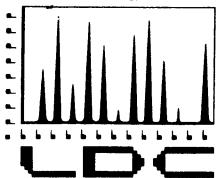


APPENDIX A

SOIL VAPOR DATA VALIDATION REPORT ELEVENTH 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. Tony Ford

October 16, 2002

SUBJECT: NASA JPL, DO #48, Data Validation

Dear Mr. Ford,

Enclosed is the final validation report for the fraction listed below. This SDG was received on October 1, 2002. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 9152:

<u>SDG #</u>	<u>Fraction</u>
GF090302T2	Volatile Halogenated/Aromatic Hydrocarbons

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

LDC #9152 (Geofon, Inc.-Diamond Bar / NASA Jet Propulsion Laboratory, D0#0048)

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

**NASA JPL, DO 048
Data Validation Reports
LDC# 9152**

Volatiles Halogenated/Aromatic Hydrocarbons

LDC

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: NASA JPL, DO 048
Collection Date: September 4 through September 18, 2002
LDC Report Date: October 16, 2002
Matrix: Air
Parameters: Volatile Halogenated/Aromatic Hydrocarbons
Validation Level: EPA Level III
Laboratory: HP Labs
Sample Delivery Group (SDG): GF090302T2

Sample Identification

SVW30-VPA-01	SVW3-VPC-21	SVW9-VPB-41
SVW30-VPB-02	SVW3-VPD-22	SVW9-VPB-42 DUP
SVW30-VPC-03	SVW4-VPB-23	SVW9-VPC-43
SVW30-VPD-04	SVW4-VOB-24 DUP	SVW9-VPD-44
SVW30-VPE-05	SVW4-VPD-25	SVW9-VPE-45
SVW30-VPE-06 DUP	SVW11-VPA-26	SVW10-VPB-46
SVW31-VPA-07	SVW11-VPE-27	SVW10-VPD-47
SVW31-VPB-08	SVW32-VPB-28	SVW10-VPD-48 DUP
SVW31-VPD-09	SVW32-VPC-29	SVW8-VPC-49
SVW31-VPE-10	SVW32-VPC-30 DUP	SVW8-VPD-50
SVW12-VPC-11	SVW32-VPD-31	SVW8-VPE-51
SVW12-VPC-12 DUP	SVW32-VPE-32	SVW17-VPC-52
SVW12-VPD-13	SVW32-VPH-33	SVW36-VPB-53
SVW5-VPB-14	SVW32-VPI-34	SVW36-VPB-54 DUP
SVW7-VPA-15	SVW32-VPJ-35	SVW36-VPC-55
SVW7-VPB-16	SVW32-VPJ-36 DUP	SVW36-VPD-56
SVW1-VPB-17	SVW14-VPA-37	SVW36-VPE-57
SVW1-VPB-18 DUP	SVW14-VPB-38	SVW33-VPA-58
SVW1-VPC-19	SVW13-VPB-39	SVW33-VPD-59
SVW2-VPA-20	SVW9-VPA-40	SVW33-VPD-60 DUP

SVW33-VPE-61	SVW38-VPF-81	SVW27-VPC-101
SVW33-VPF-62	SVW38-VPJ-82	SVW27-VPC-102 DUP
SVW33-VPG-63	SVW37-VPB-83	SVW27-VPD-103
SVW33-VPJ-64	SVW37-VPB-84 DUP	SVW27-VPE-104
SVW26-VPF-65	SVW37-VPE-85	SVW27-VPF-105
SVW26-VPF-66 DUP	SVW37-VPH-86	SVW27-VPG-106
SVW26-VPG-67	SVW37-VPI-87	SVW27-VPI-107
SVW26-VPH-68	SVW37-VPJ-88	SVW27-VPI-108 DUP
SVW35-VPE-69	SVW34-VPE-89	SVW27-VPJ-109
SVW35-VPI-70	SVW34-VPE-90 DUP	SVW15-VPB-110
SVW28-VPA-71	SVW34-VPF-91	SVW15-VPC-111
SVW28-VPA-72 DUP	SVW39-VPA-92	SVW15-VPD-112
SVW28-VPD-73	SVW39-VPC-93	SVW15-VPE-113
SVW28-VPE-74	SVW39-VPD-94	SVW15-VPE-114 DUP
SVW25-VPA-75	SVW39-VPE-95	SVW6-VPB-115
SVW25-VPB-76	SVW39-VPE-96 DUP	SVW6-VPD-116
SVW25-VPI-77	SVW39-VPF-97	SVW6-VPE-117
SVW25-VPI-78 DUP	SVW39-VPI-98	
SVW25-VPJ-79	SVW27-VPA-99	
SVW38-VPE-80	SVW27-VPB-100	

Introduction

This data review covers 117 air samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8021 for Volatile Halogenated/Aromatic Hydrocarbons.

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 IX.

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. Calibration

a. Initial Calibration

Initial calibration was performed using required standard concentrations with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG GF090302T2	All TCL compounds	A three point calibration was performed.	A five point calibration is specified by the method.	None	P

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

b. Continuing Calibration

Continuing calibration was performed at the required frequencies.

For all samples continuing calibration was not performed for Chloroethane, Vinyl Chloride, Trichlorofluoromethane and Dichlorodifluoromethane. Per the soil/gas guidelines, continuing calibration verification for these compounds are not required since these compounds were not detected in the site.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
9/4/02	1,1,2-Trichloroethane	17.9	SVW30-VPA-01 SVW30-VPB-02 SVW30-VPC-03 SVW30-VPD-04 SVW30-VPE-05 SVW30-VPE-06 DUP SVW31-VPA-07 SVW31-VPB-08 SVW31-VPD-09 SVW31-VPE-10 SVW12-VPC-11 SVW12-VPC-12 DUP SVW12-VPD-13 BLK-(9/4)	J (all detects) UJ (all non-detects)	A
9/4/02	Dichloromethane	16.3	SVW30-VPA-01 SVW30-VPB-02 SVW30-VPC-03 SVW30-VPD-04 SVW30-VPE-05 SVW30-VPE-06 DUP SVW31-VPA-07 SVW31-VPB-08 SVW31-VPD-09 SVW31-VPE-10 SVW12-VPC-11 SVW12-VPC-12 DUP SVW12-VPD-13 BLK-(9/4)	J (all detects) UJ (all non-detects)	A
9/9/02	1,1,2-Trichloroethane	15.5	SVW11-VPA-26 SVW11-VPE-27 SVW32-VPB-28 SVW32-VPC-29 SVW32-VPC-30 DUP SVW32-VPD-31 SVW32-VPE-32 SVW32-VPH-33 SVW32-VPI-34 SVW32-VPJ-35 SVW32-VPJ-36 DUP SVW14-VPA-37 SVW14-VPB-38 BLK-(9/9)	J (all detects) UJ (all non-detects)	A
9/9/02	1,2-Dichloroethane	16.7	SVW11-VPA-26 SVW11-VPE-27 SVW32-VPB-28 SVW32-VPC-29 SVW32-VPC-30 DUP SVW32-VPD-31 SVW32-VPE-32 SVW32-VPH-33 SVW32-VPI-34 SVW32-VPJ-35 SVW32-VPJ-36 DUP SVW14-VPA-37 SVW14-VPB-38 BLK-(9/9)	J (all detects) UJ (all non-detects)	A

Date	Compound	%D	Associated Samples	Flag	A or P
9/10/02	Chloroform	15.1	SVW13-VPB-39 SVW9-VPA-40 SVW9-VPB-41 SVW9-VPB-42 DUP SVW9-VPC-43 SVW9-VPD-44 SVW9-VPE-45 SVW10-VPB-46 SVW10-VPD-47 SVW10-VPD-48 DUP SVW8-VPC-49 SVW8-VPD-50 SVW8-VPE-51 SVW17-VPC-52 BLK-(9/10)	J (all detects) UJ (all non-detects)	A
9/11/02	1,1-Dichloroethene 1,1-Dichloroethane 1,1,2,2-Tetrachloroethane	15.6 15.6 17.4	SVW36-VPB-53 SVW36-VPB-54 DUP SVW36-VPC-55 SVW36-VPD-56 SVW36-VPE-57 SVW33-VPA-58 SVW33-VPD-59 SVW33-VPD-60 DUP SVW33-VPE-61 SVW33-VPF-62 SVW33-VPG-63 SVW33-VPJ-64 SVW26-VPF-65 SVW26-VPF-66 DUP SVW26-VPG-67 SVW26-VPH-68 BLK-(9/11/)	J (all detects) UJ (all non-detects)	A
9/12/02	1,1,2-Trichloroethane	19.8	SVW35-VPE-69 SVW35-VPI-70 SVW28-VPA-71 SVW28-VPA-72 DUP SVW28-VPD-73 SVW28-VPE-74 SVW25-VPA-75 SVW25-VPB-76 SVW25-VPI-77 SVW25-VPI-78 DUP SVW25-VPJ-79 BLK-(9/12)	J (all detects) UJ (all non-detects)	A
9/16/02	1,1,2-Trichloroethane	15.5	SVW34-VPE-89 SVW34-VPE-90 DUP SVW34-VPF-91 SVW39-VPA-92 SVW39-VPC-93 SVW39-VPD-94 SVW39-VPE-95 SVW39-VPE-96 DUP SVW39-VPF-97 SVW39-VPI-98 BLK-(9/16)	J (all detects) UJ (all non-detects)	A

Date	Compound	%D	Associated Samples	Flag	A or P
9/17/02	Chlorobenzene m,p-Xylenes	15.8 15.2	SVW27-VPA-99 SVW27-VPB-100 SVW27-VPC-101 SVW27-VPC-102 DUP SVW27-VPD-103 SVW27-VPE-104 SVW27-VPF-105 SVW27-VPG-106 SVW27-VPI-107 SVW27-VPI-108 DUP SVW27-VPJ-109 BLK-(9/17)	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A

III. Blanks

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

IV. Accuracy and Precision Data

a. Surrogate Recovery

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

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent differences (%D) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.