APPENDIX A

SOIL VAPOR DATA VALIDATION REPORT
SIXTEENTH 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

March 17, 2004

SUBJECT: NASA JPL, DO #01, Data Validation

Dear Mr. Ford,

Enclosed is the final validation report for the fraction listed below. This SDG was received on March 5, 2004. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 11630:

SDG #	Fraction
GF020204-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 #11630 (Geofon, Inc.-Diamond Bar / NASA Jet Propulsion Laboratory, DO#001)

LDC	SDG#	DATE REC'D	DATE DUE	VOA (8260B)																																	
Matrix: Air/Soil				A	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	W	S	W	S	W	S
A	GF020204-L6	03/05/04	03/26/04	10	0																																
Total	B			10	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	0	0	0	0	0

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

NASA JPL
Data Validation Reports
LDC# 11630

Volatiles

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL

Collection Date: February 2, 2004

LDC Report Date: March 16, 2004

Matrix: Soil Vapor

Parameters: Volatiles

Validation Level: EPA Level III

Laboratory: H & P Mobile GeoChemistry

Sample Delivery Group (SDG): GF020204-L6

Sample Identification

SVW36-VPJ-001
SVW36-VPB-002
SVW36-VPC-003
SVW33-VPD-004
SVW33-VPE-005
SVW33-VPF-006
SVW32-VPH-007
SVW4-VPB-008
SVW4-VPD-009
SVW4-VPD-010Dup

Introduction

This data review covers 10 soil vapor 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.

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

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.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results 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.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were 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 SVW4-VPD-009 and SVW4-VPD-010Dup were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	SVW4-VPD-009	SVW4-VPD-010Dup	
Trichloroethene	14	12	15

XVII. Field Blanks

No field blanks were identified in this SDG.

NASA JPL
Volatiles - Data Qualification Summary - SDG GF020204-L6

No Sample Data Qualified in this SDG

NASA JPL
Volatiles - Laboratory Blank Data Qualification Summary - SDG GF020204-L6

No Sample Data Qualified in this SDG

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

H&P Mobile GeoChemistry Project #GF020204-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	SVW37-VPJ-001	SVW36-VPB-002	SVW36-VPC-003	SVW33-VPD-004	SVW33-VPE-005	SVW33-VPF-006	SVW32-VPH-007	SVW4-VPB-008	SVW4-VPD-009	SVW4-VPD-010 Dup
DATE	02/02/04	02/02/04	02/02/04	02/02/04	02/02/04	02/02/04	02/02/04	02/02/04	02/02/04	02/02/04	02/02/04
ANALYSIS TIME	7:07	7:56	8:23	8:50	9:17	9:44	10:11	10:38	11:05	11:32	11:59
SAMPLING DEPTH (feet)	--	185	35	55	85	105	120	155	20	56	56
VOLUME WITHDRAWN (cc)	--	800	200	280	400	480	540	680	140	284	344
VOLUME INJECTED	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
CARBON TETRACHLORIDE	nd	nd	nd	nd	nd	2.0	nd	nd	nd	nd	nd
CHLOROETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROFORM	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
1,2-DICHLORO ETHANE	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
CIS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	2.6	nd	nd	nd	nd
TRANS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
DICHLOROMETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TETRACHLORO ETHENE	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
1,1,2 2-TETRACHLORO ETHANE	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
1,1,2-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
VINYL CHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd	21	14	12
TRICHLOROFLUOROMETHANE (FR11)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
DICHLORODIFLUOROMETHANE (FR12)	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
BENZENE	nd	nd	nd	nd	nd	1.0	nd	nd	nd	nd	nd
CHLOROBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
ETHYLBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TOLUENE	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
o-XYLENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
SURROGATES (75-125% RECOVERY)											
DIBROMODIFLUOROMETHANE	99%	100%	99%	99%	102%	100%	100%	98%	99%	97%	100%
1,2-DICHLOROETHANE-d4	95%	90%	95%	93%	94%	94%	95%	95%	94%	94%	96%
4 BROMOFLUORO BENZENE	92%	96%	96%	93%	94%	98%	93%	91%	94%	93%	93%

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

3/16/04

LDC #: 11630A1

SDG #: GF020204-L6

Laboratory: H & P Mobile GeoChemistry

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 3/10/04

Page: 1 of 1

Reviewer: 9

2nd Reviewer: 9

METHOD: GC/MS 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: 2/2/04
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	
IV.	Continuing calibration	A	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	Not provided. & Not reviewed.
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
XVII.	Field blanks	N	

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: Soil Vapor

1	SVW36-VPJ-001	11	MB	21		31	
2	SVW36-VPB-002	12		22		32	
3	SVW36-VPC-003	13		23		33	
4	SVW33-VPD-004	14		24		34	
5	SVW33-VPE-005	15		25		35	
6	SVW33-VPF-006	16		26		36	
7	SVW32-VPH-007	17		27		37	
8	SVW4-VPB-008	18		28		38	
9	SVW4-VPD-009	19		29		39	
10	SVW4-VPD-010Dup	20		30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

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

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

LDC #: 11630A1
SDG #: GF020204-c6

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: [illegible]
2nd reviewer: [illegible]

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
	9	10	
S	14	12	15

Compound	Concentration ( )		RPD

Compound	Concentration ( )		RPD

Compound	Concentration ( )		RPD

APPENDIX B

B-1 RESULTS OF SOIL VAPOR ANALYSES

B-2 CHAIN-OF-CUSTODY RECORD

B-3 DAILY OPENING, CLOSING, AND CONTINUING CALIBRATION VERIFICATION REPORTS

APPENDIX B-1

RESULTS OF SOIL VAPOR ANALYSES

MAR 0 1 2004

MOBILE GEOCHEMISTRY
H&P

February 25, 2004

Mr. Scott Brehmer
Geofon
22632 Golden Springs Drive, Suite 270
Diamond Bar, CA 91765

Subject: Data Report - Jet Propulsion Laboratory - 4800 Oak Drive, Pasadena, CA - Geofon Project #04-4428.10

H&P Mobile GeoChemistry Project # GF020204-L6

Mr. Brehmer:

Please find enclosed a data report for the above referenced location. Soil vapor samples were analyzed on-site in DOHS certified mobile laboratory (Cert#1561).

Project Summary

Soil vapor from 10 points was analyzed for:

- Halogenated and volatile aromatic hydrocarbons by EPA Method 8260B

The samples were received on-site in appropriate containers with appropriate labels, seals, and chain-of-custody documentation.

Project Narrative

The results for all analyses and required QA/QC analyses are summarized in the enclosed tables. All calibrations, blanks, surrogates, and spike recoveries fulfill quality control criteria. No data qualifiers (flags) apply to any of the reported data.

H&P Mobile GeoChemistry appreciates the opportunity to provide analytical services to Geofon on this project. If you have any questions relating to this data or report, please do not hesitate to contact us.

Sincerely

Rebecca Johnson

Ms. Rebecca Johnson

432 North Cedros Avenue, Solana Beach, California 92075 | 858 793.0401 — Fax 858 793.0404
148 South Vinewood Street, Escondido, California 92029 | 760 735.3208 — Fax 760 735.2469
2373 208th Street, Suite F-1, Torrance, California 90501 | 310 782.2929 — Fax 310 782.2798
www.HandPmg.com | 1-800-834-9888

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

H&P Mobile GeoChemistry Project #GF020204-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	SVW37-VPJ-001	SVW36-VPB-002	SVW36-VPC-003	SVW33-VPD-004	SVW33-VPE-005	SVW33-VPF-006	SVW32-VPH-007	SVW4-VPB-008	SVW4-VPD-009	SVW4-VPD-010 Dup
DATE	02/02/04	02/02/04	02/02/04	02/02/04	02/02/04	02/02/04	02/02/04	02/02/04	02/02/04	02/02/04	02/02/04
ANALYSIS TIME	7:07	7:56	8:23	8:50	9:17	9:44	10:11	10:38	11:05	11:32	11:59
SAMPLING DEPTH (feet)	--	185	35	55	85	105	120	155	20	56	56
VOLUME WITHDRAWN (cc)	--	800	200	280	400	480	540	680	140	284	344
VOLUME INJECTED	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
CARBON TETRACHLORIDE	nd	nd	nd	nd	nd	2.0	nd	nd	nd	nd	nd
CHLOROETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROFORM	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
1,2-DICHLORO ETHANE	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
CIS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	2.6	nd	nd	nd	nd
TRANS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
DICHLOROMETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TETRACHLORO ETHENE	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
1,1,2,2-TETRACHLORO ETHANE	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
1,1,2-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
VINYL CHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd	21	14	12
TRICHLOROFLUOROMETHANE (FR11)	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
DICHLORODIFLUOROMETHANE (FR12)	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
BENZENE	nd	nd	nd	nd	nd	1.0	nd	nd	nd	nd	nd
CHLOROBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
ETHYLBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TOLUENE	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
o-XYLENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
SURROGATES (75-125% RECOVERY)											
DIBROMODIFLUOROMETHANE	99%	100%	99%	99%	102%	100%	100%	98%	99%	97%	100%
1,2-DICHLOROETHANE-d4	95%	90%	95%	93%	94%	94%	95%	95%	94%	94%	96%
4 BROMOFLUORO BENZENE	92%	96%	96%	93%	94%	98%	93%	91%	94%	93%	93%

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

APPENDIX B-2

CHAIN-OF-CUSTODY RECORD

GEOFON INCORPORATED

22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

LABORATORY COPY

GEOFON's LAB COORDINATOR: J. ROBINSON	LAB COORDINATOR'S PHONE: 909-396-7662	LAB COORDINATOR'S FAX: 909-396-1455	LABORATORY SERVICE ID: GF020204-16	LABORATORY CONTACT: MARK BURKE	MAIL REPORT (COMPANY NAME): GEOFON INC
PROJECT NAME: JPL #2	PROJECT LOCATION: QUARTERLY SVE MONITORING	PROJECT NUMBER: 04-4428-10	LABORATORY PHONE: 858-793-0401	LABORATORY FAX: 858-793-0404	RECIPIENT NAME: J. ROBINSON
PROJECT CONTACT: J. ROBINSON	PROJECT PHONE NUMBER: 714-920-8438	PROJECT FAX: N/A	LABORATORY ADDRESS: 437 N. CEDROS AVE	ADDRESS: #270 22632 GOLDEN SPRINGS DR	
PROJECT ADDRESS: 4800 OAK GROVE DR	CITY, STATE AND ZIPCODE: PASADENA CA 91108	CLIENT: USNAVY SWDIV	CITY, STATE AND ZIPCODE: SOLANA BEACH CA 92075	CITY, STATE AND ZIPCODE: DIAMOND BAR CA 91765	
PROJECT MANAGER: ASRAR FAHEEM	PROJECT MANAGER'S PHONE: 909-396-7662	PROJECT MANAGER'S FAX: 909-396-1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	QC Level	T.A.T.	Analyses 8010/8020								Comments
1	SVW37-VPS-001	AIR	2/1/04	0730	NONE	1*	3	NORM	X								1*60cc SYRINGE
2	SVW36-VPB-002			0750					X								
3	SVW36-VPC-003			0812					X								
4	SVW33-VPD-004			0835					X								
5	SVW33-VPE-005			0900					X								
6	SVW33-VPF-006			0922					X								
7	SVW32-VPH-007			0950					X								
8	SVW4-VPB-008			1020					X								
9	SVW4-VPD-009			1045					X								
10	SVW4-VPD-010 DUPLICATE			1110					X								DUPLICATE

SAMPLES COLLECTED BY:	COURIER AND AIR BILL NUMBER:			COOLER TEMPERATURE UPON RECEIPT
RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
		2-2-04	1230	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

APPENDIX B-3

DAILY OPENING, CLOSING, AND CONTINUING CALIBRATION VERIFICATION REPORTS

QA/QC CALIBRATION DATA

DATE: 02/02/04
H&P Project #GF020204-L6
LAB-6

SUPPLY SOURCE: CONTINUING CALIBRATION (OPENING) SUPELCO LOT #LSS-773
SUPPLY SOURCE: QUALITY CONTROL (CLOSING) SUPELCO LOT #LSS-774
INSTRUMENT: AGILENT 6850 GC / 5973 MASS SPECTROMETER

COMPOUND	OPENING STANDARD			2ND SOURCE (1ug/L) CLOSING		
	MASS	RESULT	%DIFF	MASS	RESULT	%DIFF
CARBON TETRACHLORIDE	50	51.2	2.4%	50.0	49.1	1.8%
CHLOROETHANE	50	56.5	13.0%	50.0	54.9	9.8%
CHLOROFORM	50	54.0	8.0%	50.0	54.0	8.0%
1,1-DICHLORO ETHANE	50	56.7	13.4%	50.0	57.0	14.0%
1,2-DICHLORO ETHANE	50	54.2	8.4%	50.0	52.3	4.6%
1,1-DICHLORO ETHENE	50	54.7	9.4%	50.0	54.5	9.0%
CIS-1,2-DICHLORO ETHENE	50	54.9	9.8%	50.0	53.4	6.8%
TRANS-1,2-DICHLORO ETHENE	50	56.1	12.2%	50.0	55.5	11.0%
DICHLOROMETHANE	50	56.6	13.2%	50.0	56.7	13.4%
TETRACHLORO ETHENE	50	53.9	7.8%	50.0	52.3	4.6%
1,1,1,2-TETRACHLORO ETHANE	50	56.5	13.0%	50.0	55.6	11.2%
1,1,2,2-TETRACHLORO ETHANE	50	55.2	10.4%	50.0	48.5	3.0%
1,1,1-TRICHLORO ETHANE	50	51.5	3.0%	50.0	49.8	0.4%
1,1,2-TRICHLORO ETHANE	50	53.4	6.8%	50.0	52.3	4.6%
TRICHLORO ETHENE	50	51.6	3.2%	50.0	50.9	1.8%
VINYL CHLORIDE	50	56.0	12.0%	50.0	54.1	8.2%
TRICHLOROFLUOROMETHANE (FR11)	50	58.1	16.2%	50.0	57.7	15.4%
DICHLORODIFLUOROMETHANE (FR12)	50	51.9	3.8%	50.0	53.6	7.2%
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	50	57.2	14.4%	50.0	55.2	10.4%
BENZENE	50	56.8	13.6%	50.0	56.4	12.8%
CHLOROBENZENE	50	53.6	7.2%	50.0	54.0	8.0%
ETHYLBENZENE	50	55.9	11.8%	50.0	54.9	9.8%
TOLUENE	50	53.8	7.6%	50.0	53.1	6.2%
m&p-XYLENES	100	113	13.1%	100.0	112	12.0%
o-XYLENE	50	55.3	10.6%	50.0	54.7	9.4%

ANALYSES PERFORMED ON-SITE IN CA DOHS MOBILE LABORATORY #1561
ANALYSES PERFORMED BY: MARK BURKE
DATA REVIEWED BY: TAMARA DAVIS

SOIL GAS INITIAL LCS STANDARD REPORT (CALIBRATION VERIFICATION)

LAB: Lab 6
SUPPLY SOURCE: SUPELCO LOT #LSS-828
INSTRUMENT: AGILENT 6850 GC / 5973 MASS SPECTROMETER

COMPOUND	CAL DATE	MASS	RT	RESULT	%DIFF
CARBON TETRACHLORIDE	1/28/2004	50	8.5	51.3	2.6%
CHLOROETHANE	1/28/2004	50	3.3	55.2	10.4%
CHLOROFORM	1/28/2004	50	8.1	54.3	8.6%
1,1-DICHLORO ETHANE	1/28/2004	50	7.4	54.3	8.6%
1,2-DICHLORO ETHANE	1/28/2004	50	8.6	53.3	6.6%
1,1-DICHLORO ETHENE	1/28/2004	50	6.4	52.8	5.6%
CIS-1,2-DICHLORO ETHENE	1/28/2004	50	7.9	54.7	9.4%
TRANS-1,2-DICHLORO ETHENE	1/28/2004	50	7.1	53.4	6.8%
DICHLOROMETHANE	1/28/2004	50	6.8	52.9	5.8%
TETRACHLORO ETHENE	1/28/2004	50	10.8	52.9	5.8%
1,1,1,2-TETRACHLORO ETHANE	1/28/2004	50	11.7	53.0	6.0%
1,1,2,2-TETRACHLORO ETHANE	1/28/2004	50	12.7	49.0	2.0%
1,1,1-TRICHLORO ETHANE	1/28/2004	50	8.4	52.3	4.6%
1,1,2-TRICHLORO ETHANE	1/28/2004	50	10.6	51.9	3.8%
TRICHLORO ETHENE	1/28/2004	50	9.2	53.1	6.2%
VINYL CHLORIDE	1/28/2004	50	2.7	55.8	11.6%
TRICHLOROFLUOROMETHANE (FR11)	1/28/2004	50	3.6	53.2	6.4%
DICHLORODIFLUOROMETHANE (FR12)	1/28/2004	50	2.3	50.7	1.4%
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	1/28/2004	50	6.3	53.5	7.0%
BENZENE	1/28/2004	50	8.7	54.8	9.6%
ETHYLBENZENE	1/28/2004	50	11.7	55.4	10.8%
TOLUENE	1/28/2004	50	10.3	54.0	8.0%
m&p-XYLENES	1/28/2004	100	11.7	109	9.0%
o-XYLENE	1/28/2004	50	12.2	54.3	8.6%

ANALYSES PERFORMED IN CA DOHS MOBILE LABORATORY #1561
ANALYSES PERFORMED BY: MARK BURKE
DATA REVIEWED BY: TAMARA DAVIS