Methylene chloride	8.4	ug/kg	5.0	b
Acetone	31	ug/kg	10	b
Carbon disulfide	ND	ug/kg	5.0	
1,1-Dichloroethene	ND	ug/kg	5.0	
1,1-Dichloroethane	ND	ug/kg	5.0	
1,2-Dichloroethene (total)	ND	ug/kg	5.0	
Chloroform	ND	ug/kg	5.0	
1,2-Dichloroethane	ND	ug/kg	5.0	
2-Butanone (MEK)	ND	ug/kg	10	
1,1,1-Trichloroethane	ND	ug/kg	5.0	
Carbon tetrachloride	ND	ug/kg	5.0	
Vinyl acetate	ND	ug/kg	10	
Bromodichloromethane	ND	ug/kg	5.0	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	
1,2-Dichloropropane	ND	ug/kg	5.0	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	
Trichloroethene	ND	ug/kg	5.0	
Dibromochloromethane	ND	ug/kg	5.0	
1,1,2-Trichloroethane	ND	ug/kg	5.0	
Benzene	ND	ug/kg	5.0	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	
Bromoform	ND	ug/kg	5.0	
2-Hexanone	ND	ug/kg	10	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10	
Tetrachloroethene	ND	ug/kg	5.0	
Toluene	ND	ug/kg	5.0	
Chlorobenzene	ND	ug/kg	5.0	
Ethylbenzene	ND	ug/kg	5.0	
Styrene	ND	ug/kg	5.0	
Xylenes (total)	ND	ug/kg	5.0	
Surrogate	Recovery			
1,2-Dichloroethane-d4	105	%	--	
Toluene-d8	106	%	--	

(continued on following page)

ND = Not detected  
NA = Not applicable

Reported By: John Gildersleeve

Approved By: Donald Taylor

The cover letter is an integral part of this report.

Rev 230787

TCL Volatile Organics (CONT.)

8240

Client Name: SP Environmental  
Client ID: EB-3-4'  
Lab ID: 055395-0006-SA  
Matrix: SOIL  
Authorized: 25 OCT 90

Sampled: 24 OCT 90  
Prepared: NA

Received: 25 OCT 90  
Analyzed: 25 OCT 90

Surrogate	Recovery	
4-Bromofluorobenzene	90	% --

Note b : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected  
NA = Not applicable

Reported By: John Gildersleeve                      Approved By: Donald Taylor

The cover letter is an integral part of this report.

Rev 230787

TCL Volatile Organics

8240

Client Name: SP Environmental  
Client ID: MW-4-4'  
Lab ID: 055395-0007-SA  
Matrix: SOIL  
Authorized: 25 OCT 90

Sampled: 24 OCT 90  
Prepared: NA

Received: 25 OCT 90  
Analyzed: 25 OCT 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	10
Bromomethane	ND	ug/kg	10
Vinyl chloride	ND	ug/kg	10
Chloroethane	ND	ug/kg	10
Methylene chloride	ND	ug/kg	5.0
Acetone	22	ug/kg	10
Carbon disulfide	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
1,2-Dichloroethene	ND	ug/kg	5.0
(total)	ND	ug/kg	5.0
Chloroform	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
2-Butanone (MEK)	ND	ug/kg	10
1,1,1-Trichloroethane	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Vinyl acetate	ND	ug/kg	10
Bromodichloromethane	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
cis-1,3-Dichloropropene	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Dibromochloromethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Benzene	ND	ug/kg	5.0
trans-1,3-Dichloropropene	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
2-Hexanone	ND	ug/kg	10
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10
Tetrachloroethene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
Styrene	ND	ug/kg	5.0
Xylenes (total)	ND	ug/kg	5.0
Surrogate	Recovery		
1,2-Dichloroethane-d4	106	%	--
Toluene-d8	103	%	--

(continued on following page)

ND = Not detected  
NA = Not applicable

Reported By: John Gildersleeve      Approved By: Donald Taylor

The cover letter is an integral part of this report.  
Rev 230787

TCL Volatile Organics (CONT.)

8240

Client Name: SP Environmental  
Client ID: MW-4-4'  
Lab ID: 055395-0007-SA  
Matrix: SOIL  
Authorized: 25 OCT 90

Sampled: 24 OCT 90  
Prepared: NA

Received: 25 OCT 90  
Analyzed: 25 OCT 90

Surrogate

Recovery

4-Bromofluorobenzene

88 %

--

Note b : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected  
NA = Not applicable

Reported By: John Gildersleeve

Approved By: Donald Taylor

The cover letter is an integral part of this report.

Rev 230787







November 15, 1990  
Lab ID: 055543

Walt Floyd  
S.P. Environmental  
9719 Lincoln Village Dr.  
Suite 310  
Sacramento, CA 95827

Dear Mr. Floyd:

Enclosed is the report for the ten soil samples for your 5th & Kirkham Project, #05032, which were received at Enseco-Cal Lab on 1 November 1990.

The report consists of the following sections:

- I Sample Description
- II Analysis Request
- III Quality Control Report
- IV Analysis Results

Preliminary results for this project were transferred to you via facsimile on 9 and 12 November 1990.

If you have any questions, please feel free to call.

Sincerely,

Robert Weidenfeld  
Program Administrator

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## I Sample Description

See the attached Sample Description Information.

The samples were received under chain-of-custody.

## II Analysis Request

The following analytical tests were requested.

<u>Lab ID</u>	<u>Analysis Description</u>
055543-1 thru 10	Oil & Grease Total Petroleum Hydrocarbons (Diesel) Organochlorine Pesticides/PCBs Selected Metals
-2, 4, 6, 8, 10	Volatile Organics Total Petroleum Hydrocarbons (Gasoline)

## III Quality Control

- A. Project Specific QC. No project specific QC (i.e., spikes and/or duplicates) was requested.
- B. Method Blank Results. A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your samples.

Repetitions of method blanks (with identical QC Lot No.s) have been reported but do not indicate unique determinations.

C. Laboratory Control Samples - The LCS Program

Duplicate Control Samples. A DCS is a well-characterized matrix (blank water, sand or celite) which is spiked with certain target parameters and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The DCS results associated with your samples are on the attached Duplicate Control Sample Report.

Single Control Samples. An SCS consists of a control matrix that is spiked with surrogate compounds appropriate to the method being used. In cases where no surrogate is available, (e.g. metals or conventional analyses) a single control sample identical to the DCS serves as the control sample. An SCS is prepared for each sample lot. Accuracy is calculated identically to the DCS. The SCS results associated with your samples are on the attached Single Control Sample Report.

Accuracy is measured by Percent Recovery as in:

$$\% \text{ recovery} = \frac{(\text{measured concentration})}{(\text{actual concentration})} \times 100$$

Precision is measured using duplicate tests by Relative Percent Difference (RPD) as in:

$$\text{RPD} = \frac{(\% \text{ recovery test 1} - \% \text{ recovery test 2})}{(\% \text{ recovery test 1} + \% \text{ recovery test 2})/2} \times 100$$

Control limits for accuracy (percent recovery) are based on the average, historical percent recovery +/-3 standard deviation units. Control limits for precision (relative percent difference) range from 0 (identical duplicate DCS results) to the average, historical relative percent difference + 3 standard deviation units. In cases where there is not enough historical data, EPA limits or advisory limits are set, with the approval of the Quality Assurance department.

#### IV Analysis Results

Test methods may include minor modifications of published EPA Methods such as reporting limits or parameter lists. Reporting limits are adjusted to reflect dilution of the sample, when appropriate. Solid and waste samples are reported on an "as received" basis; i.e., no correction is made for moisture content, unless the method requires or the client requests that such correction be made.

Results are on the attached data sheets.

SAMPLE DESCRIPTION INFORMATION  
for  
SP Environmental

Lab ID	Client ID	Matrix	Sampled		Received
			Date	Time	Date
055543-0001-SA	EB4-Surf	SOIL	01 NOV 90	11:07	01 NOV 90
055543-0002-SA	EB-4-4'	SOIL	01 NOV 90	11:13	01 NOV 90
055543-0003-SA	EB-5-Surf	SOIL	01 NOV 90	11:49	01 NOV 90
055543-0004-SA	EB-5-4'	SOIL	01 NOV 90	11:57	01 NOV 90
055543-0005-SA	EB-6-Surf	SOIL	01 NOV 90	12:40	01 NOV 90
055543-0006-SA	EB-6-4'	SOIL	01 NOV 90	12:45	01 NOV 90
055543-0007-SA	EB-7-1.5'	SOIL	01 NOV 90	13:00	01 NOV 90
055543-0008-SA	EB-7-4'	SOIL	01 NOV 90	13:07	01 NOV 90
055543-0009-SA	EB-8-Surf	SOIL	01 NOV 90	13:20	01 NOV 90
055543-0010-SA	EB-8-4'	SOIL	01 NOV 90	13:30	01 NOV 90

**QC LOT ASSIGNMENT REPORT**  
GC Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
055543-0001-SA	SOIL	O&G-G-S	05 NOV 90-A	05 NOV 90-A
055543-0002-SA	SOIL	O&G-G-S	05 NOV 90-A	05 NOV 90-A
055543-0003-SA	SOIL	O&G-G-S	05 NOV 90-A	05 NOV 90-A
055543-0004-SA	SOIL	O&G-G-S	05 NOV 90-A	05 NOV 90-A
055543-0005-SA	SOIL	O&G-G-S	05 NOV 90-A	05 NOV 90-A
055543-0006-SA	SOIL	O&G-G-S	05 NOV 90-A	05 NOV 90-A
055543-0007-SA	SOIL	O&G-G-S	05 NOV 90-A	05 NOV 90-A
055543-0008-SA	SOIL	O&G-G-S	05 NOV 90-A	05 NOV 90-A
055543-0009-SA	SOIL	O&G-G-S	05 NOV 90-A	05 NOV 90-A
055543-0010-SA	SOIL	O&G-G-S	05 NOV 90-A	05 NOV 90-A

METHOD BLANK REPORT  
GC Preparation

Analyte	Result	Units	Reporting Limit
Test: O&G-G-S Matrix: SOIL QC Lot: 05 NOV 90-A    QC Run: 05 NOV 90-A			
Oil and Grease	ND	mg/kg	50
Test: O&G-G-S Matrix: SOIL QC Lot: 05 NOV 90-A    QC Run: 05 NOV 90-A			
Oil and Grease	ND	mg/kg	50

DUPLICATE CONTROL SAMPLE REPORT  
GC Preparation

Analyte	Concentration		Measured	AVG	Accuracy		Precision	
	Spiked	DCS1			DCS2	DCS	Limits	(RPD)
Category: O&G-G-S Matrix: SOIL QC Lot: 05 NOV 90-A Concentration Units: mg/kg								
Oil and Grease	1000	1040	1090	1070	107	42-115	4.9	37

Calculations are performed before rounding to avoid round-off errors in calculated results.



QC LOT ASSIGNMENT REPORT  
Semivolatile Organics by GC

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
055543-0001-SA	SOIL	TPH-D-S	02 NOV 90-B	02 NOV 90-B
055543-0001-SA	SOIL	OCP-S	02 NOV 90-A	02 NOV 90-18A
055543-0002-SA	SOIL	TPH-D-S	02 NOV 90-B	02 NOV 90-B
055543-0002-SA	SOIL	OCP-S	02 NOV 90-A	02 NOV 90-18A
055543-0003-SA	SOIL	TPH-D-S	02 NOV 90-B	02 NOV 90-B
055543-0003-SA	SOIL	OCP-S	02 NOV 90-A	02 NOV 90-18A
055543-0004-SA	SOIL	TPH-D-S	02 NOV 90-B	02 NOV 90-B
055543-0004-SA	SOIL	OCP-S	02 NOV 90-A	02 NOV 90-18A
055543-0005-SA	SOIL	TPH-D-S	02 NOV 90-B	02 NOV 90-B
055543-0005-SA	SOIL	OCP-S	02 NOV 90-A	02 NOV 90-18A
055543-0006-SA	SOIL	TPH-D-S	02 NOV 90-B	02 NOV 90-B
055543-0006-SA	SOIL	OCP-S	02 NOV 90-A	02 NOV 90-18A
055543-0007-SA	SOIL	TPH-D-S	02 NOV 90-B	02 NOV 90-B
055543-0007-SA	SOIL	OCP-S	02 NOV 90-A	02 NOV 90-18A
055543-0008-SA	SOIL	TPH-D-S	02 NOV 90-B	02 NOV 90-B
055543-0008-SA	SOIL	OCP-S	02 NOV 90-A	02 NOV 90-18A
055543-0009-SA	SOIL	TPH-D-S	02 NOV 90-B	02 NOV 90-B
055543-0009-SA	SOIL	OCP-S	02 NOV 90-A	02 NOV 90-18A
055543-0010-SA	SOIL	TPH-D-S	02 NOV 90-B	02 NOV 90-B
055543-0010-SA	SOIL	OCP-S	02 NOV 90-A	02 NOV 90-18A

**METHOD BLANK REPORT**  
 Semivolatle Organics by GC

Analyte	Result	Units	Reporting Limit
Test: TPH-GC-D-S			
Matrix: SOIL			
QC Lot: 02 NOV 90-B    QC Run: 02 NOV 90-B			
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown hydrocarbon	ND	mg/kg	10

Test: 8080-TCL-S  
 Matrix: SOIL  
 QC Lot: 02 NOV 90-A    QC Run: 02 NOV 90-18A

alpha-BHC	ND	ug/kg	8.0
beta-BHC	ND	ug/kg	8.0
delta-BHC	ND	ug/kg	8.0
gamma-BHC (Lindane)	ND	ug/kg	8.0
Heptachlor	ND	ug/kg	8.0
Aldrin	ND	ug/kg	8.0
Heptachlor epoxide	ND	ug/kg	8.0
Endosulfan I	ND	ug/kg	8.0
Dieldrin	ND	ug/kg	16
4,4'-DDE	ND	ug/kg	16
Endrin	ND	ug/kg	16
Endosulfan II	ND	ug/kg	16
4,4'-DDD	ND	ug/kg	16
Endosulfan sulfate	ND	ug/kg	16
4,4'-DDT	ND	ug/kg	16
Endrin ketone	ND	ug/kg	16
Methoxychlor	ND	ug/kg	80
Chlordane	ND	ug/kg	80
Toxaphene	ND	ug/kg	160
Aroclor 1016	ND	ug/kg	80
Aroclor 1221	ND	ug/kg	80
Aroclor 1232	ND	ug/kg	80
Aroclor 1242	ND	ug/kg	80
Aroclor 1248	ND	ug/kg	80
Aroclor 1254	ND	ug/kg	160
Aroclor 1260	ND	ug/kg	160

METHOD BLANK REPORT  
Semivolatile Organics by GC (cont.)

Analyte	Result	Units	Reporting Limit
Test: TPH-GC-D-S			
Matrix: SOIL			
QC Lot: 02 NOV 90-B    QC Run: 02 NOV 90-B			
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown hydrocarbon	ND	mg/kg	10

Test: 8080-TCL-S  
Matrix: SOIL  
QC Lot: 02 NOV 90-A    QC Run: 02 NOV 90-18A

alpha-BHC	ND	ug/kg	8.0
beta-BHC	ND	ug/kg	8.0
delta-BHC	ND	ug/kg	8.0
gamma-BHC (Lindane)	ND	ug/kg	8.0
Heptachlor	ND	ug/kg	8.0
Aldrin	ND	ug/kg	8.0
Heptachlor epoxide	ND	ug/kg	8.0
Endosulfan I	ND	ug/kg	8.0
Dieldrin	ND	ug/kg	16
4,4'-DDE	ND	ug/kg	16
Endrin	ND	ug/kg	16
Endosulfan II	ND	ug/kg	16
4,4'-DDD	ND	ug/kg	16
Endosulfan sulfate	ND	ug/kg	16
4,4'-DDT	ND	ug/kg	16
Endrin ketone	ND	ug/kg	16
Methoxychlor	ND	ug/kg	80
Chlordane	ND	ug/kg	80
Toxaphene	ND	ug/kg	160
Aroclor 1016	ND	ug/kg	80
Aroclor 1221	ND	ug/kg	80
Aroclor 1232	ND	ug/kg	80
Aroclor 1242	ND	ug/kg	80
Aroclor 1248	ND	ug/kg	80
Aroclor 1254	ND	ug/kg	160
Aroclor 1260	ND	ug/kg	160

DUPLICATE CONTROL SAMPLE REPORT  
Semivolatile Organics by GC

Analyte	Spiked	Concentration		AVG	Accuracy		Precision		
		DCS1	Measured DCS2		DCS	Average(%) Limits	(RPD) DCS Limit	DCS Limit	
Category: TPH-D-S Matrix: SOIL QC Lot: 02 NOV 90-B Concentration Units: ug/kg									
Diesel Fuel	100	96.4	101	98.7	99	52-128	4.7	35	
Category: OCP-S Matrix: SOIL QC Lot: 02 NOV 90-A Concentration Units: ug/kg									
gamma-BHC (Lindane)	27	21.1	21.0	21.0	78	40- 93	0.5	53	
Heptachlor	27	20.1	20.4	20.2	75	37- 87	1.5	68	
Aldrin	27	26.6	26.4	26.5	98	34-104	0.8	59	
Dieldrin	67	58.1	60.1	59.1	88	47-111	3.4	29	
Endrin	67	59.2	61.8	60.5	90	43-114	4.3	29	
4,4'-DDT	67	68.1	70.7	69.4	104	33-118	3.7	30	

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT  
Semivolatile Organics by GC

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits

Category: OCP-S

Matrix: SOIL

QC Lot: 02 NOV 90-A    QC Run: 02 NOV 90-18A

Concentration Units: ug/Kg

Dibutyl chlorendate	67.0	67.3	100	24-150
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Calculations are performed before rounding to avoid round-off errors in calculated results.

**QC LOT ASSIGNMENT REPORT**  
**Metals Analysis and Preparation**

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
055543-0001-SA	SOIL	ICP-S	02 NOV 90-A	02 NOV 90-A
055543-0001-SA	SOIL	HG-CVAA-S	05 NOV 90-A	05 NOV 90-A
055543-0002-SA	SOIL	ICP-S	02 NOV 90-A	02 NOV 90-A
055543-0002-SA	SOIL	HG-CVAA-S	05 NOV 90-A	05 NOV 90-A
055543-0003-SA	SOIL	ICP-S	02 NOV 90-A	02 NOV 90-A
055543-0003-SA	SOIL	HG-CVAA-S	05 NOV 90-A	05 NOV 90-A
055543-0004-SA	SOIL	ICP-S	02 NOV 90-A	02 NOV 90-A
055543-0004-SA	SOIL	HG-CVAA-S	05 NOV 90-A	05 NOV 90-A
055543-0005-SA	SOIL	ICP-S	02 NOV 90-A	02 NOV 90-A
055543-0005-SA	SOIL	HG-CVAA-S	06 NOV 90-A	06 NOV 90-A
055543-0006-SA	SOIL	ICP-S	02 NOV 90-A	02 NOV 90-A
055543-0006-SA	SOIL	HG-CVAA-S	05 NOV 90-A	05 NOV 90-A
055543-0007-SA	SOIL	ICP-S	02 NOV 90-A	02 NOV 90-A
055543-0007-SA	SOIL	HG-CVAA-S	05 NOV 90-A	05 NOV 90-A
055543-0008-SA	SOIL	ICP-S	02 NOV 90-A	02 NOV 90-A
055543-0008-SA	SOIL	HG-CVAA-S	05 NOV 90-A	05 NOV 90-A
055543-0009-SA	SOIL	ICP-S	02 NOV 90-A	02 NOV 90-A
055543-0009-SA	SOIL	HG-CVAA-S	05 NOV 90-A	05 NOV 90-A
055543-0010-SA	SOIL	ICP-S	02 NOV 90-A	02 NOV 90-A
055543-0010-SA	SOIL	HG-CVAA-S	05 NOV 90-A	05 NOV 90-A

**METHOD BLANK REPORT**  
**Metals Analysis and Preparation**

Analyte	Result	Units	Reporting Limit
Test: ICP-SCAN-S Matrix: SOIL QC Lot: 02 NOV 90-A    QC Run: 02 NOV 90-A			
Cadmium	ND	mg/kg	0.50
Chromium	ND	mg/kg	1.0
Copper	ND	mg/kg	2.0
Lead	ND	mg/kg	5.0
Nickel	ND	mg/kg	4.0
Zinc	ND	mg/kg	2.0

Test: HG-CVAA-S Matrix: SOIL QC Lot: 05 NOV 90-A    QC Run: 05 NOV 90-A			
Mercury	ND	mg/kg	0.10

Test: ICP-SCAN-S Matrix: SOIL QC Lot: 02 NOV 90-A    QC Run: 02 NOV 90-A			
Cadmium	ND	mg/kg	0.50
Chromium	ND	mg/kg	1.0
Copper	ND	mg/kg	2.0
Lead	ND	mg/kg	5.0
Nickel	ND	mg/kg	4.0
Zinc	ND	mg/kg	2.0

Test: HG-CVAA-S Matrix: SOIL QC Lot: 05 NOV 90-A    QC Run: 05 NOV 90-A			
Mercury	ND	mg/kg	0.10

Test: HG-CVAA-S Matrix: SOIL QC Lot: 06 NOV 90-A    QC Run: 06 NOV 90-A			
Mercury	ND	mg/kg	0.10

DUPLICATE CONTROL SAMPLE REPORT  
Metals Analysis and Preparation

Analyte	Concentration			AVG	Accuracy Average(%)		Precision (RPD)	
	Spiked	DCS1	Measured DCS2		DCS	Limits	DCS	Limit
Category: ICP-S								
Matrix: SOIL								
QC Lot: 02 NOV 90-A								
Concentration Units: mg/kg								
Aluminum	200	180	175	178	89	84-115	2.9	11
Antimony	50	45.3	43.6	44.4	89	81-115	4.0	10
Arsenic	200	182	177	180	90	82-115	2.7	10
Barium	200	192	186	189	94	85-115	3.2	10
Beryllium	5.0	4.77	4.66	4.72	94	70-110	2.2	10
Boron	100	92.1	86.5	89.3	89	85-115	6.3	10
Cadmium	5.0	4.50	4.56	4.53	91	72-110	1.2	15
Calcium	10000	9780	9480	9630	96	85-115	3.1	10
Chromium	20	19.6	19.0	19.3	96	84-115	3.1	17
Cobalt	50	44.5	43.8	44.1	88	80-115	1.8	10
Copper	25	24.5	23.9	24.2	97	81-115	2.4	10
Iron	100	97.1	92.8	94.9	95	85-115	4.5	14
Lead	50	44.3	43.4	43.9	88	80-115	2.1	11
Lithium	20.0	19.6	18.8	19.2	96	85-115	4.2	10
Magnesium	5000	4720	4610	4660	93	85-115	2.4	10
Manganese	50.0	44.2	43.1	43.6	87	80-115	2.6	10
Molybdenum	20.0	18.4	17.8	18.1	90	85-115	3.3	10
Nickel	50.0	45.8	44.2	45.0	90	80-115	3.6	10
Potassium	5000	4770	4660	4710	94	82-115	2.4	10
Selenium	200.0	190	182	186	93	84-115	4.5	10
Silver	5.0	3.95	3.91	3.93	79	62-115	1.1	10
Sodium	10000	9820	9620	9720	97	85-115	2.1	10
Thallium	200	189	184	187	93	68-110	2.7	10
Tin	40.0	34.9	34.8	34.9	87	80-122	0.3	10
Titanium	20.0	19.4	19.1	19.2	96	85-115	1.8	10
Vanadium	50.0	44.9	43.7	44.3	89	85-115	2.8	10
Zinc	50	42.8	42.2	42.5	85	82-115	1.2	10

Category: HG-CVAA-S  
Matrix: SOIL  
QC Lot: 05 NOV 90-A  
Concentration Units: mg/kg

Mercury	0.50	0.491	0.525	0.508	102	84-126	6.7	30
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Calculations are performed before rounding to avoid round-off errors in calculated results.



DUPLICATE CONTROL SAMPLE REPORT  
 Metals Analysis and Preparation (cont.)

Analyte	Spiked	Concentration		AVG	Accuracy		Precision		
		DCS1	Measured DCS2		DCS	Average(%) Limits	(RPD) DCS Limit	DCS Limit	
Category: HG-CVAA-S Matrix: SOIL QC Lot: 06 NOV 90-A Concentration Units: mg/kg									
Mercury	0.50	0.519	0.532	0.526	105	84-126	2.5	30	

Calculations are performed before rounding to avoid round-off errors in calculated results.

QC LOT ASSIGNMENT REPORT  
Volatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
055543-0002-SA	SOIL	8240-SL	11 OCT 90-02A	06 NOV 90-02C
055543-0004-SA	SOIL	8240-SL	06 NOV 90-20Z	06 NOV 90-20A
055543-0006-SA	SOIL	8240-SL	06 NOV 90-20Z	06 NOV 90-20A
055543-0008-SA	SOIL	8240-SL	06 NOV 90-20Z	06 NOV 90-20A
055543-0010-SA	SOIL	8240-SL	06 NOV 90-20Z	06 NOV 90-20A

METHOD BLANK REPORT  
Volatile Organics by GC/MS

Analyte	Result	Units	Reporting Limit
Test: 8240-DPURGE-S			
Matrix: SOIL			
QC Lot: 11 OCT 90-02A QC Run: 06 NOV 90-02C			
Chloromethane	ND	ug/kg	10
Bromomethane	ND	ug/kg	10
Vinyl chloride	ND	ug/kg	10
Chloroethane	ND	ug/kg	10
Methylene chloride	ND	ug/kg	5.0
Acetone	16	ug/kg	10
Carbon disulfide	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
1,2-Dichloroethene			
(total)	ND	ug/kg	5.0
Chloroform	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
2-Butanone (MEK)	ND	ug/kg	10
1,1,1-Trichloroethane	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Vinyl acetate	ND	ug/kg	10
Bromodichloromethane	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
cis-1,3-Dichloropropene	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Dibromochloromethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Benzene	ND	ug/kg	5.0
trans-1,3-Dichloropropene	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
2-Hexanone	ND	ug/kg	10
4-Methyl-2-pentanone			
(MIBK)	ND	ug/kg	10
Tetrachloroethene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
Styrene	ND	ug/kg	5.0
Xylenes (total)	ND	ug/kg	5.0

METHOD BLANK REPORT  
 Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8240-DPURGE-S			
Matrix: SOIL			
QC Lot: 06 NOV 90-20Z QC Run: 06 NOV 90-20A			
Chloromethane	ND	ug/kg	10
Bromomethane	ND	ug/kg	10
Vinyl chloride	ND	ug/kg	10
Chloroethane	ND	ug/kg	10
Methylene chloride	ND	ug/kg	5.0
Acetone	ND	ug/kg	10
Carbon disulfide	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
1,2-Dichloroethene			
(total)	ND	ug/kg	5.0
Chloroform	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
2-Butanone (MEK)	ND	ug/kg	10
1,1,1-Trichloroethane	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Vinyl acetate	ND	ug/kg	10
Bromodichloromethane	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
cis-1,3-Dichloropropene	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Dibromochloromethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Benzene	ND	ug/kg	5.0
trans-1,3-Dichloropropene	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
2-Hexanone	ND	ug/kg	10
4-Methyl-2-pentanone			
(MIBK)	ND	ug/kg	10
Tetrachloroethene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
Styrene	ND	ug/kg	5.0
Xylenes (total)	ND	ug/kg	5.0

DUPLICATE CONTROL SAMPLE REPORT  
Volatile Organics by GC/MS

Analyte	Concentration		AVG	Accuracy Average(%)		Precision (RPD)		
	Spiked	DCS1		Measured DCS2	DCS	Limits	DCS	Limit
Category: 8240-SL								
Matrix: SOIL								
QC Lot: 11 OCT 90-02A								
Concentration Units: ug/kg								
1,1-Dichloroethene	50	48.5	52.0	50.2	101	54-144	7.0	18
Trichloroethene	50	51.0	53.7	52.4	105	64-128	5.2	17
Toluene	50	44.3	46.8	45.6	91	73-126	5.5	17
Benzene	50	51.7	55.0	53.4	107	69-132	6.2	21
Chlorobenzene	50	48.9	50.7	49.8	100	79-127	3.6	12

Category: 8240-SL  
Matrix: SOIL  
QC Lot: 06 NOV 90-20Z  
Concentration Units: ug/kg

1,1-Dichloroethene	50	46.0	46.1	46.0	92	54-144	0.2	18
Trichloroethene	50	41.4	39.9	40.6	81	64-128	3.7	17
Toluene	50	40.0	40.2	40.1	80	73-126	0.5	17
Benzene	50	38.1	37.9	38.0	76	69-132	0.5	21
Chlorobenzene	50	40.7	40.4	40.6	81	79-127	0.7	12

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT  
Volatile Organics by GC/MS

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits

Category: 8240-SL  
Matrix: SOIL  
QC Lot: 11 OCT 90-02A QC Run: 06 NOV 90-02C  
Concentration Units: ug/kg

1,2-Dichloroethane-d4	50.0	43.2	86	70-121
Toluene-d8	50.0	53.3	107	81-117
4-Bromofluorobenzene	50.0	59.7	119	74-121

Category: 8240-SL  
Matrix: SOIL  
QC Lot: 06 NOV 90-20Z QC Run: 06 NOV 90-20A  
Concentration Units: ug/kg

1,2-Dichloroethane-d4	50.0	54.5	109	70-121
Toluene-d8	50.0	46.5	93	81-117
4-Bromofluorobenzene	50.0	49.4	99	74-121

Calculations are performed before rounding to avoid round-off errors in calculated results.

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**QC LOT ASSIGNMENT REPORT**  
**Volatile Organics by GC**

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
055543-0002-SA	SOIL	TPH-GAS-S	01 NOV 90-B	02 NOV 90-19A
055543-0004-SA	SOIL	TPH-GAS-S	01 NOV 90-B	02 NOV 90-19A
055543-0006-SA	SOIL	TPH-GAS-S	01 NOV 90-B	02 NOV 90-19A
055543-0008-SA	SOIL	TPH-GAS-S	01 NOV 90-B	02 NOV 90-19A
055543-0010-SA	SOIL	TPH-GAS-S	01 NOV 90-B	02 NOV 90-19A

METHOD BLANK REPORT  
Volatile Organics by GC

Analyte	Result	Units	Reporting Limit
Test: TPH-GC-GAS-S			
Matrix: SOIL			
QC Lot: 01 NOV 90-B    QC Run: 02 NOV 90-19A			
Gasoline	ND	mg/kg	10



DUPLICATE CONTROL SAMPLE REPORT  
 Volatile Organics by GC

Analyte	Concentration			AVG	Accuracy		Precision		
	Spiked	DCS1	Measured DCS2		Average (%) DCS	Limits	(RPD) DCS	Limit	
Category: TPH-GAS-S Matrix: SOIL QC Lot: 01 NOV 90-B Concentration Units: ug/kg									
Gasoline	2500	2510	2590	2550	102	75-123	3.1	13	

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Oil &amp; Grease, Gravimetric

## Method 413.1 Modified for Soil

 Client Name: SP Environmental  
 Matrix: SOIL  
 Units: mg/kg

 Received: 01 NOV 90  
 Authorized: 01 NOV 90

Lab ID	Client ID	Result	Reporting Limit	Date Prepared	Date Analyzed
055543-0001-SA	EB4-Surf	1300	50	05 NOV 90	07 NOV 90
055543-0002-SA	EB-4-4'	64	50	05 NOV 90	07 NOV 90
055543-0003-SA	EB-5-Surf	7200	50	05 NOV 90	07 NOV 90
055543-0004-SA	EB-5-4'	ND	50	05 NOV 90	07 NOV 90
055543-0005-SA	EB-6-Surf	1000	50	05 NOV 90	07 NOV 90
055543-0006-SA	EB-6-4'	ND	50	05 NOV 90	07 NOV 90
055543-0007-SA	EB-7-1.5'	170	50	05 NOV 90	07 NOV 90
055543-0008-SA	EB-7-4'	96	50	05 NOV 90	07 NOV 90
055543-0009-SA	EB-8-Surf	ND	50	05 NOV 90	07 NOV 90
055543-0010-SA	EB-8-4'	4000	50	05 NOV 90	07 NOV 90

 ND = Not detected  
 NA = Not applicable

Reported By: Dan Orovich

Approved By: Linda Ellithorpe

The cover letter is an integral part of this report.

Rev 230787

**Total Petroleum Hydrocarbons**

Method GC/FID

Client Name: SP Environmental

Client ID: EB4-Surf

Lab ID: 055543-0001-SA

Matrix: SOIL

Authorized: 01 NOV 90

Sampled: 01 NOV 90

Prepared: 02 NOV 90

Received: 01 NOV 90

Analyzed: 06 NOV 90

Parameter	Result	Units	Reporting Limit
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	15	mg/kg	10
Unknown hydrocarbon	ND	mg/kg	10

ND = Not detected  
NA = Not applicable

Reported By: Kris Rogers

Approved By: Marcia Reed

The cover letter is an integral part of this report.

Rev 230787

**Total Petroleum Hydrocarbons**

Method GC/FID

Client Name: SP Environmental

Client ID: EB-4-4'

Lab ID: 055543-0002-SA

Matrix: SOIL

Authorized: 01 NOV 90

Sampled: 01 NOV 90

Prepared: 02 NOV 90

Received: 01 NOV 90

Analyzed: 06 NOV 90

Parameter	Result	Units	Reporting Limit
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown hydrocarbon	ND	mg/kg	10

ND = Not detected  
NA = Not applicable

Reported By: Kris Rogers

Approved By: Marcia Reed

The cover letter is an integral part of this report.

Rev 230787

Total Petroleum Hydrocarbons

Method GC/FID

Client Name: SP Environmental  
 Client ID: EB-5-Surf  
 Lab ID: 055543-0003-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Units	Reporting Limit	
Kerosene	ND	mg/kg	20	R
Stoddard Solvent	ND	mg/kg	20	
Aviation Fuel (JP4)	ND	mg/kg	20	
Diesel Fuel	ND	mg/kg	20	
Unknown hydrocarbon	270	mg/kg	20	1

Note R : Raised reporting limit(s) due to high analyte level(s).

Note 1 : This sample contains an unknown hydrocarbon pattern in the approximate range of C-7 to greater than C-26. Approximately C-7 to C-13 was quantitated based on an Unleaded Gasoline reference to yield 52ppm. Approximately C-13 to C-26 was quantitated based on a Diesel reference to yield 220ppm. The total unknown was reported.

ND = Not detected  
 NA = Not applicable

Reported By: Kris Rogers

Approved By: Marcia Reed

The cover letter is an integral part of this report.

Rev 230787

## Total Petroleum Hydrocarbons

Method GC/FID

Client Name: SP Environmental  
 Client ID: EB-5-4'  
 Lab ID: 055543-0004-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Units	Reporting Limit	
Kerosene	ND	mg/kg	25	R
Stoddard Solvent	ND	mg/kg	25	
Aviation Fuel (JP4)	ND	mg/kg	50	
Diesel Fuel	ND	mg/kg	25	
Unknown hydrocarbon	56	mg/kg	10	1

Note R : Raised reporting limit(s) due to high analyte level(s).

Note 1 : This sample contains an unknown hydrocarbon pattern in the approximate range of C-7 to C-19. Quantitation was based on a JP4 reference standard.

ND = Not detected  
 NA = Not applicable

Reported By: Kris Rogers

Approved By: Marcia Reed

The cover letter is an integral part of this report.

Rev 230787

Total Petroleum Hydrocarbons

Method GC/FID

Client Name: SP Environmental  
 Client ID: EB-6-Surf  
 Lab ID: 055543-0005-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Units	Reporting Limit	
Kerosene	ND	mg/kg	10	
Stoddard Solvent	ND	mg/kg	10	
Aviation Fuel (JP4)	ND	mg/kg	10	
Diesel Fuel	220	mg/kg	10	1
Unknown hydrocarbon	ND	mg/kg	10	

Note 1 : This sample contains a weathered diesel pattern.

ND = Not detected  
 NA = Not applicable

Reported By: Kris Rogers

Approved By: Marcia Reed

The cover letter is an integral part of this report.

Rev 230787

Total Petroleum Hydrocarbons

Method GC/FID

Client Name: SP Environmental  
Client ID: EB-6-4'  
Lab ID: 055543-0006-SA  
Matrix: SOIL  
Authorized: 01 NOV 90

Sampled: 01 NOV 90  
Prepared: 02 NOV 90

Received: 01 NOV 90  
Analyzed: 06 NOV 90

Parameter	Result	Units	Reporting Limit
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown hydrocarbon	ND	mg/kg	10

ND = Not detected  
NA = Not applicable

Reported By: Kris Rogers

Approved By: Marcia Reed

The cover letter is an integral part of this report.

Rev 230787



**Total Petroleum Hydrocarbons**

Method GC/FID

Client Name: SP Environmental

Client ID: EB-7-1.5'

Lab ID: 055543-0007-SA

Matrix: SOIL

Authorized: 01 NOV 90

Sampled: 01 NOV 90

Prepared: 02 NOV 90

Received: 01 NOV 90

Analyzed: 08 NOV 90

Parameter	Result	Units	Reporting Limit
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown hydrocarbon	ND	mg/kg	10

 ND = Not detected  
 NA = Not applicable

Reported By: Kris Rogers

Approved By: Marcia Reed

The cover letter is an integral part of this report.

Rev 230787

**Total Petroleum Hydrocarbons****Method GC/FID**

Client Name: SP Environmental  
Client ID: EB-7-4'  
Lab ID: 055543-0008-SA  
Matrix: SOIL  
Authorized: 01 NOV 90

Sampled: 01 NOV 90  
Prepared: 02 NOV 90

Received: 01 NOV 90  
Analyzed: 06 NOV 90

Parameter	Result	Units	Reporting Limit
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown hydrocarbon	ND	mg/kg	10

ND = Not detected  
NA = Not applicable

Reported By: Kris Rogers

Approved By: Marcia Reed

The cover letter is an integral part of this report.

Rev 230787

## Total Petroleum Hydrocarbons

Method GC/FID

Client Name: SP Environmental  
 Client ID: EB-8-Surf  
 Lab ID: 055543-0009-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Units	Reporting Limit
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown hydrocarbon	ND	mg/kg	10

ND = Not detected  
 NA = Not applicable

Reported By: Kris Rogers

Approved By: Marcia Reed

The cover letter is an integral part of this report.  
 Rev 230787

## Total Petroleum Hydrocarbons

### Method GC/FID

Client Name: SP Environmental  
 Client ID: EB-8-4'  
 Lab ID: 055543-0010-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Units	Reporting Limit
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown hydrocarbon	ND	mg/kg	10

ND = Not detected  
 NA = Not applicable

Reported By: Kris Rogers

Approved By: Marcia Reed

The cover letter is an integral part of this report.

Rev 230787

TCL Organochlorine Pesticides/PCBs

Method 8080

Client Name: SP Environmental  
 Client ID: EB4-Surf  
 Lab ID: 055543-0001-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Wet wt. Units	Reporting Limit	
alpha-BHC	ND	ug/kg	8.0	
beta-BHC	ND	ug/kg	12	G
delta-BHC	ND	ug/kg	12	G
gamma-BHC (Lindane)	ND	ug/kg	8.0	
Heptachlor	ND	ug/kg	62	G
Aldrin	ND	ug/kg	62	G
Heptachlor epoxide	ND	ug/kg	62	G
Endosulfan I	ND	ug/kg	62	G
Dieldrin	ND	ug/kg	62	G
4,4'-DDE	ND	ug/kg	62	G
Endrin	ND	ug/kg	62	G
Endosulfan II	ND	ug/kg	25	G
4,4'-DDD	ND	ug/kg	120	G
Endosulfan sulfate	ND	ug/kg	25	G
4,4'-DDT	ND	ug/kg	120	G
Endrin ketone	ND	ug/kg	25	G
Methoxychlor	ND	ug/kg	120	G
Chlordane	ND	ug/kg	120	G
Toxaphene	ND	ug/kg	500	G
Aroclor 1016	ND	ug/kg	250	G
Aroclor 1221	ND	ug/kg	250	G
Aroclor 1232	ND	ug/kg	250	G
Aroclor 1242	ND	ug/kg	250	G
Aroclor 1248	ND	ug/kg	250	G
Aroclor 1254	ND	ug/kg	1200	G
Aroclor 1260	ND	ug/kg	1200	G
Surrogate	Recovery			
Dibutyl chlorendate	ND	%	--	H

Note G : Reporting Limit raised due to matrix interference.

Note H : Surrogate not detected because of required sample dilution.

ND = Not detected  
 NA = Not applicable

Reported By: Mike Harrison

Approved By: Randy Hill

The cover letter is an integral part of this report.  
 Rev 230787

TCL Organochlorine Pesticides/PCBs

Method 8080

Client Name: SP Environmental  
 Client ID: EB-4-4'  
 Lab ID: 055543-0002-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Wet wt. Units	Reporting Limit	
alpha-BHC	ND	ug/kg	8.0	
beta-BHC	ND	ug/kg	12	G
delta-BHC	ND	ug/kg	12	G
gamma-BHC (Lindane)	ND	ug/kg	8.0	
Heptachlor	ND	ug/kg	12	G
Aldrin	ND	ug/kg	12	G
Heptachlor epoxide	ND	ug/kg	12	G
Endosulfan I	ND	ug/kg	12	G
Dieldrin	ND	ug/kg	16	
4,4'-DDE	ND	ug/kg	16	
Endrin	ND	ug/kg	16	
Endosulfan II	ND	ug/kg	25	G
4,4'-DDD	ND	ug/kg	25	G
Endosulfan sulfate	ND	ug/kg	16	
4,4'-DDT	ND	ug/kg	16	
Endrin ketone	ND	ug/kg	16	
Methoxychlor	ND	ug/kg	80	
Chlordane	ND	ug/kg	120	G
Toxaphene	ND	ug/kg	160	
Aroclor 1016	ND	ug/kg	250	G
Aroclor 1221	ND	ug/kg	250	G
Aroclor 1232	ND	ug/kg	250	G
Aroclor 1242	ND	ug/kg	250	G
Aroclor 1248	ND	ug/kg	250	G
Aroclor 1254	ND	ug/kg	160	
Aroclor 1260	ND	ug/kg	160	
Surrogate	Recovery			
Dibutyl chlorendate	127	%	--	

Note G : Reporting Limit raised due to matrix interference.

ND = Not detected  
 NA = Not applicable

Reported By: Mike Harrison

Approved By: Randy Hill

The cover letter is an integral part of this report.  
 Rev 230787

**TCL Organochlorine Pesticides/PCBs**
**Method 8080**

Client Name: SP Environmental  
 Client ID: EB-5-Surf  
 Lab ID: 055543-0003-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Wet wt. Units	Reporting Limit	
alpha-BHC	ND	ug/kg	12	j
beta-BHC	ND	ug/kg	25	
delta-BHC	ND	ug/kg	25	
gamma-BHC (Lindane)	ND	ug/kg	12	
Heptachlor	ND	ug/kg	25	
Aldrin	ND	ug/kg	25	
Heptachlor epoxide	ND	ug/kg	25	
Endosulfan I	ND	ug/kg	25	
Dieldrin	1500	ug/kg	25	
4,4'-DDE	260	ug/kg	25	
Endrin	46	ug/kg	25	
Endosulfan II	ND	ug/kg	50	
4,4'-DDD	1700	ug/kg	50	
Endosulfan sulfate	ND	ug/kg	50	
4,4'-DDT	98	ug/kg	50	
Endrin ketone	ND	ug/kg	50	
Methoxychlor	ND	ug/kg	250	
Chlordane	ND	ug/kg	250	
Toxaphene	ND	ug/kg	1000	
Aroclor 1016	ND	ug/kg	500	
Aroclor 1221	ND	ug/kg	500	
Aroclor 1232	ND	ug/kg	500	
Aroclor 1242	ND	ug/kg	500	
Aroclor 1248	ND	ug/kg	500	
Aroclor 1254	ND	ug/kg	500	
Aroclor 1260	ND	ug/kg	500	
Surrogate	Recovery			
Dibutyl chlorendate	101	%	--	

Note j : All Reporting Limits for this sample raised due to matrix interferences.

ND = Not detected  
 NA = Not applicable

Reported By: Mike Harrison

Approved By: Randy Hill

The cover letter is an integral part of this report.

Rev 230787

TCL Organochlorine Pesticides/PCBs



Method 8080

Client Name: SP Environmental  
 Client ID: EB-5-4'  
 Lab ID: 055543-0004-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Wet wt. Units	Reporting Limit	
alpha-BHC	ND	ug/kg	12	j
beta-BHC	ND	ug/kg	25	
delta-BHC	ND	ug/kg	25	
gamma-BHC (Lindane)	ND	ug/kg	12	
Heptachlor	ND	ug/kg	25	
Aldrin	ND	ug/kg	25	
Heptachlor epoxide	ND	ug/kg	25	
Endosulfan I	ND	ug/kg	25	
Dieldrin	ND	ug/kg	25	
4,4'-DDE	ND	ug/kg	25	
Endrin	ND	ug/kg	25	
Endosulfan II	ND	ug/kg	50	
4,4'-DDD	ND	ug/kg	50	
Endosulfan sulfate	ND	ug/kg	50	
4,4'-DDT	ND	ug/kg	50	
Endrin ketone	ND	ug/kg	50	
Methoxychlor	ND	ug/kg	250	
Chlordane	ND	ug/kg	250	
Toxaphene	ND	ug/kg	1000	
Aroclor 1016	ND	ug/kg	500	
Aroclor 1221	ND	ug/kg	500	
Aroclor 1232	ND	ug/kg	500	
Aroclor 1242	ND	ug/kg	500	
Aroclor 1248	ND	ug/kg	500	
Aroclor 1254	ND	ug/kg	500	
Aroclor 1260	ND	ug/kg	500	
Surrogate	Recovery			
Dibutyl chlorendate	105	%	--	

Note j : All Reporting Limits for this sample raised due to matrix interferences.

ND = Not detected  
 NA = Not applicable

Reported By: Mike Harrison

Approved By: Randy Hill

The cover letter is an integral part of this report.  
 Rev 230787



TCL Organochlorine Pesticides/PCBs

Method 8080

Client Name: SP Environmental  
 Client ID: EB-6-Surf  
 Lab ID: 055543-0005-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Wet wt. Units	Reporting Limit	
alpha-BHC	ND	ug/kg	8.0	
beta-BHC	ND	ug/kg	62	G
delta-BHC	ND	ug/kg	12	G
gamma-BHC (Lindane)	ND	ug/kg	8.0	
Heptachlor	ND	ug/kg	12	G
Aldrin	ND	ug/kg	62	G
Heptachlor epoxide	ND	ug/kg	62	G
Endosulfan I	ND	ug/kg	62	G
Dieldrin	ND	ug/kg	62	G
4,4'-DDE	ND	ug/kg	62	G
Endrin	ND	ug/kg	62	G
Endosulfan II	ND	ug/kg	25	G
4,4'-DDD	ND	ug/kg	120	G
Endosulfan sulfate	ND	ug/kg	25	G
4,4'-DDT	100	ug/kg	25	G
Endrin ketone	ND	ug/kg	25	G
Methoxychlor	ND	ug/kg	120	G
Chlordane	ND	ug/kg	620	G
Toxaphene	ND	ug/kg	500	G
Aroclor 1016	ND	ug/kg	1200	G
Aroclor 1221	ND	ug/kg	250	G
Aroclor 1232	ND	ug/kg	250	G
Aroclor 1242	ND	ug/kg	250	G
Aroclor 1248	ND	ug/kg	1200	G
Aroclor 1254	ND	ug/kg	1200	G
Aroclor 1260	ND	ug/kg	250	G
Surrogate	Recovery			
Dibutyl chlorendate	147	%	--	

Note G : Reporting Limit raised due to matrix interference.

ND = Not detected  
 NA = Not applicable

Reported By: Mike Harrison

Approved By: Randy Hill

The cover letter is an integral part of this report.

Rev 230787

TCL Organochlorine Pesticides/PCBs



Method 8080

Client Name: SP Environmental  
 Client ID: EB-6-4'  
 Lab ID: 055543-0006-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Wet wt. Units	Reporting Limit
alpha-BHC	ND	ug/kg	8.0
beta-BHC	ND	ug/kg	8.0
delta-BHC	ND	ug/kg	8.0
gamma-BHC (Lindane)	ND	ug/kg	8.0
Heptachlor	ND	ug/kg	8.0
Aldrin	ND	ug/kg	8.0
Heptachlor epoxide	ND	ug/kg	8.0
Endosulfan I	ND	ug/kg	8.0
Dieldrin	ND	ug/kg	16
4,4'-DDE	ND	ug/kg	16
Endrin	ND	ug/kg	16
Endosulfan II	ND	ug/kg	16
4,4'-DDD	ND	ug/kg	16
Endosulfan sulfate	ND	ug/kg	16
4,4'-DDT	ND	ug/kg	16
Endrin ketone	ND	ug/kg	16
Methoxychlor	ND	ug/kg	80
Chlordane	ND	ug/kg	80
Toxaphene	ND	ug/kg	160
Aroclor 1016	ND	ug/kg	80
Aroclor 1221	ND	ug/kg	80
Aroclor 1232	ND	ug/kg	80
Aroclor 1242	ND	ug/kg	80
Aroclor 1248	ND	ug/kg	80
Aroclor 1254	ND	ug/kg	160
Aroclor 1260	ND	ug/kg	160
Surrogate	Recovery		
Dibutyl chlorendate	95	%	--

ND = Not detected  
 NA = Not applicable

Reported By: Mike Harrison

Approved By: Randy Hill

The cover letter is an integral part of this report.

Rev 230787

**TCL Organochlorine Pesticides/PCBs**
**Method 8080**

 Client Name: SP Environmental  
 Client ID: EB-7-1.5'  
 Lab ID: 055543-0007-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

 Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

 Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Wet wt. Units	Reporting Limit
alpha-BHC	ND	ug/kg	8.0
beta-BHC	ND	ug/kg	8.0
delta-BHC	ND	ug/kg	8.0
gamma-BHC (Lindane)	ND	ug/kg	8.0
Heptachlor	ND	ug/kg	12
Aldrin	ND	ug/kg	8.0
Heptachlor epoxide	ND	ug/kg	8.0
Endosulfan I	ND	ug/kg	8.0
Dieldrin	ND	ug/kg	16
4,4'-DDE	ND	ug/kg	16
Endrin	ND	ug/kg	16
Endosulfan II	ND	ug/kg	16
4,4'-DDD	ND	ug/kg	16
Endosulfan sulfate	ND	ug/kg	16
4,4'-DDT	ND	ug/kg	16
Endrin ketone	ND	ug/kg	16
Methoxychlor	ND	ug/kg	80
Chlordane	ND	ug/kg	80
Toxaphene	ND	ug/kg	160
Aroclor 1016	ND	ug/kg	80
Aroclor 1221	ND	ug/kg	80
Aroclor 1232	ND	ug/kg	80
Aroclor 1242	ND	ug/kg	80
Aroclor 1248	ND	ug/kg	80
Aroclor 1254	ND	ug/kg	160
Aroclor 1260	ND	ug/kg	160
Surrogate	Recovery		
Dibutyl chlorendate	50	%	--

G

Note G : Reporting Limit raised due to matrix interference.

 ND = Not detected  
 NA = Not applicable

Reported By: Mike Harrison

Approved By: Randy Hill

The cover letter is an integral part of this report.

Rev 230787

TCL Organochlorine Pesticides/PCBs



Method 8080

Client Name: SP Environmental  
 Client ID: EB-7-4'  
 Lab ID: 055543-0008-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Wet wt. Units	Reporting Limit
alpha-BHC	ND	ug/kg	8.0
beta-BHC	ND	ug/kg	8.0
delta-BHC	ND	ug/kg	8.0
gamma-BHC (Lindane)	ND	ug/kg	8.0
Heptachlor	ND	ug/kg	8.0
Aldrin	ND	ug/kg	8.0
Heptachlor epoxide	ND	ug/kg	8.0
Endosulfan I	ND	ug/kg	8.0
Dieldrin	ND	ug/kg	16
4,4'-DDE	ND	ug/kg	16
Endrin	ND	ug/kg	16
Endosulfan II	ND	ug/kg	16
4,4'-DDD	ND	ug/kg	16
Endosulfan sulfate	ND	ug/kg	16
4,4'-DDT	ND	ug/kg	16
Endrin ketone	ND	ug/kg	16
Methoxychlor	ND	ug/kg	80
Chlordane	ND	ug/kg	80
Toxaphene	ND	ug/kg	160
Aroclor 1016	ND	ug/kg	80
Aroclor 1221	ND	ug/kg	80
Aroclor 1232	ND	ug/kg	80
Aroclor 1242	ND	ug/kg	80
Aroclor 1248	ND	ug/kg	80
Aroclor 1254	ND	ug/kg	160
Aroclor 1260	ND	ug/kg	160
Surrogate	Recovery		
Dibutyl chlorendate	134	%	--

ND = Not detected  
 NA = Not applicable

Reported By: Mike Harrison

Approved By: Randy Hill

The cover letter is an integral part of this report.  
 Rev 230787

TCL Organochlorine Pesticides/PCBs

Method 8080

Client Name: SP Environmental  
 Client ID: EB-8-Surf  
 Lab ID: 055543-0009-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Wet wt. Units	Reporting Limit	
alpha-BHC	ND	ug/kg	8.0	
beta-BHC	ND	ug/kg	12	G
delta-BHC	ND	ug/kg	12	G
gamma-BHC (Lindane)	ND	ug/kg	8.0	
Heptachlor	ND	ug/kg	12	G
Aldrin	ND	ug/kg	12	G
Heptachlor epoxide	ND	ug/kg	12	G
Endosulfan I	ND	ug/kg	12	G
Dieldrin	ND	ug/kg	12	G
4,4'-DDE	ND	ug/kg	12	G
Endrin	ND	ug/kg	12	G
Endosulfan II	ND	ug/kg	25	G
4,4'-DDD	ND	ug/kg	25	G
Endosulfan sulfate	ND	ug/kg	25	G
4,4'-DDT	ND	ug/kg	25	G
Endrin ketone	ND	ug/kg	25	G
Methoxychlor	ND	ug/kg	120	G
Chlordane	ND	ug/kg	120	G
Toxaphene	ND	ug/kg	500	G
Aroclor 1016	ND	ug/kg	250	G
Aroclor 1221	ND	ug/kg	250	G
Aroclor 1232	ND	ug/kg	250	G
Aroclor 1242	ND	ug/kg	250	G
Aroclor 1248	ND	ug/kg	250	G
Aroclor 1254	ND	ug/kg	250	G
Aroclor 1260	ND	ug/kg	250	G
Surrogate	Recovery			
Dibutyl chlorendate	91	%	--	

Note G : Reporting Limit raised due to matrix interference.

ND = Not detected  
 NA = Not applicable

Reported By: Mike Harrison

Approved By: Randy Hill

The cover letter is an integral part of this report.  
 Rev 230787

TCL Organochlorine Pesticides/PCBs



Method 8080

Client Name: SP Environmental  
 Client ID: EB-8-4'  
 Lab ID: 055543-0010-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Wet wt. Units	Reporting Limit	
alpha-BHC	ND	ug/kg	8.0	
beta-BHC	ND	ug/kg	12	G
delta-BHC	ND	ug/kg	12	G
gamma-BHC (Lindane)	ND	ug/kg	8.0	
Heptachlor	ND	ug/kg	12	G
Aldrin	ND	ug/kg	12	G
Heptachlor epoxide	ND	ug/kg	12	G
Endosulfan I	ND	ug/kg	12	G
Dieldrin	ND	ug/kg	12	G
4,4'-DDE	ND	ug/kg	12	G
Endrin	ND	ug/kg	12	G
Endosulfan II	ND	ug/kg	25	G
4,4'-DDD	ND	ug/kg	25	G
Endosulfan sulfate	ND	ug/kg	25	G
4,4'-DDT	ND	ug/kg	25	G
Endrin ketone	ND	ug/kg	25	G
Methoxychlor	ND	ug/kg	120	G
Chlordane	ND	ug/kg	120	G
Toxaphene	ND	ug/kg	500	G
Aroclor 1016	ND	ug/kg	250	G
Aroclor 1221	ND	ug/kg	250	G
Aroclor 1232	ND	ug/kg	250	G
Aroclor 1242	ND	ug/kg	250	G
Aroclor 1248	ND	ug/kg	250	G
Aroclor 1254	ND	ug/kg	250	G
Aroclor 1260	ND	ug/kg	250	G
Surrogate	Recovery			
Dibutyl chlorendate	116	%	--	

Note G : Reporting Limit raised due to matrix interference.

ND = Not detected  
 NA = Not applicable

Reported By: Mike Harrison

Approved By: Randy Hill

The cover letter is an integral part of this report.

Rev 230787

METALS

(Soil/Solid - Total)

Client Name: SP Environmental  
 Client ID: EB4-Surf  
 Lab ID: 055543-0001-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: See Below

Received: 01 NOV 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	1.8	mg/kg	0.50	Method 6010	02 NOV 90	05 NOV 90
Chromium	30.7	mg/kg	1.0	Method 6010	02 NOV 90	05 NOV 90
Copper	175	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90
Lead	378	mg/kg	5.0	Method 6010	02 NOV 90	05 NOV 90
Mercury	0.44	mg/kg	0.10	Method 7471	06 NOV 90	06 NOV 90
Nickel	21.9	mg/kg	4.0	Method 6010	02 NOV 90	05 NOV 90
Zinc	259	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90

ND = Not detected  
 NA = Not applicable

Reported By: Grace Chang

Approved By: Barry Votaw

The cover letter is an integral part of this report.  
 Rev 230787

METALS

(Soil/Solid - Total)

Client Name: SP Environmental  
 Client ID: EB-4-4'  
 Lab ID: 055543-0002-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: See Below

Received: 01 NOV 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	ND	mg/kg	0.50	Method 6010	02 NOV 90	05 NOV 90
Chromium	27.3	mg/kg	1.0	Method 6010	02 NOV 90	05 NOV 90
Copper	44.4	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90
Lead	ND	mg/kg	5.0	Method 6010	02 NOV 90	05 NOV 90
Mercury	ND	mg/kg	0.10	Method 7471	06 NOV 90	06 NOV 90
Nickel	16.6	mg/kg	4.0	Method 6010	02 NOV 90	05 NOV 90
Zinc	29.9	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90

ND = Not detected  
 NA = Not applicable

Reported By: Grace Chang

Approved By: Barry Votaw

The cover letter is an integral part of this report.

Rev 230787



**METALS**

(Soil/Solid - Total)

 Client Name: SP Environmental  
 Client ID: EB-5-Surf  
 Lab ID: 055543-0003-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

 Sampled: 01 NOV 90  
 Prepared: See Below

 Received: 01 NOV 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	ND	mg/kg	0.50	Method 6010	02 NOV 90	05 NOV 90
Chromium	39.2	mg/kg	1.0	Method 6010	02 NOV 90	05 NOV 90
Copper	54.6	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90
Lead	80.5	mg/kg	5.0	Method 6010	02 NOV 90	05 NOV 90
Mercury	0.17	mg/kg	0.10	Method 7471	06 NOV 90	06 NOV 90
Nickel	37.7	mg/kg	4.0	Method 6010	02 NOV 90	05 NOV 90
Zinc	86.2	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90

 ND = Not detected  
 NA = Not applicable

Reported By: Grace Chang

Approved By: Barry Votaw

The cover letter is an integral part of this report.

Rev 230787

METALS

(Soil/Solid - Total)

Client Name: SP Environmental  
 Client ID: EB-5-4'  
 Lab ID: 055543-0004-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: See Below

Received: 01 NOV 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	ND	mg/kg	0.50	Method 6010	02 NOV 90	05 NOV 90
Chromium	28.4	mg/kg	1.0	Method 6010	02 NOV 90	05 NOV 90
Copper	21.0	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90
Lead	ND	mg/kg	5.0	Method 6010	02 NOV 90	05 NOV 90
Mercury	ND	mg/kg	0.10	Method 7471	06 NOV 90	06 NOV 90
Nickel	17.4	mg/kg	4.0	Method 6010	02 NOV 90	05 NOV 90
Zinc	21.1	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90

ND = Not detected  
 NA = Not applicable

Reported By: Grace Chang

Approved By: Barry Votaw

The cover letter is an integral part of this report.  
 Rev 230787

METALS

(Soil/Solid - Total)

Client Name: SP Environmental  
 Client ID: EB-6-Surf  
 Lab ID: 055543-0005-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: See Below

Received: 01 NOV 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	1.3	mg/kg	0.50	Method 6010	02 NOV 90	05 NOV 90
Chromium	42.9	mg/kg	1.0	Method 6010	02 NOV 90	05 NOV 90
Copper	194	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90
Lead	228	mg/kg	5.0	Method 6010	02 NOV 90	05 NOV 90
Mercury	1.9	mg/kg	0.10	Method 7471	07 NOV 90	07 NOV 90
Nickel	36.1	mg/kg	4.0	Method 6010	02 NOV 90	05 NOV 90
Zinc	307	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90

ND = Not detected  
 NA = Not applicable

Reported By: Grace Chang

Approved By: Barry Votaw

The cover letter is an integral part of this report.

Rev 230787

**METALS**

(Soil/Solid - Total)

 Client Name: SP Environmental  
 Client ID: EB-6-4'  
 Lab ID: 055543-0006-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

 Sampled: 01 NOV 90  
 Prepared: See Below

 Received: 01 NOV 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	ND	mg/kg	0.50	Method 6010	02 NOV 90	05 NOV 90
Chromium	23.1	mg/kg	1.0	Method 6010	02 NOV 90	05 NOV 90
Copper	10.2	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90
Lead	ND	mg/kg	5.0	Method 6010	02 NOV 90	05 NOV 90
Mercury	ND	mg/kg	0.10	Method 7471	06 NOV 90	06 NOV 90
Nickel	14.0	mg/kg	4.0	Method 6010	02 NOV 90	05 NOV 90
Zinc	14.0	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90

 ND = Not detected  
 NA = Not applicable

Reported By: Grace Chang

Approved By: Barry Votaw

The cover letter is an integral part of this report.

Rev 230787

METALS

(Soil/Solid - Total)

Client Name: SP Environmental  
 Client ID: EB-7-1.5'  
 Lab ID: 055543-0007-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: See Below

Received: 01 NOV 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	0.80	mg/kg	0.50	Method 6010	02 NOV 90	05 NOV 90
Chromium	42.0	mg/kg	1.0	Method 6010	02 NOV 90	05 NOV 90
Copper	70.1	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90
Lead	340	mg/kg	5.0	Method 6010	02 NOV 90	05 NOV 90
Mercury	0.48	mg/kg	0.10	Method 7471	06 NOV 90	06 NOV 90
Nickel	11.4	mg/kg	4.0	Method 6010	02 NOV 90	05 NOV 90
Zinc	157	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90

ND = Not detected  
 NA = Not applicable

Reported By: Grace Chang

Approved By: Barry Votaw

The cover letter is an integral part of this report.

Rev 230787

**METALS**

(Soil/Solid - Total)

 Client Name: SP Environmental  
 Client ID: EB-7-4'  
 Lab ID: 055543-0008-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

 Sampled: 01 NOV 90  
 Prepared: See Below

 Received: 01 NOV 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	ND	mg/kg	0.50	Method 6010	02 NOV 90	05 NOV 90
Chromium	24.2	mg/kg	1.0	Method 6010	02 NOV 90	05 NOV 90
Copper	17.5	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90
Lead	ND	mg/kg	5.0	Method 6010	02 NOV 90	05 NOV 90
Mercury	ND	mg/kg	0.10	Method 7471	06 NOV 90	06 NOV 90
Nickel	12.8	mg/kg	4.0	Method 6010	02 NOV 90	05 NOV 90
Zinc	18.7	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90

 ND = Not detected  
 NA = Not applicable

Reported By: Grace Chang

Approved By: Barry Votaw

The cover letter is an integral part of this report.

Rev 230787

METALS

(Soil/Solid - Total)

Client Name: SP Environmental  
 Client ID: EB-8-Surf  
 Lab ID: 055543-0009-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: See Below

Received: 01 NOV 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	ND	mg/kg	0.50	Method 6010	02 NOV 90	05 NOV 90
Chromium	20.1	mg/kg	1.0	Method 6010	02 NOV 90	05 NOV 90
Copper	47.4	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90
Lead	210	mg/kg	5.0	Method 6010	02 NOV 90	05 NOV 90
Mercury	0.60	mg/kg	0.10	Method 7471	06 NOV 90	06 NOV 90
Nickel	17.0	mg/kg	4.0	Method 6010	02 NOV 90	05 NOV 90
Zinc	132	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90

ND = Not detected  
 NA = Not applicable

Reported By: Grace Chang

Approved By: Barry Votaw

The cover letter is an integral part of this report.  
 Rev 230787

METALS

(Soil/Solid - Total)

Client Name: SP Environmental  
 Client ID: EB-8-4'  
 Lab ID: 055543-0010-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: See Below

Received: 01 NOV 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	ND	mg/kg	0.50	Method 6010	02 NOV 90	05 NOV 90
Chromium	19.0	mg/kg	1.0	Method 6010	02 NOV 90	05 NOV 90
Copper	11.0	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90
Lead	61.9	mg/kg	5.0	Method 6010	02 NOV 90	05 NOV 90
Mercury	0.10	mg/kg	0.10	Method 7471	06 NOV 90	06 NOV 90
Nickel	12.8	mg/kg	4.0	Method 6010	02 NOV 90	05 NOV 90
Zinc	26.3	mg/kg	2.0	Method 6010	02 NOV 90	05 NOV 90

ND = Not detected  
 NA = Not applicable

Reported By: Grace Chang

Approved By: Barry Votaw

The cover letter is an integral part of this report.  
 Rev 230787



TCL Volatile Organics

8240

Client Name: SP Environmental  
 Client ID: EB-4-4'  
 Lab ID: 055543-0002-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: NA

Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Units	Reporting Limit	
Chloromethane	ND	ug/kg	10	
Bromomethane	ND	ug/kg	10	
Vinyl chloride	ND	ug/kg	10	
Chloroethane	ND	ug/kg	10	
Methylene chloride	ND	ug/kg	5.0	
Acetone	13	ug/kg	10	Bb
Carbon disulfide	ND	ug/kg	5.0	
1,1-Dichloroethene	ND	ug/kg	5.0	
1,1-Dichloroethane	ND	ug/kg	5.0	
1,2-Dichloroethene (total)	ND	ug/kg	5.0	
Chloroform	ND	ug/kg	5.0	
1,2-Dichloroethane	ND	ug/kg	5.0	
2-Butanone (MEK)	ND	ug/kg	10	
1,1,1-Trichloroethane	ND	ug/kg	5.0	
Carbon tetrachloride	ND	ug/kg	5.0	
Vinyl acetate	ND	ug/kg	10	
Bromodichloromethane	ND	ug/kg	5.0	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	
1,2-Dichloropropane	ND	ug/kg	5.0	
cis-1,3-Dichloropropane	ND	ug/kg	5.0	
Trichloroethene	ND	ug/kg	5.0	
Dibromochloromethane	ND	ug/kg	5.0	
1,1,2-Trichloroethane	ND	ug/kg	5.0	
Benzene	ND	ug/kg	5.0	
trans-1,3-Dichloropropane	ND	ug/kg	5.0	
Bromoform	ND	ug/kg	5.0	
2-Hexanone	ND	ug/kg	10	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10	
Tetrachloroethene	ND	ug/kg	5.0	
Toluene	ND	ug/kg	5.0	
Chlorobenzene	ND	ug/kg	5.0	
Ethylbenzene	ND	ug/kg	5.0	
Styrene	ND	ug/kg	5.0	
Xylenes (total)	ND	ug/kg	5.0	
Surrogate	Recovery			
1,2-Dichloroethane-d4	88	%	--	
Toluene-d8	116	%	--	

(continued on following page)

ND = Not detected  
 NA = Not applicable

Reported By: Doug Burnett

Approved By: Karin Yee

The cover letter is an integral part of this report.

TCL Volatile Organics (CONT.)

8240

Client Name: SP Environmental  
Client ID: EB-4-4'  
Lab ID: 055543-0002-SA  
Matrix: SOIL  
Authorized: 01 NOV 90

Sampled: 01 NOV 90  
Prepared: NA

Received: 01 NOV 90  
Analyzed: 06 NOV 90

Surrogate

Recovery

4-Bromofluorobenzene

121 % --

Note B : Compound is also detected in the blank.

Note b : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected  
NA = Not applicable

Reported By: Doug Burnett

Approved By: Karin Yee

The cover letter is an integral part of this report.

Rev 230787

TCL Volatile Organics

8240

Client Name: SP Environmental  
Client ID: EB-5-4'  
Lab ID: 055543-0004-SA  
Matrix: SOIL  
Authorized: 01 NOV 90

Sampled: 01 NOV 90  
Prepared: NA

Received: 01 NOV 90  
Analyzed: 06 NOV 90

Parameter	Result	Units	Reporting Limit	
Chloromethane	ND	ug/kg	50	j
Bromomethane	ND	ug/kg	50	
Vinyl chloride	ND	ug/kg	50	
Chloroethane	ND	ug/kg	50	
Methylene chloride	ND	ug/kg	25	
Acetone	ND	ug/kg	50	
Carbon disulfide	ND	ug/kg	25	
1,1-Dichloroethene	ND	ug/kg	25	
1,1-Dichloroethane	ND	ug/kg	25	
1,2-Dichloroethene (total)	ND	ug/kg	25	
Chloroform	ND	ug/kg	25	
1,2-Dichloroethane	ND	ug/kg	25	
2-Butanone (MEK)	ND	ug/kg	50	
1,1,1-Trichloroethane	ND	ug/kg	25	
Carbon tetrachloride	ND	ug/kg	25	
Vinyl acetate	ND	ug/kg	50	
Bromodichloromethane	ND	ug/kg	25	
1,1,2,2-Tetrachloroethane	ND	ug/kg	25	
1,2-Dichloropropane	ND	ug/kg	25	
cis-1,3-Dichloropropene	ND	ug/kg	25	
Trichloroethene	ND	ug/kg	25	
Dibromochloromethane	ND	ug/kg	25	
1,1,2-Trichloroethane	ND	ug/kg	25	
Benzene	ND	ug/kg	25	
trans-1,3-Dichloropropene	ND	ug/kg	25	
Bromoform	ND	ug/kg	25	
2-Hexanone	ND	ug/kg	50	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	50	
Tetrachloroethene	ND	ug/kg	25	
Toluene	ND	ug/kg	25	
Chlorobenzene	ND	ug/kg	25	
Ethylbenzene	ND	ug/kg	25	
Styrene	ND	ug/kg	25	
Xylenes (total)	ND	ug/kg	25	
Surrogate	Recovery			
1,2-Dichloroethane-d4	109	%	--	
Toluene-d8	82	%	--	

(continued on following page)

ND = Not detected  
NA = Not applicable

Reported By: Brad Silverbush

Approved By: Karin Yee

The cover letter is an integral part of this report.

Rev 230787

## TCL Volatile Organics (CONT.)

8240

Client Name: SP Environmental  
Client ID: EB-5-4'  
Lab ID: 055543-0004-SA  
Matrix: SOIL  
Authorized: 01 NOV 90

Sampled: 01 NOV 90  
Prepared: NA

Received: 01 NOV 90  
Analyzed: 06 NOV 90

Surrogate

Recovery

4-Bromofluorobenzene

93

%

--

Note j : All Reporting Limits for this sample raised due to matrix interferences.

ND = Not detected  
NA = Not applicable

Reported By: Brad Silverbush

Approved By: Karin Yee

The cover letter is an integral part of this report.

Rev 230787

TCL Volatile Organics

8240

Client Name: SP Environmental  
 Client ID: EB-6-4'  
 Lab ID: 055543-0006-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: NA

Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Units	Reporting Limit	
Chloromethane	ND	ug/kg	10	
Bromomethane	ND	ug/kg	10	
Vinyl chloride	ND	ug/kg	10	
Chloroethane	ND	ug/kg	10	
Methylene chloride	ND	ug/kg	5.0	
Acetone	13	ug/kg	10	b
Carbon disulfide	ND	ug/kg	5.0	
1,1-Dichloroethene	ND	ug/kg	5.0	
1,1-Dichloroethane	ND	ug/kg	5.0	
1,2-Dichloroethene	ND	ug/kg	5.0	
(total)	ND	ug/kg	5.0	
Chloroform	ND	ug/kg	5.0	
1,2-Dichloroethane	ND	ug/kg	5.0	
2-Butanone (MEK)	ND	ug/kg	10	
1,1,1-Trichloroethane	ND	ug/kg	5.0	
Carbon tetrachloride	ND	ug/kg	5.0	
Vinyl acetate	ND	ug/kg	10	
Bromodichloromethane	ND	ug/kg	5.0	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	
1,2-Dichloropropane	ND	ug/kg	5.0	
cis-1,3-Dichloropropane	ND	ug/kg	5.0	
Trichloroethene	ND	ug/kg	5.0	
Dibromochloromethane	ND	ug/kg	5.0	
1,1,2-Trichloroethane	ND	ug/kg	5.0	
Benzene	ND	ug/kg	5.0	
trans-1,3-Dichloropropane	ND	ug/kg	5.0	
Bromoform	ND	ug/kg	5.0	
2-Hexanone	ND	ug/kg	5.0	
4-Methyl-2-pentanone	ND	ug/kg	10	
(MIBK)	ND	ug/kg	10	
Tetrachloroethene	ND	ug/kg	5.0	
Toluene	ND	ug/kg	5.0	
Chlorobenzene	ND	ug/kg	5.0	
Ethylbenzene	ND	ug/kg	5.0	
Styrene	ND	ug/kg	5.0	
Xylenes (total)	ND	ug/kg	5.0	
Surrogate	Recovery			
1,2-Dichloroethane-d4	89	%	--	
Toluene-d8	103	%	--	

(continued on following page)

ND = Not detected  
 NA = Not applicable

Reported By: Doug Burnett

Approved By: Karin Yee

The cover letter is an integral part of this report.  
 Rev 230787

## TCL Volatile Organics (CONT.)

8240

Client Name: SP Environmental  
Client ID: EB-6-4'  
Lab ID: 055543-0006-SA  
Matrix: SOIL  
Authorized: 01 NOV 90

Sampled: 01 NOV 90  
Prepared: NA

Received: 01 NOV 90  
Analyzed: 06 NOV 90

Surrogate	Recovery		
4-Bromofluorobenzene	92	%	--

Note b : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected  
NA = Not applicable

Reported By: Doug Burnett

Approved By: Karin Yee

The cover letter is an integral part of this report.

Rev 230787

## TCL Volatile Organics

8240

 Client Name: SP Environmental  
 Client ID: EB-7-4'  
 Lab ID: 055543-0008-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

 Sampled: 01 NOV 90  
 Prepared: NA

 Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	10
Bromomethane	ND	ug/kg	10
Vinyl chloride	ND	ug/kg	10
Chloroethane	ND	ug/kg	10
Methylene chloride	ND	ug/kg	5.0
Acetone	15	ug/kg	10
Carbon disulfide	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
1,2-Dichloroethene	ND	ug/kg	5.0
(total)	ND	ug/kg	5.0
Chloroform	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
2-Butanone (MEK)	ND	ug/kg	10
1,1,1-Trichloroethane	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Vinyl acetate	ND	ug/kg	10
Bromodichloromethane	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
cis-1,3-Dichloropropene	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Dibromochloromethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Benzene	ND	ug/kg	5.0
trans-1,3-Dichloropropene	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
2-Hexanone	ND	ug/kg	10
4-Methyl-2-pentanone	ND	ug/kg	10
(MIBK)	ND	ug/kg	10
Tetrachloroethene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
Styrene	ND	ug/kg	5.0
Xylenes (total)	ND	ug/kg	5.0
Surrogate	Recovery		
1,2-Dichloroethane-d4	90	%	--
Toluene-d8	109	%	--

b

(continued on following page)

 ND = Not detected  
 NA = Not applicable

Reported By: Doug Burnett

Approved By: Karin Yee

The cover letter is an integral part of this report.

Rev 230787

## TCL Volatile Organics (CONT.)

8240

Client Name: SP Environmental

Client ID: EB-7-4'

Lab ID: 055543-0008-SA

Matrix: SOIL

Authorized: 01 NOV 90

Sampled: 01 NOV 90

Prepared: NA

Received: 01 NOV 90

Analyzed: 06 NOV 90

Surrogate

Recovery

4-Bromofluorobenzene

92

%

--

Note b : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected  
NA = Not applicable

Reported By: Doug Burnett

Approved By: Karin Yee

The cover letter is an integral part of this report.

Rev 230787



TCL Volatile Organics

8240

Client Name: SP Environmental  
 Client ID: EB-8-4'  
 Lab ID: 055543-0010-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: NA

Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Units	Reporting Limit	
Chloromethane	ND	ug/kg	10	
Bromomethane	ND	ug/kg	10	
Vinyl chloride	ND	ug/kg	10	
Chloroethane	ND	ug/kg	10	
Methylene chloride	ND	ug/kg	5.0	
Acetone	69	ug/kg	10	B
Carbon disulfide	ND	ug/kg	5.0	
1,1-Dichloroethene	ND	ug/kg	5.0	
1,1-Dichloroethane	ND	ug/kg	5.0	
1,2-Dichloroethene (total)	ND	ug/kg	5.0	
Chloroform	ND	ug/kg	5.0	
1,2-Dichloroethane	ND	ug/kg	5.0	
2-Butanone (MEK)	13	ug/kg	10	b
1,1,1-Trichloroethane	ND	ug/kg	5.0	
Carbon tetrachloride	ND	ug/kg	5.0	
Vinyl acetate	ND	ug/kg	10	
Bromodichloromethane	ND	ug/kg	5.0	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	
1,2-Dichloropropane	ND	ug/kg	5.0	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	
Trichloroethene	ND	ug/kg	5.0	
Dibromochloromethane	ND	ug/kg	5.0	
1,1,2-Trichloroethane	ND	ug/kg	5.0	
Benzene	ND	ug/kg	5.0	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	
Bromoform	ND	ug/kg	5.0	
2-Hexanone	ND	ug/kg	10	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10	
Tetrachloroethene	ND	ug/kg	5.0	
Toluene	ND	ug/kg	5.0	
Chlorobenzene	ND	ug/kg	5.0	
Ethylbenzene	ND	ug/kg	5.0	
Styrene	ND	ug/kg	5.0	
Xylenes (total)	ND	ug/kg	5.0	
Surrogate	Recovery			
1,2-Dichloroethane-d4	98	%	--	
Toluene-d8	117	%	--	

(continued on following page)

ND = Not detected  
 NA = Not applicable

Reported By: Doug Burnett

Approved By: Karin Yee

The cover letter is an integral part of this report.

## TCL Volatile Organics (CONT.)

8240

Client Name: SP Environmental  
Client ID: EB-8-4'  
Lab ID: 055543-0010-SA  
Matrix: SOIL  
Authorized: 01 NOV 90

Sampled: 01 NOV 90  
Prepared: NA

Received: 01 NOV 90  
Analyzed: 06 NOV 90

Surrogate

Recovery

4-Bromofluorobenzene

83 %

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Note B : Compound is also detected in the blank.

Note b : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected  
NA = Not applicable

Reported By: Doug Burnett

Approved By: Karin Yee

The cover letter is an integral part of this report.

Rev 230787

**Total Petroleum Hydrocarbons (Gasoline)****Purge and Trap Method TPH-GC/FID**

Client Name: SP Environmental

Client ID: EB-4-4'

Lab ID: 055543-0002-SA

Matrix: SOIL

Authorized: 01 NOV 90

Sampled: 01 NOV 90

Prepared: NA

Received: 01 NOV 90

Analyzed: 02 NOV 90

Parameter	Result	Units	Reporting Limit
Gasoline	ND	mg/kg	10

ND = Not detected  
NA = Not applicable

Reported By: Jon Edmondson

Approved By: Kris Rogers

The cover letter is an integral part of this report.

Rev 230787

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**Total Petroleum Hydrocarbons (Gasoline)****Purge and Trap Method TPH-GC/FID**

Client Name: SP Environmental

Client ID: EB-5-4'

Lab ID: 055543-0004-SA

Matrix: SOIL

Authorized: 01 NOV 90

Sampled: 01 NOV 90

Prepared: NA

Received: 01 NOV 90

Analyzed: 02 NOV 90

Parameter	Result	Units	Reporting Limit
Gasoline	ND	mg/kg	10

ND = Not detected  
NA = Not applicable

Reported By: Jon Edmondson

Approved By: Kris Rogers

The cover letter is an integral part of this report.

Rev 230787

**Total Petroleum Hydrocarbons (Gasoline)****Purge and Trap Method TPH-GC/FID**

Client Name: SP Environmental

Client ID: EB-6-4'

Lab ID: 055543-0006-SA

Matrix: SOIL

Authorized: 01 NOV 90

Sampled: 01 NOV 90

Prepared: NA

Received: 01 NOV 90

Analyzed: 02 NOV 90

Parameter	Result	Units	Reporting Limit
Gasoline	ND	mg/kg	10

ND = Not detected  
NA = Not applicable

Reported By: Jon Edmondson

Approved By: Kris Rogers

The cover letter is an integral part of this report.

Rev 230787

**Total Petroleum Hydrocarbons (Gasoline)****Purge and Trap Method TPH-GC/FID**

Client Name: SP Environmental

Client ID: EB-7-4'

Lab ID: 055543-0008-SA

Matrix: SOIL

Authorized: 01 NOV 90

Sampled: 01 NOV 90

Prepared: NA

Received: 01 NOV 90

Analyzed: 02 NOV 90

Parameter	Result	Units	Reporting Limit
Gasoline	ND	mg/kg	10

ND = Not detected  
NA = Not applicable

Reported By: Jon Edmondson

Approved By: Kris Rogers

The cover letter is an integral part of this report.

Rev 230787

Total Petroleum Hydrocarbons (Gasoline)

Purge and Trap Method TPH-GC/FID

Client Name: SP Environmental  
Client ID: EB-8-4'  
Lab ID: 055543-0010-SA  
Matrix: SOIL  
Authorized: 01 NOV 90

Sampled: 01 NOV 90  
Prepared: NA

Received: 01 NOV 90  
Analyzed: 02 NOV 90

Parameter	Result	Units	Reporting Limit
Gasoline	ND	mg/kg	10

ND = Not detected  
NA = Not applicable

Reported By: Jon Edmondson

Approved By: Kris Rogers

The cover letter is an integral part of this report.  
Rev 230787







November 16, 1990  
Lab ID: 055544

Walt Floyd  
S.P. Environmental  
9719 Lincoln Village Dr.  
Suite 310  
Sacramento, CA 95827

Dear Mr. Floyd:

Enclosed is the report for the seven soil samples for your 5th & Kirkham Project #05032 which were received at Enseco-Cal Lab on 1 November 1990.

The report consists of the following sections:

- I Sample Description
- II Analysis Request
- III Quality Control Report
- IV Analysis Results

Data for this project was transferred to you via facsimile on 9 and 15 November 1990.

If you have any questions, please feel free to call.

Sincerely,

Robert Weidenfeld  
Program Administrator

du

## I Sample Description

See the attached Sample Description Information.

The samples were received under chain-of-custody.

## II Analysis Request

The following analytical tests were requested.

<u>Lab ID</u>	<u>Analysis Description</u>
055544-1 thru 7	Oil & Grease Total Petroleum Hydrocarbons (Diesel)
-1, 2, 4-7	Organochlorine Pesticides Selected Metals
-2, 3	Volatile Organics Total Petroleum Hydrocarbons (Gasoline)

## III Quality Control

A. Project Specific QC. No project specific QC (i.e., spikes and/or duplicates) was requested.

B. Method Blank Results. A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your samples.

Repetitions of method blanks (with identical QC Lot No.s) have been reported but do not indicate unique determinations.

C. Laboratory Control Samples - The LCS Program

Duplicate Control Samples. A DCS is a well-characterized matrix (blank water, sand or celite) which is spiked with certain target parameters and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The DCS results associated with your samples are on the attached Duplicate Control Sample Report.

Single Control Samples. An SCS consists of a control matrix that is spiked with surrogate compounds appropriate to the method being used. In cases where no surrogate is available, (e.g. metals or conventional analyses) a single control sample identical to the DCS serves as the control sample. An SCS is prepared for each sample lot. Accuracy is calculated identically to the DCS. The SCS results associated with your samples are on the attached Single Control Sample Report.

Accuracy is measured by Percent Recovery as in:

$$\% \text{ recovery} = \frac{(\text{measured concentration})}{(\text{actual concentration})} \times 100$$

Precision is measured using duplicate tests by Relative Percent Difference (RPD) as in:

$$\text{RPD} = \frac{(\% \text{ recovery test 1} - \% \text{ recovery test 2})}{(\% \text{ recovery test 1} + \% \text{ recovery test 2})/2} \times 100$$

Control limits for accuracy (percent recovery) are based on the average, historical percent recovery +/-3 standard deviation units. Control limits for precision (relative percent difference) range from 0 (identical duplicate DCS results) to the average, historical relative percent difference + 3 standard deviation units. In cases where there is not enough historical data, EPA limits or advisory limits are set, with the approval of the Quality Assurance department.

#### IV Analysis Results

Test methods may include minor modifications of published EPA Methods such as reporting limits or parameter lists. Reporting limits are adjusted to reflect dilution of the sample, when appropriate. Solid and waste samples are reported on an "as received" basis; i.e., no correction is made for moisture content, unless the method requires or the client requests that such correction be made.

Results are on the attached data sheets.

SAMPLE DESCRIPTION INFORMATION  
for  
SP Environmental

Lab ID	Client ID	Matrix	Sampled		Received
			Date	Time	
055544-0001-SA	MW3-Surf	SOIL	01 NOV 90	08:05	01 NOV 90
055544-0002-SA	MW3-4'	SOIL	01 NOV 90	08:27	01 NOV 90
055544-0003-SA	MW-3-8'	SOIL	01 NOV 90	08:33	01 NOV 90
055544-0004-SA	P-1	SOIL	01 NOV 90	14:35	01 NOV 90
055544-0005-SA	P-2	SOIL	01 NOV 90	14:40	01 NOV 90
055544-0006-SA	P-3	SOIL	01 NOV 90	14:45	01 NOV 90
055544-0007-SA	P-4	SOIL	01 NOV 90	14:50	01 NOV 90

QC LOT ASSIGNMENT REPORT  
GC Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
055544-0001-SA	SOIL	O&G-G-S	05 NOV 90-A	05 NOV 90-A
055544-0002-SA	SOIL	O&G-G-S	05 NOV 90-A	05 NOV 90-A
055544-0003-SA	SOIL	O&G-G-S	05 NOV 90-A	05 NOV 90-A
055544-0004-SA	SOIL	O&G-G-S	05 NOV 90-A	05 NOV 90-A
055544-0005-SA	SOIL	O&G-G-S	05 NOV 90-A	05 NOV 90-A
055544-0006-SA	SOIL	O&G-G-S	05 NOV 90-A	05 NOV 90-A
055544-0007-SA	SOIL	O&G-G-S	05 NOV 90-A	05 NOV 90-A

METHOD BLANK REPORT  
 GC Preparation

Analyte	Result	Units	Reporting Limit
Test: O&G-G-S Matrix: SOIL QC Lot: 05 NOV 90-A    QC Run: 05 NOV 90-A			
Oil and Grease	ND	mg/kg	50
Test: O&G-G-S Matrix: SOIL QC Lot: 05 NOV 90-A    QC Run: 05 NOV 90-A			
Oil and Grease	ND	mg/kg	50
Test: O&G-G-S Matrix: SOIL QC Lot: 05 NOV 90-A    QC Run: 05 NOV 90-A			
Oil and Grease	ND	mg/kg	50

DUPLICATE CONTROL SAMPLE REPORT  
 GC Preparation

Analyte	Concentration Spiked	Concentration Measured		AVG	Accuracy Average(%)		Precision (RPD)		
		DCS1	DCS2		DCS	Limits	DCS	Limit	
Category: O&G-G-S Matrix: SOIL QC Lot: 05 NOV 90-A Concentration Units: mg/kg									
Oil and Grease	1000	1040	1090	1070	107	42-115	4.9	37	

Calculations are performed before rounding to avoid round-off errors in calculated results.

QC LOT ASSIGNMENT REPORT  
Semivolatile Organics by GC

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
055544-0001-SA	SOIL	TPH-D-S	02 NOV 90-B	02 NOV 90-B
055544-0001-SA	SOIL	OCP-S	02 NOV 90-A	02 NOV 90-18A
055544-0002-SA	SOIL	TPH-D-S	02 NOV 90-B	02 NOV 90-B
055544-0002-SA	SOIL	OCP-S	02 NOV 90-A	02 NOV 90-18A
055544-0003-SA	SOIL	TPH-D-S	02 NOV 90-B	02 NOV 90-B
055544-0004-SA	SOIL	TPH-D-S	02 NOV 90-B	02 NOV 90-B
055544-0004-SA	SOIL	OCP-S	02 NOV 90-A	02 NOV 90-18A
055544-0005-SA	SOIL	TPH-D-S	02 NOV 90-B	02 NOV 90-B
055544-0005-SA	SOIL	OCP-S	02 NOV 90-A	02 NOV 90-18A
055544-0006-SA	SOIL	TPH-D-S	02 NOV 90-B	02 NOV 90-B
055544-0006-SA	SOIL	OCP-S	02 NOV 90-A	02 NOV 90-18A
055544-0007-SA	SOIL	TPH-D-S	02 NOV 90-B	02 NOV 90-B
055544-0007-SA	SOIL	OCP-S	02 NOV 90-A	02 NOV 90-18A



METHOD BLANK REPORT  
Semivolatile Organics by GC

Analyte	Result	Units	Reporting Limit
Test: TPH-GC-D-S			
Matrix: SOIL			
QC Lot: 02 NOV 90-B    QC Run: 02 NOV 90-B			
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown hydrocarbon	ND	mg/kg	10

Test: 8080-TCL-S  
Matrix: SOIL  
QC Lot: 02 NOV 90-A    QC Run: 02 NOV 90-18A

alpha-BHC	ND	ug/kg	8.0
beta-BHC	ND	ug/kg	8.0
delta-BHC	ND	ug/kg	8.0
gamma-BHC (Lindane)	ND	ug/kg	8.0
Heptachlor	ND	ug/kg	8.0
Aldrin	ND	ug/kg	8.0
Heptachlor epoxide	ND	ug/kg	8.0
Endosulfan I	ND	ug/kg	8.0
Dieldrin	ND	ug/kg	16
4,4'-DDE	ND	ug/kg	16
Endrin	ND	ug/kg	16
Endosulfan II	ND	ug/kg	16
4,4'-DDD	ND	ug/kg	16
Endosulfan sulfate	ND	ug/kg	16
4,4'-DDT	ND	ug/kg	16
Endrin ketone	ND	ug/kg	16
Methoxychlor	ND	ug/kg	80
Chlordane	ND	ug/kg	80
Toxaphene	ND	ug/kg	160
Aroclor 1016	ND	ug/kg	80
Aroclor 1221	ND	ug/kg	80
Aroclor 1232	ND	ug/kg	80
Aroclor 1242	ND	ug/kg	80
Aroclor 1248	ND	ug/kg	80
Aroclor 1254	ND	ug/kg	160
Aroclor 1260	ND	ug/kg	160

METHOD BLANK REPORT  
 Semivolatile Organics by GC (cont.)

Analyte	Result	Units	Reporting Limit
Test: TPH-GC-D-S			
Matrix: SOIL			
QC Lot: 02 NOV 90-B    QC Run: 02 NOV 90-B			
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown hydrocarbon	ND	mg/kg	10

Test: 8080-TCL-S  
 Matrix: SOIL  
 QC Lot: 02 NOV 90-A    QC Run: 02 NOV 90-18A

alpha-BHC	ND	ug/kg	8.0
beta-BHC	ND	ug/kg	8.0
delta-BHC	ND	ug/kg	8.0
gamma-BHC (Lindane)	ND	ug/kg	8.0
Heptachlor	ND	ug/kg	8.0
Aldrin	ND	ug/kg	8.0
Heptachlor epoxide	ND	ug/kg	8.0
Endosulfan I	ND	ug/kg	8.0
Dieldrin	ND	ug/kg	16
4,4'-DDE	ND	ug/kg	16
Endrin	ND	ug/kg	16
Endosulfan II	ND	ug/kg	16
4,4'-DDD	ND	ug/kg	16
Endosulfan sulfate	ND	ug/kg	16
4,4'-DDT	ND	ug/kg	16
Endrin ketone	ND	ug/kg	16
Methoxychlor	ND	ug/kg	80
Chlordane	ND	ug/kg	80
Toxaphene	ND	ug/kg	160
Aroclor 1016	ND	ug/kg	80
Aroclor 1221	ND	ug/kg	80
Aroclor 1232	ND	ug/kg	80
Aroclor 1242	ND	ug/kg	80
Aroclor 1248	ND	ug/kg	80
Aroclor 1254	ND	ug/kg	160
Aroclor 1260	ND	ug/kg	160

METHOD BLANK REPORT  
Semivolatile Organics by GC (cont.)

Analyte	Result	Units	Reporting Limit
Test: TPH-GC-D-S			
Matrix: SOIL			
QC Lot: 02 NOV 90-B	QC Run: 02 NOV 90-B		
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown hydrocarbon	ND	mg/kg	10

DUPLICATE CONTROL SAMPLE REPORT  
Semivolatile Organics by GC

Analyte	Concentration Spiked	Concentration Measured		AVG	Accuracy Average (%)		Precision (RPD)		
		DCS1	DCS2		DCS	Limits	DCS	Limit	
Category: TPH-D-S Matrix: SOIL QC Lot: 02 NOV 90-B Concentration Units: ug/kg									
Diesel Fuel	100	96.4	101	98.7	99	52-128	4.7	35	
Category: OCP-S Matrix: SOIL QC Lot: 02 NOV 90-A Concentration Units: ug/kg									
gamma-BHC (Lindane)	27	21.1	21.0	21.0	78	40- 93	0.5	53	
Heptachlor	27	20.1	20.4	20.2	75	37- 87	1.5	68	
Aldrin	27	26.6	26.4	26.5	98	34-104	0.8	59	
Dieldrin	67	58.1	60.1	59.1	88	47-111	3.4	29	
Endrin	67	59.2	61.8	60.5	90	43-114	4.3	29	
4,4'-DDT	67	68.1	70.7	69.4	104	33-118	3.7	30	

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT  
Semivolatile Organics by GC

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits
Category: OCP-S				
Matrix: SOIL				
QC Lot: 02 NOV 90-A    QC Run: 02 NOV 90-18A				
Concentration Units: ug/Kg				
Dibutyl chlorendate	67.0	67.3	100	24-150

Calculations are performed before rounding to avoid round-off errors in calculated results.

QC LOT ASSIGNMENT REPORT  
Metals Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
055544-0001-SA	SOIL	ICP-S	05 NOV 90-B	05 NOV 90-B
055544-0001-SA	SOIL	HG-CVAA-S	06 NOV 90-A	06 NOV 90-A
055544-0002-SA	SOIL	ICP-S	05 NOV 90-B	05 NOV 90-B
055544-0002-SA	SOIL	HG-CVAA-S	06 NOV 90-A	06 NOV 90-A
055544-0004-SA	SOIL	ICP-S	05 NOV 90-B	05 NOV 90-B
055544-0004-SA	SOIL	HG-CVAA-S	07 NOV 90-A	07 NOV 90-A
055544-0005-SA	SOIL	ICP-S	05 NOV 90-B	05 NOV 90-B
055544-0005-SA	SOIL	HG-CVAA-S	06 NOV 90-A	06 NOV 90-A
055544-0006-SA	SOIL	ICP-S	05 NOV 90-B	05 NOV 90-B
055544-0006-SA	SOIL	HG-CVAA-S	07 NOV 90-A	07 NOV 90-A
055544-0007-SA	SOIL	ICP-S	05 NOV 90-B	05 NOV 90-B
055544-0007-SA	SOIL	HG-CVAA-S	06 NOV 90-A	06 NOV 90-A

**METHOD BLANK REPORT**  
**Metals Analysis and Preparation**

Analyte	Result	Units	Reporting Limit
Test: ICP-SCAN-S Matrix: SOIL QC Lot: 05 NOV 90-B    QC Run: 05 NOV 90-B			
Cadmium	ND	mg/kg	0.50
Chromium	ND	mg/kg	1.0
Copper	ND	mg/kg	2.0
Lead	ND	mg/kg	5.0
Nickel	ND	mg/kg	4.0
Zinc	ND	mg/kg	2.0
Test: HG-CVAA-S Matrix: SOIL QC Lot: 06 NOV 90-A    QC Run: 06 NOV 90-A			
Mercury	ND	mg/kg	0.10
Test: ICP-SCAN-S Matrix: SOIL QC Lot: 05 NOV 90-B    QC Run: 05 NOV 90-B			
Cadmium	ND	mg/kg	0.50
Chromium	ND	mg/kg	1.0
Copper	ND	mg/kg	2.0
Lead	ND	mg/kg	5.0
Nickel	ND	mg/kg	4.0
Zinc	ND	mg/kg	2.0
Test: HG-CVAA-S Matrix: SOIL QC Lot: 06 NOV 90-A    QC Run: 06 NOV 90-A			
Mercury	ND	mg/kg	0.10
Test: HG-CVAA-S Matrix: SOIL QC Lot: 07 NOV 90-A    QC Run: 07 NOV 90-A			
Mercury	ND	mg/kg	0.10

DUPLICATE CONTROL SAMPLE REPORT  
Metals Analysis and Preparation

Analyte	Concentration			AVG	Accuracy		Precision	
	Spiked	DCS1	Measured DCS2		Average (%) DCS	Limits	(RPD) DCS	Limit
Category: ICP-S								
Matrix: SOIL								
QC Lot: 05 NOV 90-B								
Concentration Units: mg/kg								
Aluminum	200	184	184	184	92	84-115	0.0	11
Antimony	50	45.6	45.3	45.5	91	81-115	0.6	10
Arsenic	200	179	179	179	89	82-115	0.1	10
Barium	200	195	194	195	97	85-115	0.5	10
Beryllium	5.0	4.88	4.88	4.88	98	70-110	0.0	10
Boron	100	92.3	92.5	92.4	92	85-115	0.2	10
Cadmium	5.0	4.34	4.34	4.34	87	72-110	0.0	15
Calcium	10000	10100	10100	10100	101	85-115	0.1	10
Chromium	20	19.4	19.4	19.4	97	84-115	0.2	17
Cobalt	50	45.3	45.5	45.4	91	80-115	0.5	10
Copper	25	25.8	25.4	25.6	102	81-115	1.8	10
Iron	100	93.5	93.8	93.7	94	85-115	0.3	14
Lead	50	45.1	44.9	45.0	90	80-115	0.4	11
Lithium	20.0	21.3	21.4	21.4	107	85-115	0.6	10
Magnesium	5000	4770	4750	4760	95	85-115	0.4	10
Manganese	50.0	44.9	45.1	45.0	90	80-115	0.4	10
Molybdenum	20.0	18.2	18.0	18.1	90	85-115	1.2	10
Nickel	50.0	45.5	45.0	45.3	91	80-115	1.0	10
Potassium	5000	5000	4990	4990	100	82-115	0.2	10
Selenium	200.0	186	183	185	92	84-115	1.7	10
Silver	5.0	3.92	3.94	3.93	79	62-115	0.6	10
Sodium	10000	10300	10200	10300	103	85-115	0.8	10
Thallium	200	193	193	193	96	68-110	0.0	10
Tin	40.0	34.9	36.0	35.4	89	80-122	3.3	10
Titanium	20.0	19.9	19.8	19.8	99	85-115	0.2	10
Vanadium	50.0	45.6	45.7	45.7	91	85-115	0.3	10
Zinc	50	43.3	43.6	43.4	87	82-115	0.6	10

Category: HG-CVAA-S  
Matrix: SOIL  
QC Lot: 06 NOV 90-A  
Concentration Units: mg/kg

Mercury	0.50	0.519	0.532	0.526	105	84-126	2.5	30
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Calculations are performed before rounding to avoid round-off errors in calculated results.



DUPLICATE CONTROL SAMPLE REPORT  
 Metals Analysis and Preparation (cont.)

Analyte	Concentration Spiked	Concentration Measured		AVG	Accuracy Average(%)		Precision (RPD)		
		DCS1	DCS2		DCS	Limits	DCS	Limit	
Category: HG-CVAA-S Matrix: SOIL QC Lot: 07 NOV 90-A Concentration Units: mg/kg									
Mercury	0.50	0.542	0.519	0.530	106	84-126	4.3	30	

Calculations are performed before rounding to avoid round-off errors in calculated results.

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QC LOT ASSIGNMENT REPORT  
Volatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
055544-0002-SA	SOIL	8240-SL	11 OCT 90-02A	06 NOV 90-02C
055544-0003-SA	SOIL	8240-SL	11 OCT 90-02A	06 NOV 90-02C

**METHOD BLANK REPORT**  
 Volatile Organics by GC/MS

Analyte	Result	Units	Reporting Limit
Test: 8240-DPURGE-S			
Matrix: SOIL			
QC Lot: 11 OCT 90-02A QC Run: 06 NOV 90-02C			
Chloromethane	ND	ug/kg	10
Bromomethane	ND	ug/kg	10
Vinyl chloride	ND	ug/kg	10
Chloroethane	ND	ug/kg	10
Methylene chloride	ND	ug/kg	5.0
Acetone	16	ug/kg	10
Carbon disulfide	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
1,2-Dichloroethene			
(total)	ND	ug/kg	5.0
Chloroform	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
2-Butanone (MEK)	ND	ug/kg	10
1,1,1-Trichloroethane	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Vinyl acetate	ND	ug/kg	10
Bromodichloromethane	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
cis-1,3-Dichloropropene	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Dibromochloromethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Benzene	ND	ug/kg	5.0
trans-1,3-Dichloropropene	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
2-Hexanone	ND	ug/kg	10
4-Methyl-2-pentanone			
(MIBK)	ND	ug/kg	10
Tetrachloroethene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
Styrene	ND	ug/kg	5.0
Xylenes (total)	ND	ug/kg	5.0

METHOD BLANK REPORT  
 Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8240-DPURGE-S			
Matrix: SOIL			
QC Lot: 11 OCT 90-02A QC Run: 06 NOV 90-02C			
Chloromethane	ND	ug/kg	10
Bromomethane	ND	ug/kg	10
Vinyl chloride	ND	ug/kg	10
Chloroethane	ND	ug/kg	10
Methylene chloride	ND	ug/kg	5.0
Acetone	16	ug/kg	10
Carbon disulfide	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
1,2-Dichloroethene	ND	ug/kg	5.0
(total)	ND	ug/kg	5.0
Chloroform	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
2-Butanone (MEK)	ND	ug/kg	5.0
1,1,1-Trichloroethane	ND	ug/kg	10
Carbon tetrachloride	ND	ug/kg	5.0
Vinyl acetate	ND	ug/kg	10
Bromodichloromethane	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
cis-1,3-Dichloropropene	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Dibromochloromethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Benzene	ND	ug/kg	5.0
trans-1,3-Dichloropropene	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
2-Hexanone	ND	ug/kg	10
4-Methyl-2-pentanone	ND	ug/kg	10
(MIBK)	ND	ug/kg	10
Tetrachloroethene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
Styrene	ND	ug/kg	5.0
Xylenes (total)	ND	ug/kg	5.0

DUPLICATE CONTROL SAMPLE REPORT  
 Volatile Organics by GC/MS

Analyte	Concentration Spiked	Concentration Measured		AVG	Accuracy Average(%)		Precision (RPD)		
		DCS1	DCS2		DCS	Limits	DCS	Limit	
Category: 8240-SL									
Matrix: SOIL									
QC Lot: 11 OCT 90-02A									
Concentration Units: ug/kg									
1,1-Dichloroethene	50	48.5	52.0	50.2	101	54-144	7.0	18	
Trichloroethene	50	51.0	53.7	52.4	105	64-128	5.2	17	
Toluene	50	44.3	46.8	45.6	91	73-126	5.5	17	
Benzene	50	51.7	55.0	53.4	107	69-132	6.2	21	
Chlorobenzene	50	48.9	50.7	49.8	100	79-127	3.6	12	

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT  
Volatile Organics by GC/MS

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits

Category: 8240-SL

Matrix: SOIL

QC Lot: 11 OCT 90-02A QC Run: 06 NOV 90-02C

Concentration Units: ug/kg

1,2-Dichloroethane-d4	50.0	43.2	86	70-121
Toluene-d8	50.0	53.3	107	81-117
4-Bromofluorobenzene	50.0	59.7	119	74-121

Calculations are performed before rounding to avoid round-off errors in calculated results.

QC LOT ASSIGNMENT REPORT  
Volatile Organics by GC

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
055544-0002-SA	SOIL	TPH-GAS-S	01 NOV 90-B	02 NOV 90-19A
055544-0003-SA	SOIL	TPH-GAS-S	01 NOV 90-B	02 NOV 90-19A

METHOD BLANK REPORT  
Volatile Organics by GC

Analyte	Result	Units	Reporting Limit
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Test: TPH-GC-GAS-S  
Matrix: SOIL  
QC Lot: 01 NOV 90-B    QC Run: 02 NOV 90-19A

Gasoline	ND	mg/kg	10
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Test: TPH-GC-GAS-S  
Matrix: SOIL  
QC Lot: 01 NOV 90-B    QC Run: 02 NOV 90-19A

Gasoline	ND	mg/kg	10
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DUPLICATE CONTROL SAMPLE REPORT  
 Volatile Organics by GC

Analyte	Concentration			AVG	Accuracy Average(%)		Precision (RPD)	
	Spiked	DCS1	Measured DCS2		DCS	Limits	DCS	Limit
Category: TPH-GAS-S Matrix: SOIL QC Lot: 01 NOV 90-B Concentration Units: ug/kg								
Gasoline	2500	2510	2590	2550	102	75-123	3.1	13

Calculations are performed before rounding to avoid round-off errors in calculated results.

**Oil & Grease, Gravimetric****Method 413.1 Modified for Soil**

Client Name: SP Environmental  
Matrix: SOIL  
Units: mg/kg

Received: 01 NOV 90  
Authorized: 01 NOV 90

Lab ID	Client ID	Result	Reporting Limit	Date Prepared	Date Analyzed
055544-0001-SA	MW3-Surf	ND	50	05 NOV 90	07 NOV 90
055544-0002-SA	MW3-4'	ND	50	05 NOV 90	07 NOV 90
055544-0003-SA	MW-3-8'	7400	50	05 NOV 90	07 NOV 90
055544-0004-SA	P-1	20000	50	05 NOV 90	07 NOV 90
055544-0005-SA	P-2	13000	50	05 NOV 90	07 NOV 90
055544-0006-SA	P-3	13000	50	05 NOV 90	07 NOV 90
055544-0007-SA	P-4	ND	50	05 NOV 90	07 NOV 90

ND = Not detected  
NA = Not applicable

Reported By: Dan Orovich

Approved By: Linda Ellithorpe

The cover letter is an integral part of this report.

Rev 230787

**Total Petroleum Hydrocarbons**
**Method GC/FID**

Client Name: SP Environmental  
 Client ID: MW3-Surf  
 Lab ID: 055544-0001-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 08 NOV 90

Parameter	Result	Units	Reporting Limit	
Kerosene	ND	mg/kg	10	
Stoddard Solvent	ND	mg/kg	10	
Aviation Fuel (JP4)	ND	mg/kg	10	
Diesel Fuel	ND	mg/kg	10	
Unknown hydrocarbon	210	mg/kg	10	1

Note 1 : This sample contains an unknown hydrocarbon pattern in the approximate range of C-14 to greater than C-30. Quantitation was based on a Diesel reference.

ND = Not detected  
 NA = Not applicable

Reported By: Kris Rogers

Approved By: Lisa Stafford

The cover letter is an integral part of this report.

Rev 230787

Total Petroleum Hydrocarbons



Method GC/FID

Client Name: SP Environmental  
Client ID: MW3-4'  
Lab ID: 055544-0002-SA  
Matrix: SOIL  
Authorized: 01 NOV 90

Sampled: 01 NOV 90  
Prepared: 02 NOV 90

Received: 01 NOV 90  
Analyzed: 06 NOV 90

Parameter	Result	Units	Reporting Limit
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown hydrocarbon	ND	mg/kg	10

ND = Not detected  
NA = Not applicable

Reported By: Kris Rogers

Approved By: Lisa Stafford

The cover letter is an integral part of this report.

Rev 230787

Total Petroleum Hydrocarbons



Method GC/FID

Client Name: SP Environmental  
Client ID: MW-3-8'  
Lab ID: 055544-0003-SA  
Matrix: SOIL  
Authorized: 01 NOV 90

Sampled: 01 NOV 90  
Prepared: 02 NOV 90

Received: 01 NOV 90  
Analyzed: 07 NOV 90

Parameter	Result	Units	Reporting Limit
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Aviation Fuel (JP4)	ND	mg/kg	10
Diesel Fuel	ND	mg/kg	10
Unknown hydrocarbon	ND	mg/kg	10

ND = Not detected  
NA = Not applicable

Reported By: Kris Rogers

Approved By: Lisa Stafford

The cover letter is an integral part of this report.  
Rev 230787

Total Petroleum Hydrocarbons



Method GC/FID

Client Name: SP Environmental  
 Client ID: P-1  
 Lab ID: 055544-0004-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 07 NOV 90

Parameter	Result	Units	Reporting Limit	
Kerosene	ND	mg/kg	10	
Stoddard Solvent	ND	mg/kg	10	
Aviation Fuel (JP4)	ND	mg/kg	10	
Diesel Fuel	ND	mg/kg	100	R
Unknown hydrocarbon	3700	mg/kg	10	1

Note R : Raised reporting limit(s) due to high analyte level(s).

Note 1 : This sample contains an unknown hydrocarbon pattern in the approximate range of C-13 to greater than C-30. Quantitation was based on a Diesel reference.

ND = Not detected  
 NA = Not applicable

Reported By: Kris Rogers

Approved By: Lisa Stafford

The cover letter is an integral part of this report.

Rev 230787

Total Petroleum Hydrocarbons



Method GC/FID

Client Name: SP Environmental  
 Client ID: P-2  
 Lab ID: 055544-0005-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 07 NOV 90

Parameter	Result	Units	Reporting Limit	
Kerosene	ND	mg/kg	100	R
Stoddard Solvent	ND	mg/kg	10	
Aviation Fuel (JP4)	ND	mg/kg	10	
Diesel Fuel	7500	mg/kg	1000	1
Unknown hydrocarbon	ND	mg/kg	10	

Note R : Raised reporting limit(s) due to high analyte level(s).

Note 1 : This sample contains a weathered Diesel pattern.

ND = Not detected  
 NA = Not applicable

Reported By: Kris Rogers

Approved By: Lisa Stafford

The cover letter is an integral part of this report.  
 Rev 230787

Total Petroleum Hydrocarbons



Method GC/FID

Client Name: SP Environmental  
 Client ID: P-3  
 Lab ID: 055544-0006-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 07 NOV 90

Parameter	Result	Units	Reporting Limit	
Kerosene	ND	mg/kg	10	
Stoddard Solvent	ND	mg/kg	10	
Aviation Fuel (JP4)	ND	mg/kg	10	
Diesel Fuel	2900	mg/kg	100	RI
Unknown hydrocarbon	ND	mg/kg	10	

Note R : Raised reporting limit(s) due to high analyte level(s).

Note 1 : This sample contains a weathered Diesel pattern.

ND = Not detected  
 NA = Not applicable

Reported By: Kris Rogers

Approved By: Lisa Stafford

The cover letter is an integral part of this report.

Rev 230787



Total Petroleum Hydrocarbons



Method GC/FID

Client Name: SP Environmental  
 Client ID: P-4  
 Lab ID: 055544-0007-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 07 NOV 90

Parameter	Result	Units	Reporting Limit	
Kerosene	ND	mg/kg	500	R
Stoddard Solvent	ND	mg/kg	10	
Aviation Fuel (JP4)	ND	mg/kg	10	
Diesel Fuel	4400	mg/kg	500	1
Unknown hydrocarbon	ND	mg/kg	10	

Note R : Raised reporting limit(s) due to high analyte level(s).

Note 1 : This sample contains a weathered diesel pattern.

ND = Not detected  
 NA = Not applicable

Reported By: Kris Rogers

Approved By: Lisa Stafford

The cover letter is an integral part of this report.

Rev 230787

TCL Organochlorine Pesticides/PCBs



Method 8080

Client Name: SP Environmental  
 Client ID: MW3-Surf  
 Lab ID: 055544-0001-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 08 NOV 90

Parameter	Result	Wet wt. Units	Reporting Limit	
alpha-BHC	ND	ug/kg	120	R
beta-BHC	ND	ug/kg	250	
delta-BHC	ND	ug/kg	250	
gamma-BHC (Lindane)	ND	ug/kg	120	
Heptachlor	ND	ug/kg	250	
Aldrin	ND	ug/kg	250	
Heptachlor epoxide	ND	ug/kg	250	
Endosulfan I	ND	ug/kg	250	
Dieldrin	400	ug/kg	250	
4,4'-DDE	1500	ug/kg	1200	
Endrin	ND	ug/kg	250	
Endosulfan II	ND	ug/kg	500	
4,4'-DDD	ND	ug/kg	500	
Endosulfan sulfate	ND	ug/kg	500	
4,4'-DDT	5300	ug/kg	2500	
Endrin ketone	ND	ug/kg	500	
Methoxychlor	ND	ug/kg	2500	
Chlordane	ND	ug/kg	2500	
Toxaphene	ND	ug/kg	10000	
Aroclor 1016	ND	ug/kg	5000	
Aroclor 1221	ND	ug/kg	5000	
Aroclor 1232	ND	ug/kg	5000	
Aroclor 1242	ND	ug/kg	5000	
Aroclor 1248	ND	ug/kg	5000	
Aroclor 1254	ND	ug/kg	5000	
Aroclor 1260	ND	ug/kg	5000	
Surrogate	Recovery			
Dibutyl chlorendate	ND	%	--	H

Note R : Raised reporting limit(s) due to high analyte level(s).

Note H : Surrogate not detected because of required sample dilution.

ND = Not detected  
 NA = Not applicable

Reported By: Mike Harrison

Approved By: Lisa Stafford

The cover letter is an integral part of this report.  
 Rev 230787

TCL Organochlorine Pesticides/PCBs



Method 8080

Client Name: SP Environmental  
 Client ID: MW3-4'  
 Lab ID: 055544-0002-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 08 NOV 90

Parameter	Result	Wet wt. Units	Reporting Limit
alpha-BHC	ND	ug/kg	8.0
beta-BHC	ND	ug/kg	8.0
delta-BHC	ND	ug/kg	8.0
gamma-BHC (Lindane)	ND	ug/kg	8.0
Heptachlor	ND	ug/kg	8.0
Aldrin	ND	ug/kg	8.0
Heptachlor epoxide	ND	ug/kg	8.0
Endosulfan I	ND	ug/kg	8.0
Dieldrin	ND	ug/kg	16
4,4'-DDE	ND	ug/kg	16
Endrin	ND	ug/kg	16
Endosulfan II	ND	ug/kg	16
4,4'-DDD	ND	ug/kg	16
Endosulfan sulfate	ND	ug/kg	16
4,4'-DDT	ND	ug/kg	16
Endrin ketone	ND	ug/kg	16
Methoxychlor	ND	ug/kg	80
Chlordane	ND	ug/kg	80
Toxaphene	ND	ug/kg	160
Aroclor 1016	ND	ug/kg	80
Aroclor 1221	ND	ug/kg	80
Aroclor 1232	ND	ug/kg	80
Aroclor 1242	ND	ug/kg	80
Aroclor 1248	ND	ug/kg	80
Aroclor 1254	ND	ug/kg	160
Aroclor 1260	ND	ug/kg	160
Surrogate	Recovery		
Dibutyl chlorendate	127	%	--

ND = Not detected  
 NA = Not applicable

Reported By: Mike Harrison

Approved By: Lisa Stafford

The cover letter is an integral part of this report.  
 Rev 230787

TCL Organochlorine Pesticides/PCBs



Method 8080

Client Name: SP Environmental  
 Client ID: P-1  
 Lab ID: 055544-0004-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 08 NOV 90

Parameter	Result	Wet wt. Units	Reporting Limit	
alpha-BHC	ND	ug/kg	120	R
beta-BHC	ND	ug/kg	250	
delta-BHC	ND	ug/kg	250	
gamma-BHC (Lindane)	ND	ug/kg	120	
Heptachlor	ND	ug/kg	250	
Aldrin	ND	ug/kg	250	
Heptachlor epoxide	ND	ug/kg	250	
Endosulfan I	ND	ug/kg	250	
Dieldrin	340	ug/kg	250	
4,4'-DDE	860	ug/kg	250	
Endrin	220	ug/kg	120	
Endosulfan II	ND	ug/kg	500	
4,4'-DDD	1000	ug/kg	500	
Endosulfan sulfate	ND	ug/kg	500	
4,4'-DDT	3500	ug/kg	500	
Endrin ketone	ND	ug/kg	500	
Methoxychlor	ND	ug/kg	2500	
Chlordane	ND	ug/kg	2500	
Toxaphene	ND	ug/kg	10000	
Aroclor 1016	ND	ug/kg	2500	
Aroclor 1221	ND	ug/kg	2500	
Aroclor 1232	ND	ug/kg	2500	
Aroclor 1242	4500	ug/kg	2500	
Aroclor 1248	ND	ug/kg	2500	
Aroclor 1254	ND	ug/kg	2500	
Aroclor 1260	ND	ug/kg	2500	
Surrogate	Recovery			
Dibutyl chlorendate	ND	%	--	H

Note R : Raised reporting limit(s) due to high analyte level(s).

Note H : Surrogate not detected because of required sample dilution.

ND = Not detected  
 NA = Not applicable

Reported By: Mike Harrison

Approved By: Lisa Stafford

The cover letter is an integral part of this report.

Rev 230787

TCL Organochlorine Pesticides/PCBs



Method 8080

Client Name: SP Environmental  
 Client ID: P-2  
 Lab ID: 055544-0005-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 08 NOV 90

Parameter	Result	Wet wt. Units	Reporting Limit	
alpha-BHC	ND	ug/kg	1200	R
beta-BHC	ND	ug/kg	2500	
delta-BHC	ND	ug/kg	2500	
gamma-BHC (Lindane)	ND	ug/kg	1200	
Heptachlor	ND	ug/kg	2500	
Aldrin	ND	ug/kg	5000	
Heptachlor epoxide	ND	ug/kg	5000	
Endosulfan I	ND	ug/kg	2500	
Dieldrin	ND	ug/kg	5000	
4,4'-DDE	ND	ug/kg	2500	
Endrin	ND	ug/kg	2500	
Endosulfan II	ND	ug/kg	5000	
4,4'-DDD	ND	ug/kg	5000	
Endosulfan sulfate	ND	ug/kg	5000	
4,4'-DDT	ND	ug/kg	5000	
Endrin ketone	ND	ug/kg	5000	
Methoxychlor	ND	ug/kg	25000	
Chlordane	ND	ug/kg	25000	
Toxaphene	ND	ug/kg	100000	
Aroclor 1016	ND	ug/kg	50000	
Aroclor 1221	ND	ug/kg	50000	
Aroclor 1232	ND	ug/kg	50000	
Aroclor 1242	ND	ug/kg	50000	
Aroclor 1248	130000	ug/kg	50000	
Aroclor 1254	100000	ug/kg	50000	
Aroclor 1260	ND	ug/kg	50000	
Surrogate	Recovery			
Dibutyl chlorendate	ND	%	--	H

Note R : Raised reporting limit(s) due to high analyte level(s).

Note H : Surrogate not detected because of required sample dilution.

ND = Not detected  
 NA = Not applicable

Reported By: Mike Harrison

Approved By: Lisa Stafford

The cover letter is an integral part of this report.

Rev 230787

TCL Organochlorine Pesticides/PCBs



Method 8080

Client Name: SP Environmental  
 Client ID: P-3  
 Lab ID: 055544-0006-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 08 NOV 90

Parameter	Result	Wet wt. Units	Reporting Limit	
alpha-BHC	ND	ug/kg	620	R
beta-BHC	ND	ug/kg	1200	
delta-BHC	ND	ug/kg	1200	
gamma-BHC (Lindane)	ND	ug/kg	620	
Heptachlor	ND	ug/kg	1200	
Aldrin	ND	ug/kg	1200	
Heptachlor epoxide	ND	ug/kg	1200	
Endosulfan I	ND	ug/kg	1200	
Dieldrin	ND	ug/kg	1200	
4,4'-DDE	ND	ug/kg	1200	
Endrin	ND	ug/kg	1200	
Endosulfan II	ND	ug/kg	2500	
4,4'-DDD	ND	ug/kg	2500	
Endosulfan sulfate	ND	ug/kg	2500	
4,4'-DDT	ND	ug/kg	2500	
Endrin ketone	ND	ug/kg	2500	
Methoxychlor	ND	ug/kg	12000	
Chlordane	ND	ug/kg	50000	
Toxaphene	ND	ug/kg	25000	
Aroclor 1016	ND	ug/kg	25000	
Aroclor 1221	ND	ug/kg	25000	
Aroclor 1232	ND	ug/kg	25000	
Aroclor 1242	ND	ug/kg	25000	
Aroclor 1248	ND	ug/kg	25000	
Aroclor 1254	ND	ug/kg	25000	
Aroclor 1260	87000	ug/kg	25000	
Surrogate	Recovery			
Dibutyl chlorendate	ND	%	--	H

Note R : Raised reporting limit(s) due to high analyte level(s).

Note H : Surrogate not detected because of required sample dilution.

ND = Not detected  
 NA = Not applicable

Reported By: Mike Harrison

Approved By: Lisa Stafford

The cover letter is an integral part of this report.

Rev 230787

TCL Organochlorine Pesticides/PCBs



Method 8080

Client Name: SP Environmental  
 Client ID: P-4  
 Lab ID: 055544-0007-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: 02 NOV 90

Received: 01 NOV 90  
 Analyzed: 08 NOV 90

Parameter	Result	Wet wt. Units	Reporting Limit	
alpha-BHC	ND	ug/kg	1200	R
beta-BHC	ND	ug/kg	2500	
delta-BHC	ND	ug/kg	2500	
gamma-BHC (Lindane)	ND	ug/kg	1200	
Heptachlor	ND	ug/kg	2500	
Aldrin	ND	ug/kg	2500	
Heptachlor epoxide	ND	ug/kg	2500	
Endosulfan I	ND	ug/kg	2500	
Dieldrin	ND	ug/kg	2500	
4,4'-DDE	ND	ug/kg	2500	
Endrin	ND	ug/kg	2500	
Endosulfan II	ND	ug/kg	5000	
4,4'-DDD	ND	ug/kg	5000	
Endosulfan sulfate	ND	ug/kg	5000	
4,4'-DDT	ND	ug/kg	5000	
Endrin ketone	ND	ug/kg	5000	
Methoxychlor	ND	ug/kg	25000	
Chlordane	ND	ug/kg	25000	
Toxaphene	ND	ug/kg	100000	
Aroclor 1016	ND	ug/kg	50000	
Aroclor 1221	ND	ug/kg	50000	
Aroclor 1232	ND	ug/kg	50000	
Aroclor 1242	ND	ug/kg	50000	
Aroclor 1248	440000	ug/kg	250000	
Aroclor 1254	ND	ug/kg	50000	
Aroclor 1260	110000	ug/kg	50000	
Surrogate	Recovery			
Dibutyl chlorendate	ND	%	--	H

Note R : Raised reporting limit(s) due to high analyte level(s).

Note H : Surrogate not detected because of required sample dilution.

ND = Not detected  
 NA = Not applicable

Reported By: Mike Harrison

Approved By: Lisa Stafford

The cover letter is an integral part of this report.

Rev 230787

METALS

(Soil/Solid - Total)

Client Name: SP Environmental  
 Client ID: MW3-Surf  
 Lab ID: 055544-0001-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: See Below

Received: 01 NOV 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	6.3	mg/kg	0.50	Method 6010	05 NOV 90	05 NOV 90
Chromium	49.2	mg/kg	1.0	Method 6010	05 NOV 90	05 NOV 90
Copper	262	mg/kg	2.0	Method 6010	05 NOV 90	05 NOV 90
Lead	603	mg/kg	5.0	Method 6010	05 NOV 90	05 NOV 90
Mercury	1.2	mg/kg	0.10	Method 7471	07 NOV 90	07 NOV 90
Nickel	32.7	mg/kg	4.0	Method 6010	05 NOV 90	05 NOV 90
Zinc	623	mg/kg	2.0	Method 6010	05 NOV 90	05 NOV 90

ND = Not detected  
 NA = Not applicable

Reported By: Grace Chang

Approved By: Barry Votaw

The cover letter is an integral part of this report.  
 Rev 230787



**METALS**

(Soil/Solid - Total)

 Client Name: SP Environmental  
 Client ID: MW3-4'  
 Lab ID: 055544-0002-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

 Sampled: 01 NOV 90  
 Prepared: See Below

 Received: 01 NOV 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	ND	mg/kg	0.50	Method 6010	05 NOV 90	05 NOV 90
Chromium	26.3	mg/kg	1.0	Method 6010	05 NOV 90	05 NOV 90
Copper	9.9	mg/kg	2.0	Method 6010	05 NOV 90	05 NOV 90
Lead	ND	mg/kg	5.0	Method 6010	05 NOV 90	05 NOV 90
Mercury	ND	mg/kg	0.10	Method 7471	07 NOV 90	07 NOV 90
Nickel	16.7	mg/kg	4.0	Method 6010	05 NOV 90	05 NOV 90
Zinc	15.7	mg/kg	2.0	Method 6010	05 NOV 90	05 NOV 90

 ND = Not detected  
 NA = Not applicable

Reported By: Grace Chang

Approved By: Barry Votaw

The cover letter is an integral part of this report.

Rev 230787

**METALS**

(Soil/Solid - Total)

 Client Name: SP Environmental  
 Client ID: P-1  
 Lab ID: 055544-0004-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

 Sampled: 01 NOV 90  
 Prepared: See Below

 Received: 01 NOV 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	8.7	mg/kg	0.50	Method 6010	05 NOV 90	05 NOV 90
Chromium	91.9	mg/kg	1.0	Method 6010	05 NOV 90	05 NOV 90
Copper	629	mg/kg	2.0	Method 6010	05 NOV 90	05 NOV 90
Lead	911	mg/kg	5.0	Method 6010	05 NOV 90	05 NOV 90
Mercury	17.3	mg/kg	0.10	Method 7471	08 NOV 90	08 NOV 90
Nickel	115	mg/kg	4.0	Method 6010	05 NOV 90	05 NOV 90
Zinc	1210	mg/kg	2.0	Method 6010	05 NOV 90	05 NOV 90

 ND = Not detected  
 NA = Not applicable

Reported By: Grace Chang

Approved By: Barry Votaw

 The cover letter is an integral part of this report.  
 Rev 230787

METALS

(Soil/Solid - Total)

Client Name: SP Environmental  
 Client ID: P-2  
 Lab ID: 055544-0005-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: See Below

Received: 01 NOV 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	17.7	mg/kg	0.50	Method 6010	05 NOV 90	05 NOV 90
Chromium	187	mg/kg	1.0	Method 6010	05 NOV 90	05 NOV 90
Copper	8570	mg/kg	2.0	Method 6010	05 NOV 90	05 NOV 90
Lead	3480	mg/kg	5.0	Method 6010	05 NOV 90	05 NOV 90
Mercury	1.5	mg/kg	0.10	Method 7471	07 NOV 90	07 NOV 90
Nickel	116	mg/kg	4.0	Method 6010	05 NOV 90	05 NOV 90
Zinc	3400	mg/kg	2.0	Method 6010	05 NOV 90	05 NOV 90

ND = Not detected  
 NA = Not applicable

Reported By: Grace Chang

Approved By: Barry Votaw

The cover letter is an integral part of this report.

Rev 230787

METALS

(Soil/Solid - Total)

Client Name: SP Environmental  
 Client ID: P-3  
 Lab ID: 055544-0006-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: See Below

Received: 01 NOV 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	10.5	mg/kg	0.50	Method 6010	05 NOV 90	05 NOV 90
Chromium	104	mg/kg	1.0	Method 6010	05 NOV 90	05 NOV 90
Copper	7320	mg/kg	2.0	Method 6010	05 NOV 90	05 NOV 90
Lead	2140	mg/kg	5.0	Method 6010	05 NOV 90	05 NOV 90
Mercury	0.76	mg/kg	0.10	Method 7471	08 NOV 90	08 NOV 90
Nickel	715	mg/kg	4.0	Method 6010	05 NOV 90	05 NOV 90
Zinc	4640	mg/kg	2.0	Method 6010	05 NOV 90	05 NOV 90

ND = Not detected  
 NA = Not applicable

Reported By: Grace Chang

Approved By: Barry Votaw

The cover letter is an integral part of this report.  
 Rev 230787

METALS

(Soil/Solid - Total)

Client Name: SP Environmental  
 Client ID: P-4  
 Lab ID: 055544-0007-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: See Below

Received: 01 NOV 90  
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	10.7	mg/kg	0.50	Method 6010	05 NOV 90	05 NOV 90
Chromium	90.4	mg/kg	1.0	Method 6010	05 NOV 90	05 NOV 90
Copper	559	mg/kg	2.0	Method 6010	05 NOV 90	05 NOV 90
Lead	1860	mg/kg	5.0	Method 6010	05 NOV 90	05 NOV 90
Mercury	0.51	mg/kg	0.10	Method 7471	07 NOV 90	07 NOV 90
Nickel	77.0	mg/kg	4.0	Method 6010	05 NOV 90	05 NOV 90
Zinc	1210	mg/kg	2.0	Method 6010	05 NOV 90	05 NOV 90

ND = Not detected  
 NA = Not applicable

Reported By: Grace Chang

Approved By: Barry Votaw

The cover letter is an integral part of this report.  
 Rev 230787

TCL Volatile Organics

8240

Client Name: SP Environmental  
 Client ID: MW3-4'  
 Lab ID: 055544-0002-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: NA

Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	10
Bromomethane	ND	ug/kg	10
Vinyl chloride	ND	ug/kg	10
Chloroethane	ND	ug/kg	10
Methylene chloride	ND	ug/kg	5.0
Acetone	ND	ug/kg	10
Carbon disulfide	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
1,2-Dichloroethene	ND	ug/kg	5.0
(total)	ND	ug/kg	5.0
Chloroform	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
2-Butanone (MEK)	ND	ug/kg	10
1,1,1-Trichloroethane	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Vinyl acetate	ND	ug/kg	10
Bromodichloromethane	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
cis-1,3-Dichloropropene	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Dibromochloromethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Benzene	ND	ug/kg	5.0
trans-1,3-Dichloropropene	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
2-Hexanone	ND	ug/kg	10
4-Methyl-2-pentanone	ND	ug/kg	10
(MIBK)	ND	ug/kg	10
Tetrachloroethene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
Styrene	ND	ug/kg	5.0
Xylenes (total)	ND	ug/kg	5.0

Surrogate	Recovery		
1,2-Dichloroethane-d4	96	%	--
Toluene-d8	112	%	--

(continued on following page)

ND = Not detected  
 NA = Not applicable

Reported By: Doug Burnett

Approved By: Karin Yee

The cover letter is an integral part of this report.

## TCL Volatile Organics (CONT.)

8240

Client Name: SP Environmental  
Client ID: MW3-4'  
Lab ID: 055544-0002-SA  
Matrix: SOIL  
Authorized: 01 NOV 90

Sampled: 01 NOV 90  
Prepared: NA

Received: 01 NOV 90  
Analyzed: 06 NOV 90

Surrogate	Recovery		
4-Bromofluorobenzene	120	%	--

ND = Not detected  
NA = Not applicable

Reported By: Doug Burnett

Approved By: Karin Yee

The cover letter is an integral part of this report.  
Rev 230787

TCL Volatile Organics

8240

Client Name: SP Environmental  
 Client ID: MW-3-8'  
 Lab ID: 055544-0003-SA  
 Matrix: SOIL  
 Authorized: 01 NOV 90

Sampled: 01 NOV 90  
 Prepared: NA

Received: 01 NOV 90  
 Analyzed: 06 NOV 90

Parameter	Result	Units	Reporting Limit	
Chloromethane	ND	ug/kg	10	
Bromomethane	ND	ug/kg	10	
Vinyl chloride	ND	ug/kg	10	
Chloroethane	ND	ug/kg	10	
Methylene chloride	ND	ug/kg	5.0	
Acetone	21	ug/kg	10	Bb
Carbon disulfide	ND	ug/kg	5.0	
1,1-Dichloroethene	ND	ug/kg	5.0	
1,1-Dichloroethane	ND	ug/kg	5.0	
1,2-Dichloroethene (total)	ND	ug/kg	5.0	
Chloroform	ND	ug/kg	5.0	
1,2-Dichloroethane	ND	ug/kg	5.0	
2-Butanone (MEK)	ND	ug/kg	10	
1,1,1-Trichloroethane	ND	ug/kg	5.0	
Carbon tetrachloride	ND	ug/kg	5.0	
Vinyl acetate	ND	ug/kg	10	
Bromodichloromethane	ND	ug/kg	5.0	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	
1,2-Dichloropropane	ND	ug/kg	5.0	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	
Trichloroethene	ND	ug/kg	5.0	
Dibromochloromethane	ND	ug/kg	5.0	
1,1,2-Trichloroethane	ND	ug/kg	5.0	
Benzene	ND	ug/kg	5.0	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	
Bromoform	ND	ug/kg	5.0	
2-Hexanone	ND	ug/kg	10	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10	
Tetrachloroethene	ND	ug/kg	5.0	
Toluene	ND	ug/kg	5.0	
Chlorobenzene	ND	ug/kg	5.0	
Ethylbenzene	ND	ug/kg	5.0	
Styrene	ND	ug/kg	5.0	
Xylenes (total)	ND	ug/kg	5.0	
Surrogate	Recovery			
1,2-Dichloroethane-d4	101	%	--	
Toluene-d8	116	%	--	

(continued on following page)

ND = Not detected  
 NA = Not applicable

Reported By: Doug Burnett

Approved By: Karin Yee

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Rev 230787



TCL Volatile Organics (CONT.)

8240

Client Name: SP Environmental  
Client ID: MW-3-8'  
Lab ID: 055544-0003-SA  
Matrix: SOIL  
Authorized: 01 NOV 90

Sampled: 01 NOV 90  
Prepared: NA

Received: 01 NOV 90  
Analyzed: 06 NOV 90

Surrogate	Recovery		
4-Bromofluorobenzene	121	%	--

Note B : Compound is also detected in the blank.

Note b : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected  
NA = Not applicable

Reported By: Doug Burnett

Approved By: Karin Yee

The cover letter is an integral part of this report.  
Rev 230787

**Total Petroleum Hydrocarbons (Gasoline)****Purge and Trap Method TPH-GC/FID**

Client Name: SP Environmental  
Client ID: MW3-4'  
Lab ID: 055544-0002-SA  
Matrix: SOIL  
Authorized: 01 NOV 90

Sampled: 01 NOV 90  
Prepared: NA

Received: 01 NOV 90  
Analyzed: 02 NOV 90

Parameter	Result	Units	Reporting Limit
Gasoline	ND	mg/kg	10

ND = Not detected  
NA = Not applicable

Reported By: Jon Edmondson

Approved By: Kris Rogers

The cover letter is an integral part of this report.

Rev 230787

Total Petroleum Hydrocarbons (Gasoline)

Purge and Trap Method TPH-GC/FID

Client Name: SP Environmental  
Client ID: MW-3-8'  
Lab ID: 055544-0003-SA  
Matrix: SOIL  
Authorized: 01 NOV 90

Sampled: 01 NOV 90  
Prepared: NA

Received: 01 NOV 90  
Analyzed: 02 NOV 90

Parameter	Result	Units	Reporting Limit
Gasoline	ND	mg/kg	10

ND = Not detected  
NA = Not applicable

Reported By: Jon Edmondson

Approved By: Kris Rogers

The cover letter is an integral part of this report.  
Rev 230787



SP - EVS

CHAIN-OF-CUSTODY RECORD

No. 10711

SP - Environmental Systems, Inc. • 9719 Lincoln Village Drive, Ste. 310 • Sacramento, CA 95827 • Phone 916-369-8971 • FAX 916-369-8370

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE LOCATION (INCLUDE MATRIX AND POINT OF SAMPLE)	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)	NUMBER OF CONTAINERS	REMARKS
1	MW3-3a	11/16/90	805		✓	SOIL	X	1	
2	MW3-4	↓	827	✓		↓	X	1	
3	MW3-8	↓	833	✓		↓	X	1	
4	P-1	11/16/90	1435		✓	SOIL	X	1	
5	P-2	↓	1440	✓		↓	X	1	
6	P-3	↓	1445	✓		↓	X	1	
7	P-4	↓	1450	✓		↓	X	1	
8									
9									
10									

TRANSFERS NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME	REMARKS
1		Water Pump	Diana C. Spear	10/19/90	1740	1 WEEK
2						
3						
4						