APPENDIX A

SOIL VAPOR DATA VALIDATION REPORT
FIFTEENTH PERIODIC SAMPLING EVENT

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Geofon, Inc.
22632 Golden Springs Drive, Suite 270
Diamond Bar, CA 91765
ATTN: Mr. Leo Williamson

October 10, 2003

SUBJECT: NASA JPL, DO #01, Data Validation

Dear Mr. Williamson,

Enclosed is the final validation report for the fraction listed below. This SDG was received on September 29, 2003. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 10942:

SDG #	Fraction
GF00810803-L6	Volatiles

The data validation was performed under EPA Level III guidelines. The analyses were validated using the following documents, as applicable to each method:

- USEPA, Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996

Please feel free to contact us if you have any questions.

Sincerely,

Erlinda T. Rauto
Operations Manager/Senior Chemist

Attachment 1

LDC #10942 (Geofon-Diamond Bar / JPL, DO#0001)

LDC	SDG#	DATE REC'D	DATE DUE	VOA (8260B)																													
Matrix:	Water/Air			W	A	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	GF0081803-L6	9-29-03	10-13-03	0	105																												
Total	TH			0	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Shaded cells indicate Level IV validation (all other cells are Level III validation).

10942ST.wpd

NASA JPL
Data Validation Reports
LDC# 10942

Volatiles

LDC Report# 10942A1

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL

Collection Date: August 18 through August 29, 2003

LDC Report Date: October 9, 2003

Matrix: Air

Parameters: Volatiles

Validation Level: EPA Level III

Laboratory: HP Labs

Sample Delivery Group (SDG): GF0081803-L6

Sample Identification

SVW12-VPA-001	SVW32-VPE-028	SVW35-VPE-055	SVW27-VPI-082
SVW12-VPC-002	SVW32-VPI-029	SVW35-VPI-056	SVW38-VPD-083
SVW31-VPA-003	SVW32-VPJ-030	SVW28-VPA-057	SVW38-VPF-084
SVW31-VPB-004	SVW14-VPA-031	SVW28-VPD-058	SVW38-VPJ-085
SVW31-VPC-005	SVW14-VPB-032	SVW28-VPD-059dup	SVW37-VPB-086
SVW31-VPD-006	SVW17-VPC-033	SVW28-VPE-060	SVW37-VPE-087
SVW31-VPE-007	SVW17-VPC-034dup	SVW26-VPF-061	SVW37-VPH-088
SVW30-VPA-008	SVW8-VPC-035	SVW26-VPG-062	SVW37-VPH-089dup
SVW30-VPB-009	SVW8-VPD-036	SVW26-VPH-063	SVW37-VPI-090
SVW30-VPB-010dup	SVW8-VPE-037	SVW25-VPA-064	SVW37-VPJ-091
SVW30-VPC-011	SVW13-VPB-038	SVW25-VPB-065	SVW34-VPE-092
SVW30-VPD-012	SVW1 0-VPB-039	SVW25-VPI-066	SVW34-VPE-093dup
SVW30-VPE-013	SVW10-VPD-040	SVW25-VPJ-067	SVW34-VPF-094
SVW5-VPB-014	SVW33-VPA-041	SVW36-VPA-068	SVW39-VPA-095
SVW1-VPB-015	SVW33-VPB-042	SVW36-VPB-069	SVW39-VPE-096
SVW1-VPC-016	SVW33-VPC-043	SVW36-VPB-070dup	SVW39-VPF-097
SVW2-VPA-017	SVW33-VPD-044	SVW36-VPC-071	SVW39-VPI-098
SVW3-VPB-018	SVW33-VPE-045	SVW36-VPD-072	SVW15-VPB-099
SVW3-VPC-019	SVW33-VPE-046	SVW36-VPE-073	SVW15-VPC-100
SVW7-VPA-020	SVW33-VPG-047	SVW27-VPA-074	SVW 15-VPD-101
SVW7-VPB-021	SVW33-VPG-048dup	SVW27-VPB-075	SVW15-VPE-102
SVW4-VPB-022	SVW33-VPJ-049	SVW27-VPC-076	SVW6-VPB-103
SVW4-VPB-023dup	SVW9-VPA-050	SVW27-VPD-077	SVW6-VPB-104dup
SVW4-VPD-024	SVW9-VPB-051	SVW27-VPE-078	SVW6-VPD-105
SVW11-VPA-025	SVW9-VPC-052	SVW27-VPF-079	
SVW32-VPB-026	SVW9-VPD-053	SVW27-VPG-080	
SVW32-VPD-027	SVW9-VPE-054	SVW27-VPG-081dup	

Introduction

This data review covers 105 air samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
8/28/03	Dichlorodifluoromethane	30.2	SVW34-VPE-092 SVW34-VPE-093dup SVW34-VPF-094 SVW39-VPA-095 SVW39-VPE-096 SVW39-VPF-097 SVW39-VPI-098 MB8/28/03	J (all detects) UJ (all non-detects)	A
8/29/03	Dichlorodifluoromethane	40.2	SVW15-VPB-099 SVW15-VPC-100 SVW 15-VPD-101 SVW15-VPE-102 SVW6-VPB-103 SVW6-VPB-104dup SVW6-VPD-105 MB8/29/03	J (all detects) UJ (all non-detects)	A

All of the continuing calibration RRF values were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
LCS8/27/03	Trichlorofluoromethane	160 (50-150)	SVW38-VPF-084 SVW38-VPJ-085 SVW37-VPB-086 SVW37-VPE-087 SVW37-VPH-088 SVW37-VPH-089dup SVW37-VPI-090 SVW37-VPJ-091 MB8/27/03	J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data was not provided and therefore not reviewed.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples SVW30-VPB-009 and SVW30-VPB-010dup, samples SVW4-VPB-022 and SVW4-VPB-023dup, samples SVW17-VPC-033 and SVW17-VPC-034dup, samples SVW33-VPG-047 and SVW33-VPG-048dup, samples SVW28-VPD-058 and SVW28-VPD-059dup, samples SVW36-VPB-069 and SVW36-VPB-070dup, samples SVW27-VPG-080 and SVW27-VPG-081dup, samples SVW37-VPH-088 and SVW37-VPH-089dup, samples SVW34-VPE-092 and SVW34-VPE-093dup, and samples SVW6-VPB-103 and SVW6-VPB-104dup were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	SVW4-VPB-022	SVW4-VPB-023dup	
Trichloroethene	26	28	7

Compound	Concentration (ug/L)		RPD
	SVW17-VPC-033	SVW17-VPC-034dup	
1,1-Dichloroethane	1.2	1.2	0
1,2-Dichloroethane	11	8.7	23
Tetrachloroethene	7.1	6.4	10
1,1,2-Trichloroethane	1.4	1.0	33
Trichloroethene	2.5	2.1	17
Benzene	110	90	20
Ethylbenzene	3.3	2.6	24
Toluene	1.5	1.2	22
m,p-Xylenes	12	9.2	26

Compound	Concentration (ug/L)		RPD
	SVW33-VPG-047	SVW33-VPG-048dup	
Carbon tetrachloride	11	8.8	22

Compound	Concentration (ug/L)		RPD
	SVW33-VPG-047	SVW33-VPG-048dup	
Chloroform	4.4	2.5	55
1,1-Dichloroethene	2.0	2.5	22
Trichloroethene	1.7	1.5	13
1,1,2-Trichlorotrifluoroethane	2.4	2.5	4

Compound	Concentration (ug/L)		RPD
	SVW36-VPB-069	SVW36-VPB-070dup	
Trichloroethene	ND	1.0	Not calculable

Compound	Concentration (ug/L)		RPD
	SVW27-VPG-080	SVW27-VPG-081dup	
Carbon tetrachloride	2.3	2.2	4

Compound	Concentration (ug/L)		RPD
	SVW37-VPH-088	SVW37-VPH-089dup	
Chloroform	1.1	ND	Not calculable
Trichlorofluoromethane	1.8	1.6	12

XVII. Field Blanks

No field blanks were identified in this SDG.

NASA JPL
Volatiles - Data Qualification Summary - SDG GF0081803-L6

SDG	Sample	Compound	Flag	A or P	Reason
GF0081803-L6	SVW34-VPE-092 SVW34-VPE-093dup SVW34-VPF-094 SVW39-VPA-095 SVW39-VPE-096 SVW39-VPF-097 SVW39-VPI-098 SVW15-VPB-099 SVW15-VPC-100 SVW 15-VPD-101 SVW15-VPE-102 SVW6-VPB-103 SVW6-VPB-104dup SVW6-VPD-105	Dichlorodifluoromethane	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
GF0081803-L6	SVW36-VPF-084 SVW38-VPJ-085 SVW37-VPB-086 SVW37-VPE-087 SVW37-VPH-088 SVW37-VPH-089dup SVW37-VPI-090 SVW37-VPJ-091	Trichlorofluoromethane	J (all detects)	P	Laboratory control samples (%R)

NASA JPL
Volatiles - Laboratory Blank Data Qualification Summary - SDG GF0081803-L6

No Sample Data Qualified in this SDG

GEOFON PROJECT # 04-4428.10
JET PROPULSION LABORATORY
4800 OAK GROVE DRIVE
PASADENA, CA

HP Labs Project #GF081803-L6

INSTRUMENT: AGILENT 6850 GC / 5973 MASS SPECTROMETER
VOLATILE HALOGENATED AND AROMATIC HYDROCARBONS (EPA Method 8260) ANALYSES OF SOIL VAPOR
SOIL VAPOR DATA IN UG/L-VAPOR

	AMBIENT BLANK	SVW12-VPA-001	SVW12-VPC-002	SVW31-VPA-003	SVW31-VPB-004	SVW31-VPC-005	SVW31-VPD-006	SVW31-VPE-007	SVW30-VPA-008	SVW30-VPB-009	SVW30-VPB-010 Dup	SVW30-VPC-011	SVW30-VPD-012	SVW30-VPE-013
DATE	08/18/03	08/18/03	08/18/03	08/18/03	08/18/03	08/18/03	08/18/03	08/18/03	08/18/03	08/18/03	08/18/03	08/18/03	08/18/03	08/18/03
ANALYSIS TIME	8:13	8:53	9:19	9:43	10:07	10:31	10:55	11:19	11:43	12:07	12:32	13:37	14:04	14:29
SAMPLING DEPTH (feet)	--	20	60	20	35	45	55	65	17	30	30	40	50	65
VOLUME WITHDRAWN (cc)	--	140	300	140	200	240	280	320	128	180	240	220	260	320
VOLUME INJECTED	20	20	20	20	20	20	20	20	20	20	20	20	20	20
DILUTION FACTOR	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
CARBON TETRACHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROFORM	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,2-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CIS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRANS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
DICHLOROMETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TETRACHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
VINYL CHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLOROFLUOROMETHANE (FR11)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
DICHLORODIFLUOROMETHANE (FR12)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
BENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
ETHYLBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TOLUENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
m&p-XYLENES	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
o-XYLENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
SURROGATES (75-125% RECOVERY)														
DIBROMODIFLUOROMETHANE	102%	105%	106%	108%	109%	111%	111%	112%	112%	112%	115%	116%	111%	111%
1,2-DICHLOROETHANE-d4	99%	104%	105%	108%	105%	109%	109%	108%	107%	112%	111%	114%	106%	111%
4 BROMOFLUORO BENZENE	102%	100%	103%	99%	100%	99%	101%	102%	99%	100%	100%	95%	97%	98%

ND INDICATES NOT DETECTED AT A DETECTION LIMIT OF 1.0 UG/L-VAPOR FOR EACH COMPOUND
ANALYSES PERFORMED ON-SITE IN CA DOHS MOBILE LABORATORY #1561
ANALYSES PERFORMED BY: MARK BURKE
DATA REVIEWED BY: TAMARA DAVIS

10/9/03

GEOFON PROJECT # 04-4428.10
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HP Labs Project #GF081803-L6

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	AMBIENT BLANK	SVW5-VPB-014	SVW1-VPB-015	SVW1-VPC-016	SVW2-VPA-017	SVW3-VPB-018	SVW3-VPC-019	SVW7-VPA-020	SVW7-VPB-021	SVW4-VPB-022	SVW4-VPB-023 Dup	SVW4-VPD-024
DATE	08/19/03	08/19/03	08/19/03	08/19/03	08/19/03	08/19/03	08/19/03	08/19/03	08/19/03	08/19/03	08/19/03	08/19/03
ANALYSIS TIME	7:54	8:25	8:51	9:15	9:39	10:03	10:27	10:50	11:15	11:39	12:03	13:16
SAMPLING DEPTH (feet)	--	9	21	33	10	29	40	20	35	20	20	56
VOLUME WITHDRAWN (cc)	--	96	144	192	100	176	220	140	200	140	200	284
VOLUME INJECTED	20	20	20	20	20	20	20	20	20	20	20	20
DILUTION FACTOR	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
CARBON TETRACHLORIDE	nd	1.7	nd	nd	nd	2.9	2.9	nd	nd	nd	nd	nd
CHLOROETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROFORM	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,2-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CIS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRANS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
DICHLOROMETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TETRACHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	26	28	2.5
VINYL CHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLOROFLUOROMETHANE (FR11)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
DICHLORODIFLUOROMETHANE (FR12)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
BENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
ETHYLBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TOLUENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
m&p-XYLENES	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
o-XYLENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
SURROGATES (75-125% RECOVERY)												
DIBROMODIFLUOROMETHANE	110%	103%	111%	115%	114%	115%	115%	115%	121%	115%	119%	110%
1,2-DICHLOROETHANE-d4	110%	100%	107%	113%	113%	111%	111%	110%	118%	112%	114%	105%
4 BROMOFLUORO BENZENE	98%	105%	103%	103%	102%	95%	97%	94%	98%	99%	97%	101%

ND INDICATES NOT DETECTED AT A DETECTION LIMIT OF 1.0 UG/L-VAPOR FOR EACH COMPOUND
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	AMBIENT BLANK	SVW11-VPA-025	SVW32-VPB-026	SVW32-VPD-027	SVW32-VPE-028	SVW32-VPI-029	SVW32-VPJ-030	SVW14--VPA-031	SVW14-VPB-032	SVW17-VPC-033	SVW17-VPC-034 Dup	SVW8-VPC-035	SVW8-VPD-036	SVW8-VPE-037	SVW13-VPB-038
DATE	08/20/03	08/20/03	08/20/03	08/20/03	08/20/03	08/20/03	08/20/03	08/20/03	08/20/03	08/20/03	08/20/03	08/20/03	08/20/03	08/20/03	08/20/03
ANALYSIS TIME	6:58	7:48	8:17	8:40	9:04	9:29	9:53	10:17	10:41	11:05	11:29	13:01	13:25	13:49	14:13
SAMPLING DEPTH (feet)	--	20	40	70	90	180	195	5	10	36	36	50	70	90	20
VOLUME WITHDRAWN (cc)	--	140	220	340	420	780	840	80	100	204	264	260	340	420	140
VOLUME INJECTED	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
DILUTION FACTOR	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
CARBON TETRACHLORIDE	nd	nd	nd	nd	nd	3.3	2.3	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROFORM	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.2	1.2	nd	nd	nd	nd
1,2-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	11	8.7	nd	nd	nd	nd
1,1-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CIS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRANS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
DICHLOROMETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TETRACHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	7.1	6.4	nd	nd	nd	nd
1,1,1,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.4	1.0	nd	nd	nd	nd
TRICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	2.5	2.1	nd	nd	nd	nd
VINYL CHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLOROFLUOROMETHANE (FR11)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
DICHLORODIFLUOROMETHANE (FR12)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
BENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	110	90	nd	nd	nd	nd
CHLOROBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
ETHYLBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	3.3	2.6	nd	nd	nd	nd
TOLUENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.5	1.2	nd	nd	nd	nd
m&p-XYLENES	nd	nd	nd	nd	nd	nd	nd	nd	nd	12	9.2	nd	nd	nd	nd
o-XYLENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
SURROGATES (75-125% RECOVERY)															
DIBROMODIFLUOROMETHANE	110%	105%	110%	107%	111%	114%	116%	109%	108%	88%	92%	104%	107%	107%	108%
1,2-DICHLOROETHANE-c4	103%	104%	108%	105%	107%	112%	112%	109%	109%	85%	93%	102%	104%	105%	106%
4 BROMOFLUORO BENZENE	104%	97%	105%	98%	99%	97%	100%	110%	107%	116%	113%	103%	102%	104%	101%

ND INDICATES NOT DETECTED AT A DETECTION LIMIT OF 1.0 UG/L-VAPOR FOR EACH COMPOUND
ANALYSES PERFORMED ON-SITE IN CA DOHS MOBILE LABORATORY #1561
ANALYSES PERFORMED BY: MARK BURKE
DATA REVIEWED BY: TAMARA DAVIS

10/9/03

GEOFON PROJECT # 04-4428.10
JET PROPULSION LABORATORY
4800 OAK GROVE DRIVE
PASADENA, CA

HP Labs Project #GF081803-L6

INSTRUMENT: AGILENT 6850 GC / 5973 MASS SPECTROMETER
VOLATILE HALOGENATED AND AROMATIC HYDROCARBONS (EPA Method 8260) ANALYSES OF SOIL VAPOR
SOIL VAPOR DATA IN UG/L-VAPOR

	AMBIENT BLANK	SVW10-VPB-039	SVW10-VPD-040	SVW33-VPA-041	SVW33-VPB-042	SVW33-VPC-043	SVW33-VPD-044	SVW33-VPE-045	SVW33-VPF-046	SVW33-VPG-047	SVW33-VPG-048 Dup	SVW33-VPJ-049	SVW9-VPA-050	SVW9-VPB-051	SVW9-VPC-052	SVW9-VPD-053	SVW9-VPE-054
DATE	08/21/03	08/21/03	08/21/03	08/21/03	08/21/03	08/21/03	08/21/03	08/21/03	08/21/03	08/21/03	08/21/03	08/21/03	08/21/03	08/21/03	08/21/03	08/21/03	08/21/03
ANALYSIS TIME	6:57	7:35	7:58	8:23	8:47	9:11	10:24	10:00	10:48	11:12	11:36	12:44	13:07	13:31	13:55	14:19	14:42
SAMPLING DEPTH (feet)	-	35	69	20	40	60	85	105	120	140	140	200	20	35	50	70	87
VOLUME WITHDRAWN (cc)	-	200	336	140	220	300	400	480	540	620	680	860	140	200	260	340	408
VOLUME INJECTED	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
DILUTION FACTOR	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
CARBON TETRACHLORIDE	nd	nd	nd	nd	nd	nd	nd	7.0	nd	11	8.8	nd	nd	nd	nd	nd	nd
CHLOROETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROFORM	nd	nd	nd	nd	nd	nd	nd	nd	nd	4.4	2.5	nd	nd	nd	nd	nd	nd
1,1-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,2-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	1.4	2.0	2.5	nd	nd	nd	nd	nd	nd
CIS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRANS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
DICHLOROMETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TETRACHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.7	1.5	nd	nd	nd	nd	nd	nd
VINYL CHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLOROFLUOROMETHANE (FR11)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
DICHLORODIFLUOROMETHANE (FR12)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	nd	4.1	4.8	nd	nd	nd	nd	1.5	nd	2.4	2.5	nd	1.0	1.3	1.1	nd	nd
BENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
ETHYLBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TOLUENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
m&p-XYLENES	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
o-XYLENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
SURROGATES (75-125% RECOVERY)																	
DIBROMODIFLUOROMETHANE	104%	106%	103%	109%	113%	116%	117%	115%	117%	119%	115%	117%	112%	119%	117%	118%	121%
1,2-DICHLOROETHANE-d4	104%	103%	98%	104%	113%	112%	113%	117%	110%	116%	112%	111%	104%	116%	115%	115%	113%
4 BROMOFLUORO BENZENE	103%	99%	104%	104%	98%	104%	100%	100%	104%	97%	97%	98%	97%	94%	93%	97%	94%

ND INDICATES NOT DETECTED AT A DETECTION LIMIT OF 1.0 UG/L-VAPOR FOR EACH COMPOUND
ANALYSES PERFORMED ON-SITE IN CA DOHS MOBILE LABORATORY #1561
ANALYSES PERFORMED BY: MARK BURKE
DATA REVIEWED BY: TANARA DAVIS

9/10/03

GEOFON PROJECT # 04-4428.10
JET PROPULSION LABORATORY
4800 OAK GROVE DRIVE
PASADENA, CA

HP Labs Project #GF081803-L6

INSTRUMENT: AGILENT 6850 GC / 5973 MASS SPECTROMETER
VOLATILE HALOGENATED AND AROMATIC HYDROCARBONS (EPA Method 8260) ANALYSES OF SOIL VAPOR
SOIL VAPOR DATA IN UG/L-VAPOR

	AMBIENT BLANK	SVW35-VPE-055	SVW35-VPI-056	SVW28-VPA-057	SVW28-VPD-058	SVW28-VPD-059 Dup	SVW28-VPE-060	SVW26-VPF-061	SVW26-VPG-062	SVW26-VPH-063	SVW25-VPA-064	SVW25-VPB-065	SVW25-VPI-066	SVW25-VPJ-067
DATE	08/22/03	08/22/03	08/22/03	08/22/03	08/22/03	08/22/03	08/22/03	08/22/03	08/22/03	08/22/03	08/22/03	08/22/03	08/22/03	08/22/03
ANALYSIS TIME	7:00	7:25	7:50	8:14	8:39	9:02	9:26	9:50	10:13	10:37	11:01	12:32	12:56	13:21
SAMPLING DEPTH (feet)	--	80	140	20	80	80	105	115	140	160	20	40	180	190
VOLUME WITHDRAWN (cc)	--	380	620	140	380	440	480	520	620	700	140	220	780	820
VOLUME INJECTED	20	20	20	20	20	20	20	20	20	20	20	20	20	20
DILUTION FACTOR	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
CARBON TETRACHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd	2.2	1.6	nd	nd	1.4	nd
CHLOROETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROFORM	nd	nd	nd	nd	nd	nd	nd	nd	1.2	1.0	nd	nd	nd	nd
1,1-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,2-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CIS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRANS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
DICHLOROMETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TETRACHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLORO ETHENE	nd	nd	nd	3.1	nd	nd	nd	nd	nd	nd	nd	nd	1.1	nd
VINYL CHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLOROFLUOROMETHANE (FR11)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
DICHLORODIFLUOROMETHANE (FR12)	nd	nd	nd	nd	nd	nd	nd	1.1	nd	nd	nd	nd	nd	nd
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	nd	nd	2.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
BENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
ETHYLBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TOLUENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
m&p-XYLENES	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
o-XYLENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
SURROGATES (75-125% RECOVERY)														
DIBROMODIFLUOROMETHANE	110%	107%	112%	114%	117%	121%	118%	114%	120%	116%	117%	115%	115%	120%
1,2-DICHLOROETHANE-d4	105%	101%	113%	104%	111%	116%	114%	110%	112%	110%	112%	113%	106%	118%
4 BROMOFLUORO BENZENE	100%	103%	100%	99%	97%	96%	93%	96%	96%	96%	96%	98%	98%	97%

ND INDICATES NOT DETECTED AT A DETECTION LIMIT OF 1.0 UG/L-VAPOR FOR EACH COMPOUND
ANALYSES PERFORMED ON-SITE IN CA DOHS MOBILE LABORATORY #1561
ANALYSES PERFORMED BY: MARK BURKE
DATA REVIEWED BY: TAMARA DAVIS

9/10/03

SEP 2 5 2003

GEOFON PROJECT # 04-4428.10
JET PROPULSION LABORATORY
4800 OAK GROVE DRIVE
PASADENA, CA

HP Labs Project #GF081803-_6

INSTRUMENT: AGILENT 6850 GC / 5973 MASS SPECTRCMETER
VOLATILE HALOGENATED AND AROMATIC HYDROCARBONS (EPA Method 8260) ANALYSES OF SOIL VAPOR
SOIL VAPOR DATA IN UG/L-VAPOR

	AMBIENT BLANK	SVW35-VPA-068	SVW36-VPB-069	SVW36-VPB-070 Dup	SVW36-VPC-071	SVW36-VPD-072	SVW36-VPE-073	SVW27-VPA-074	SVW27-VPB-075	SVW27-VPC-076	SVW27-VPD-077	SVW27-VPE-078	SVW27-VPF-079	SVW27-VPG-080	SVW27-VPG-081 Dup	SVW27-VPI-082
DATE	08/25/03	08/25/03	08/25/03	08/25/03	08/25/03	08/25/03	08/25/03	08/25/03	08/25/03	08/25/03	08/25/03	08/25/03	08/25/03	08/25/03	08/25/03	08/25/03
ANALYSIS TIME	7:55	8:39	9:04	9:29	9:53	10:18	10:42	11:06	11:29	11:54	12:18	13:25	13:49	14:14	14:38	15:01
SAMPLING DEPTH (feet)	-	20	35	35	55	75	92	20	35	60	85	100	120	140	140	180
VOLUME WITHDRAWN (cc)	-	140	200	280	280	360	428	140	200	300	400	460	540	620	680	780
VOLUME INJECTED	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
DILUTION FACTOR	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
CARBON TETRACHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	2.3	2.2	2.7
CHLOROETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROFORM	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.1
1,1-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,2-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CIS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRANS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
DICHLOROMETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TETRACHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLORO ETHENE	nd	nd	nd	1.0	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
VINYL CHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLOROFLUOROMETHANE (FR11)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
DICHLORODIFLUOROMETHANE (FR12)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
BENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
ETHYLBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TOLUENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
m&p-XYLENES	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
o-XYLENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
SURROGATES (75-125% RECOVERY)																
DIBROMODIFLUOROMETHANE	105%	108%	105%	113%	110%	113%	112%	112%	112%	115%	114%	113%	113%	114%	113%	115%
1,2-DICHLOROETHANE-d4	101%	103%	105%	109%	108%	105%	111%	108%	108%	112%	110%	105%	109%	109%	114%	114%
4 BROMOFLUORO BENZENE	100%	101%	100%	101%	100%	98%	95%	94%	97%	93%	93%	100%	92%	94%	96%	100%

ND INDICATES NOT DETECTED AT A DETECTION LIMIT OF 1.0 UG/L-VAPOR FOR EACH COMPOUND
ANALYSES PERFORMED ON-SITE IN CA DOHS MOBILE LABORATORY #1561
ANALYSES PERFORMED BY: MARK BURKE
DATA REVIEWED BY: TAMARA DAVIS

10/9/03

GEOFON PROJECT # 04-4428.10
JET PROPULSION LABORATORY
4800 OAK GROVE DRIVE
PASADENA, CA

HP Labs Project #GF081603-L6

INSTRUMENT: AGILENT 6850 GC / 5973 MASS SPECTROMETER
VOLATILE HALOGENATED AND AROMATIC HYDROCARBONS (EPA Method 8260) ANALYSES OF SOIL VAPOR
SOIL VAPOR DATA IN UG/L-VAPOR

	AMBIENT BLANK	SVW38-VPD-083	SVW38-VPF-084	SVW38-VPJ-085	SVW37-VPB-086	SVW37-VPE-087	SVW37-VPH-088	SVW37-VPH-089 Dup	SVW37-VPI-090	SVW37-VPJ-091
DATE	08/27/03	08/27/03	08/27/03	08/27/03	08/27/03	08/27/03	08/27/03	08/27/03	08/27/03	08/27/03
ANALYSIS TIME	8:42	9:07	9:38	10:03	10:27	10:53	11:18	11:43	12:09	12:34
SAMPLING DEPTH (feet)	–	80	110	170	40	100	155	155	170	185
VOLUME WITHDRAWN (cc)	–	380	500	740	220	460	680	740	740	800
VOLUME INJECTED	20	20	20	20	20	20	20	20	20	20
DILUTION FACTOR	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
CARBON TETRACHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROFORM	nd	nd	nd	nd	nd	nd	1.1	nd	nd	nd
1,1-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,2-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CIS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRANS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
DICHLOROMETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TETRACHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
VINYL CHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLOROFLUOROMETHANE (FR11)	nd	nd	nd	1.8 J	nd	nd	1.8 J	1.6 J	nd	nd
DICHLORODIFLUOROMETHANE (FR12)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
BENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
ETHYLBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TOLUENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
m&p-XYLENES	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
o-XYLENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
SURROGATES (75-125% RECOVERY)										
DIBROMODIFLUOROMETHANE	106%	108%	109%	114%	114%	120%	118%	121%	123%	124%
1,2-DICHLOROETHANE-d4	106%	119%	102%	108%	111%	115%	109%	113%	114%	117%
4 BROMOFLUORO BENZENE	103%	95%	103%	95%	95%	94%	93%	92%	94%	97%

ND INDICATES NOT DETECTED AT A DETECTION LIMIT OF 1.0 UG/L-VAPOR FOR EACH COMPOUND
ANALYSES PERFORMED ON-SITE IN CA DOHS MOBILE LABORATORY #1561
ANALYSES PERFORMED BY: MARK BURKE
DATA REVIEWED BY: TAMARA DAVIS

9/10/03

GEOFON PROJECT # 04-4428.10
JET PROPULSION LABORATORY
4800 OAK GROVE DRIVE
PASADENA, CA

HP Labs Project #GF081803-L6

INSTRUMENT: AGILENT 6850 GC / 5973 MASS SPECTROMETER
VOLATILE HALOGENATED AND AROMATIC HYDROCARBONS (EPA Method 8260) ANALYSES OF SOIL VAPOR
SOIL VAPOR DATA IN UG/L-VAPOR

	AMBIENT BLANK	SVW34-VPE-092	SVW34-VPE-093 Dup	SVW34-VPF-094	SVW39-VPA-095	SVW39-VPE-096	SVW39-VPF-097	SVW39-VPI-098
DATE	08/28/03	08/28/03	08/28/03	08/28/03	08/28/03	08/28/03	08/28/03	08/28/03
ANALYSIS TIME	7:51	8:18	8:42	9:07	9:31	9:56	10:21	10:46
SAMPLING DEPTH (feet)	--	80	80	95	20	85	100	130
VOLUME WITHDRAWN (cc)	--	380	440	440	440	400	460	580
VOLUME INJECTED	20	20	20	20	20	20	20	20
DILUTION FACTOR	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
CARBON TETRACHLORIDE	nd	nd	nd	nd	nd	1.6	2.1	nd
CHLOROETHANE	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROFORM	nd	nd	nd	nd	nd	nd	nd	nd
1,1-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd
1,2-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd
1,1-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd
CIS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd
TRANS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd
DICHLOROMETHANE	nd	nd	nd	nd	nd	nd	nd	nd
TETRACHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLORO ETHENE	nd	nd	nd	nd	nd	2.8	5.2	8.2
VINYL CHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLOROFLUOROMETHANE (FR11)	nd	nd	nd	nd	nd	nd	nd	nd
DICHLORODIFLUOROMETHANE (FR12)	nd	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	nd	nd	nd	nd	nd	26	25	1.7
BENZENE	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROBENZENE	nd	nd	nd	nd	nd	nd	nd	nd
ETHYLBENZENE	nd	nd	nd	nd	nd	nd	nd	nd
TOLUENE	nd	nd	nd	nd	nd	nd	nd	nd
m&p-XYLENES	nd	nd	nd	nd	nd	nd	nd	nd
o-XYLENE	nd	nd	nd	nd	nd	nd	nd	nd
SURROGATES (75-125% RECOVERY)								
DIBROMODIFLUOROMETHANE	107%	111%	105%	111%	110%	118%	116%	119%
1,2-DICHLOROETHANE-d4	104%	105%	102%	106%	106%	110%	112%	114%
4 BROMCFLUORO BENZENE	100%	99%	100%	97%	99%	99%	94%	96%

ND INDICATES NOT DETECTED AT A DETECTION LIMIT OF 1.0 UG/L-VAPOR FOR EACH COMPOUND
ANALYSES PERFORMED ON-SITE IN CA DOHS MOBILE LABORATORY #1561
ANALYSES PERFORMED BY: MARK BURKE
DATA REVIEWED BY: TAMARA DAVIS

10/9/03

GEOFON PROJECT # 04-4428.10
JET PROPULSION LABORATORY
4800 OAK GROVE DRIVE
PASADENA, CA

HP Labs Project #GF081803-L6

INSTRUMENT: AGILENT 6850 GC / 5973 MASS SPECTROMETER
VOLATILE HALOGENATED AND AROMATIC HYDROCARBONS (EPA Method 8260) ANALYSES OF SOIL VAPOR
SOIL VAPOR DATA IN UG/L-VAPOR

	AMBIENT BLANK	SVW15-VPB-099	SVW15-VPC-100	SVW15-VPD-101	SVW15-VPE-102	SVW6-VPB-103	SVW6-VPB-104 Dup	SVW6-VPD-105
DATE	08/29/03	08/29/03	08/29/03	08/29/03	08/29/03	08/29/03	08/29/03	08/29/03
ANALYSIS TIME	7:40	8:05	8:29	8:53	9:17	9:41	10:05	10:29
SAMPLING DEPTH (feet)	--	40	60	75	90	40	40	77
VOLUME WITHDRAWN (cc)	--	220	300	360	420	220	280	368
VOLUME INJECTED	20	20	20	20	20	20	20	20
DILUTION FACTOR	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
CARBON TETRACHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROETHANE	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROFORM	nd	nd	nd	nd	nd	nd	nd	nd
1,1-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd
1,2-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd
1,1-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd
CIS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd
TRANS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd
DICHLOROMETHANE	nd	nd	nd	nd	nd	nd	nd	nd
TETRACHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd
VINYL CHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLOROFLUOROMETHANE (FR11)	nd	nd	nd	nd	nd	nd	nd	nd
DICHLORODIFLUOROMETHANE (FR12)	nd	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	nd	nd	nd	nd	nd	nd	nd	nd
BENZENE	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROBENZENE	nd	nd	nd	nd	nd	nd	nd	nd
ETHYLBENZENE	nd	nd	nd	nd	nd	nd	nd	nd
TOLUENE	nd	nd	nd	nd	nd	nd	nd	nd
m&p-XYLENES	nd	nd	nd	nd	nd	nd	nd	nd
o-XYLENE	nd	nd	nd	nd	nd	nd	nd	nd
SURROGATES (75-125% RECOVERY)								
DIBROMODIFLUOROMETHANE	113%	114%	110%	118%	119%	121%	118%	121%
1,2-DICHLOROETHANE-d4	110%	109%	102%	113%	107%	114%	115%	113%
4 BROMOFLUORO BENZENE	96%	101%	98%	101%	95%	92%	91%	96%

ND INDICATES NOT DETECTED AT A DETECTION LIMIT OF 1.0 UG/L-VAPOR FOR EACH COMPOUND
ANALYSES PERFORMED ON-SITE IN CA DOHS MOBILE LABORATORY #1561
ANALYSES PERFORMED BY: MARK BURKE
DATA REVIEWED BY: TAMARA DAVIS

10/9/03

LDC #: 10942A1
SDG #: GF0081803-L6
Laboratory: HP Labs

VALIDATION COMPLETENESS WORKSHEET
Level III

Date: 10/9/03
Page: 1 of 3
Reviewer: 9
2nd Reviewer: R

METHOD: GC/MS Halogenated and Aromatic Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 8/18 - 8/29/03
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	
IV.	Continuing calibration	SW	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	SW	LCS
IX	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	Not reviewed. Not provided
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D=9+10*, 22+23, 33+34, 47+48, 58+59*, 69+70,
XVII.	Field blanks	N	D=80+81, 88+89, 92+93*, 103+104*

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

*ND

Validated Samples: All except

1	SVW12-VPA-001	11	SVW30-VPC-011	21	SVW7-VPB-021	31	SVW14-VPA-031
2	SVW12-VPC-002	12	SVW30-VPD-012	22	SVW4-VPB-022	32	SVW14-VPB-032
3	SVW31-VPA-003	13	SVW30-VPE-013	23	SVW4-VPB-023dup	33	SVW17-VPC-033
4	SVW31-VPB-004	14	SVW5-VPB-014	24	SVW4-VPD-024	34	SVW17-VPC-034 dup
5	SVW31-VPC-005	15	SVW1-VPB-015	25	SVW11-VPA-025	35	SVW8-VPC-035
6	SVW31-VPD-006	16	SVW1-VPC-016	26	SVW32-VPB-026	36	SVW8-VPD-036
7	SVW31-VPE-007	17	SVW2-VPA-017	27	SVW32-VPD-027	37	SVW8-VPE-037
8	SVW30-VPA-008	18	SVW3-VPB-018	28	SVW32-VPE-028	38	SVW13-VPB-038
9	SVW30-VPB-009	19	SVW3-VPC-019	29	SVW32-VPI-029	39	SVW1 0-VPB-039
10	SVW30-VPB-010dup	20	SVW7-VPA-020	30	SVW32-VPJ-030	40	SVW10-VPD-040

LDC #: 10942A1
SDG #: GF0081803-L6
Laboratory: HP Labs

VALIDATION COMPLETENESS WORKSHEET
Level III

Date: 10/9/03
Page: 2 of 3
Reviewer:
2nd Reviewer:

METHOD: GC/MS Halogenated and Aromatic Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times		Sampling dates:
II.	GC/MS Instrument performance check		
III.	Initial calibration		
IV.	Continuing calibration		
V.	Blanks		
VI.	Surrogate spikes		
VII.	Matrix spike/Matrix spike duplicates		
VIII.	Laboratory control samples		
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards		
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data		
XVI.	Field duplicates		
XVII.	Field blanks		

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

41	SVW33-VPA-041	51	SVW9-VPB-051	61	SVW26-VPF-061	71	SVW36-VPC-071
42	SVW33-VPB-042	52	SVW9-VPC-052	62	SVW26-VPG-062	72	SVW36-VPD-072
43	SVW33-VPC-043	53	SVW9-VPD-053	63	SVW26-VPH-063	73	SVW36-VPE-073
44	SVW33-VPD-044	54	SVW9-VPE-054	64	SVW25-VPA-064	74	SVW27-VPA-074
45	SVW33-VPE-045	55	SVW35-VPE-055	65	SVW25-VPB-065	75	SVW27-VPB-075
46	SVW33-VPE-046	56	SVW35-VPI-056	66	SVW25-VPI-066	76	SVW27-VPC-076
47	SVW33-VPG-047	57	SVW28-VPA-057	67	SVW25-VPJ-067	77	SVW27-VPD-077
48	SVW33-VPG-048dup	58	SVW28-VPD-058	68	SVW36-VPA-068	78	SVW27-VPE-078
49	SVW33-VPJ-049	59	SVW28-VPD-059dup	69	SVW36-VPB-069	79	SVW27-VPF-079
50	SVW9-VPA-050	60	SVW28-VPE-060	70	SVW36-VPB-070dup	80	SVW27-VPG-080

LDC #: 10942A1
SDG #: GF0081803-L6
Laboratory: HP Labs

VALIDATION COMPLETENESS WORKSHEET
Level III

Date: 10/9/03
Page: 3 of 3
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Halogenated and Aromatic Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times		Sampling dates:
II.	GC/MS Instrument performance check		
III.	Initial calibration		
IV.	Continuing calibration		
V.	Blanks		
VI.	Surrogate spikes		
VII.	Matrix spike/Matrix spike duplicates		
VIII.	Laboratory control samples		
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards		
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data		
XVI.	Field duplicates		
XVII.	Field blanks		

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

81 6	SVW27-VPG-081dup	91 7	SVW37-VPJ-091	101 9	SVW 15-VPD-101	1	~~Blank~~ MB 8/18/03
82 6	SVW27-VPI-082	92 8	SVW34-VPE-092	102 9	SVW15-VPE-102	2	MB 8/19/03
83 7	SVW38-VPD-083	93 8	SVW34-VPE-093dup	103 9	SVW6-VPB-103	3	MB 8/20/03
84 7	SVW38-VPF-084	94 8	SVW34-VPF-094	104 9	SVW6-VPB-104dup	4	MB 8/21/03
85 7	SVW38-VPJ-085	95 8	SVW39-VPA-095	105 9	SVW6-VPD-105	5	MB 8/22/03
86 7	SVW37-VPB-086	96 8	SVW39-VPE-096			6	MB 8/25/03
87 7	SVW37-VPE-087	97 8	SVW39-VPF-097			7	MB 8/27/03
88 7	SVW37-VPH-088	98 8	SVW39-VPI-098			8	MB 8/28/03
89 7	SVW37-VPH-089dup	99 9	SVW15-VPB-099			9	MB 8/29/03
90 7	SVW37-VPI-090	100 9	SVW15-VPC-100				

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL.
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM.
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 10942B1
SDG #: GF0081803-46

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?

(Y) N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?

Y (N) N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤25.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	8/8/03	CCV3	J	30.2		92-98. MB 8/8/03	J/UJ/A
	8/9/03	CCV2	J	40.2		99-105. MB 8/9/03	J/UJ/A

LDC #: 10942A1
SDG #: 4P0081803-46

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: 4
2nd Reviewer: 2

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a LCS required?
Y N N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		LCS 8/ET/03	TCE	160 (50-150)	( )	( )	84-91. MB 8/ET/03	J det/P
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

LDC #: 10923A1
SDG #: FF008803-LC

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: 4
2nd reviewer: AN

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were field duplicate pairs identified in this SDG?
Y N N/A Were target compounds detected in the field duplicate pairs?

Compound	Concentration (µg/L)		RPD
	22	23	
S	26	28	7

Compound	Concentration (µg/L)		RPD
	33	34	
I	1.2	1.2	0
L	11	8.7	23
AA	7.1	6.4	10
U	1.4	1.0	33
S	2.5	2.1	17
V	110	90	20

Compound	Concentration ( )		RPD
EE	3.3	2.6	24
CC	1.5	1.2	22
RRR	12	9.2	26

Compound	Concentration (µg/L)		RPD
	47	48	
O	11	8.8	22
K	4.4	2.5	55
H	2.0	2.5	22
S	1.7	1.5	13
1,1,2-Trichlorotrifluoroethane	2.4	2.5	4

LDC #: 10942A1
SDG #: 4F0081803-26

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 2 of 2
Reviewer: [illegible]
2nd reviewer: [illegible]

METHOD: GC/MS ~~BNA~~ VOA (EPA SW 846 Method ~~8270~~ 8260B)

Y N N/A Were field duplicate pairs identified in this SDG?
Y N N/A Were target compounds identified in the field duplicate pairs?

Compound	Concentration (µg/L)		RPD
	69	70	
S	ND	1.0	NC

Compound	Concentration (µg/L)		RPD
	80	81	
O	2.3	2.2	4

Compound	Concentration (µg/L)		RPD
	88	89	
K	1.1	ND	NC
KK	1.8	1.6	12

Compound	Concentration ( )		RPD

FLDUP4.2S