APPENDIX A

SOIL VAPOR DATA VALIDATION REPORT
SEVENTEENTH 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. Scott Brehmer

May 5, 2004

SUBJECT: NASA JPL, DO #01, Data Validation

Dear Mr. Brehmer,

Enclosed is the final validation report for the fraction listed below. This SDG was received on April 27, 2004. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 11876:

SDG #	Fraction
GF040604-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

V:\LOGIN\Geofon\JPL\11876COV.wpd

Attachment 1

LDC #11876 (Geofon, Inc.-Diamond Bar / NASA Jet Propulsion Laboratory, DO#001)

LDC	SDG#	DATE REC'D	DATE DUE	VOA (8260B)																																	
Matrix:	Air/Water/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	GF040604-L6	04/27/04	05/18/04	41	0																																
Total	B			41	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# 11876

Volatiles

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL

Collection Date: April 6 through April 9, 2004

LDC Report Date: May 5, 2004

Matrix: Air

Parameters: Volatiles

Validation Level: EPA Level III

Laboratory: H & P Mobile GeoChemistry

Sample Delivery Group (SDG): GF040604-L6

Sample Identification

SVW33-VPD-001	SVW27-VPI-021
SVW33-VPE-002	SVW27-VPI-022Dup
SVW33-VPF-003	SVW35-VPE-023
SVW17-VPC-004	SVW35-VPI-024
SVW4-VPB-005	SVW38-VPD-025
SVW4-VPD-006	SVW38-VPF-026
SVW37-VPB-007	SVW38-VPJ-027
SVW37-VPD-008	SVW39-VPE-028
SVW37-VPE-009	SVW39-VPF-029
SVW37-VPE-010Dup	SVW39-VPG-030
SVW37-VPH-011	SVW39-VPI-031
SVW37-VPI-012	SVW39-VPI-032Dup
SVW37-VPJ-013	SVW26-VPF-033
SVW27-VPA-014	SVW26-VPG-034
SVW27-VPB-015	SVW26-VPH-035
SVW27-VPC-016	SVW36-VPA-036
SVW27-VPD-017	SVW36-VPB-037
SVW27-VPE-018	SVW36-VPC-038
SVW27-VPF-019	SVW36-VPD-039
SVW27-VPG-020	SVW36-VPE-040
	SVW36-VPE-041Dup

Introduction

This data review covers 41 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
4/7/04 (CCV2)	Chloroethane	32.6	SVW33-VPD-001 SVW33-VPE-002 SVW33-VPF-003 SVW17-VPC-004 SVW4-VPB-005 SVW4-VPD-006 SVW37-VPB-007 SVW37-VPD-008 SVW37-VPE-009 SVW37-VPE-010Dup MB4/6/04	J (all detects) UJ (all non-detects)	A
4/7/04 (CCV2)	Chloroethane	28.4	SVW37-VPH-011 SVW37-VPI-012 SVW37-VPJ-013 SVW27-VPA-014 SVW27-VPB-015 SVW27-VPC-016 SVW27-VPD-017 SVW27-VPE-018 SVW27-VPF-019 SVW27-VPG-020 MB4/7/04	J (all detects) UJ (all non-detects)	A
4/7/04 (CCVER1)	Chloroethane	38.9	SVW27-VPI-021 SVW27-VPI-022Dup	J (all detects) UJ (all non-detects)	A
4/8/04	Chloroethane	27.4	SVW35-VPE-023 SVW35-VPI-024 SVW38-VPD-025 SVW38-VPF-026 SVW38-VPJ-027 SVW39-VPE-028 SVW39-VPF-029 SVW39-VPG-030 SVW39-VPI-031 SVW39-VPI-032Dup MB4/8/04	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

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.

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 SVW37-VPE-009 and SVW37-VPE-010Dup, samples SVW27-VPI-021 and SVW27-VPI-022Dup, samples SVW39-VPI-031 and SVW39-VPI-032Dup, and samples SVW36-VPE-040 and SVW36-VPE-040Dup were identified as field duplicates. No volatiles were detected in any of the samples.

XVII. Field Blanks

No field blanks were identified in this SDG.

NASA JPL
Volatiles - Data Qualification Summary - SDG GF040604-L6

SDG	Sample	Compound	Flag	A or P	Reason
GF040604-L6	SVW33-VPD-001 SVW33-VPE-002 SVW33-VPF-003 SVW17-VPC-004 SVW4-VPB-005 SVW4-VPD-006 SVW37-VPB-007 SVW37-VPD-008 SVW37-VPE-009 SVW37-VPE-010Dup SVW37-VPH-011 SVW37-VPI-012 SVW37-VPJ-013 SVW27-VPA-014 SVW27-VPB-015 SVW27-VPC-016 SVW27-VPD-017 SVW27-VPE-018 SVW27-VPF-019 SVW27-VPG-020 SVW27-VPI-021 SVW27-VPI-022Dup SVW35-VPE-023 SVW35-VPI-024 SVW38-VPD-025 SVW38-VPF-026 SVW38-VPJ-027 SVW39-VPE-028 SVW39-VPF-029 SVW39-VPG-030 SVW39-VPI-031 SVW39-VPI-032Dup	Chloroethane	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)

NASA JPL
Volatiles - Laboratory Blank Data Qualification Summary - SDG GF040604-L6

No Sample Data Qualified in this SDG

GEOFON PROJECT # 04-12812
JET PROPULSION LABORATORY
4800 OAK GROVE DRIVE
PASADENA, CA

HP Labs Project #GF040604-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	SVW33-VPD-001	SVW33-VPE-002	SVW33-VPF-003	SVW17-VPC-004	SVW4-VPB-005	SVW4-VPD-006	SVW37-VPB-007	SVW37-VPD-008	SVW37-VPE-009	SVW37-VPE-010 Dup
DATE	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04
ANALYSIS TIME	6:47	7:42	8:07	8:34	8:59	9:25	9:52	10:18	10:45	11:14	11:40
SAMPLING DEPTH (feet)	–	85	105	120	36	20	56	40	80	100	100
VOLUME WITHDRAWN (cc)	–	400	480	540	204	140	284	220	380	460	520
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	nd	nd	nd	nd	nd	nd
CHLOROETHANE	nd	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ
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	7.8	nd	nd	nd	nd	nd	nd
1,1-DICHLORO ETHENE	nd	nd	1.0	nd	nd	nd	nd	nd	nd	nd	nd
CIS-1,2-DICHLORO ETHENE	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
DICHLOROMETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TETRACHLORO ETHENE	nd	nd	nd	nd	5.9	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	1.9	24	14	nd	nd	nd	nd
VINYL CHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
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	76	nd	nd	nd	nd	nd	nd
BENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROBENZENE	nd	nd	nd	nd	2.9	nd	nd	nd	nd	nd	nd
ETHYLBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TOLUENE	nd	nd	nd	nd	11	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	112%	114%	113%	117%	91%	110%	112%	117%	117%	118%	121%
1,2-DICHLOROETHANE-d4	104%	105%	108%	108%	86%	101%	105%	107%	106%	107%	111%
4 BROMOFLUORO BENZENE	98%	99%	96%	96%	99%	98%	99%	93%	93%	96%	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

5/5/04

GEOFON PROJECT # 04-12812
JET PROPULSION LABORATORY
4800 OAK GROVE DRIVE
PASADENA, CA

HP Labs Project #GF040604-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-VPH-011	SVW37-VPI-012	SVW37-VPJ-013	SVW27-VPA-014	SVW27-VPB-015	SVW27-VPC-016	SVW27-VPD-017	SVW27-VPE-018	SVW27-VPF-019	SVW27-VPG-020	SVW27-VPI-021	SVW27-VPI-022 Dup
DATE	04/07/04	04/07/04	04/07/04	04/07/04	04/07/04	04/07/04	04/07/04	04/07/04	04/07/04	04/07/04	04/07/04	04/07/04	04/07/04
ANALYSIS TIME	6:43	7:24	7:56	8:22	8:49	9:15	9:41	10:07	10:34	11:00	11:27	12:40	13:07
SAMPLING DEPTH (feet)	--	155	170	185	20	35	60	85	100	120	140	180	180
VOLUME WITHDRAWN (cc)	--	680	740	800	140	140	300	400	460	540	620	780	840
VOLUME INJECTED	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
CARBON TETRACHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROETHANE	nd	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ
CHLOROFORM	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
CIS-1,2-DICHLORO ETHENE	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
DICHLOROMETHANE	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
1,1,1,2-TETRACHLORO ETHANE	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
1,1,1-TRICHLORO ETHANE	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
TRICHLORO ETHENE	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
TRICHLOROFLUOROMETHANE (FR11)	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
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	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
CHLOROBENZENE	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
TOLUENE	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
o-XYLENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
SURROGATES (75-125% RECOVERY)													
DIBROMODIFLUOROMETHANE	110%	110%	112%	117%	117%	117%	119%	121%	122%	121%	121%	115%	118%
1,2-DICHLOROETHANE-d4	100%	103%	100%	106%	108%	106%	106%	110%	106%	109%	116%	103%	106%
4 BROMOFLUORO BENZENE	96%	101%	98%	93%	97%	96%	97%	94%	95%	94%	92%	92%	92%

ND INDICATES NOT DETECTED AT A DETECTION LIMIT OF 1.0 UG/L-VAPOR FOR EACH COMPOUND
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	AMBIENT BLANK	SVW35-VPE-023	SVW35-VPI-024	SVW38-VPD-025	SVW38-VPF-026	SVW38-VPJ-027	SVW39-VPE-028	SVW39-VPF-029	SVW39-VPG-030	SVW39-VPI-031	SVW39-VPI-032 Dup
DATE	04/08/04	04/08/04	04/08/04	04/08/04	04/08/04	04/08/04	04/08/04	04/08/04	04/08/04	04/08/04	04/08/04
ANALYSIS TIME	6:40	7:24	7:50	8:16	9:10	9:37	10:05	10:32	11:00	11:27	11:53
SAMPLING DEPTH (feet)	--	80	140	80	110	170	85	100	110	130	130
VOLUME WITHDRAWN (cc)	--	380	620	380	500	740	400	460	500	580	640
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	nd	nd	2.3	nd	nd	nd
CHLOROETHANE	nd	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ
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	nd	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	1.1	4.4	nd	nd	nd
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	1.2	nd	nd	nd	8.1	9.2	nd	nd	nd
BENZENE	nd	nd	nd	nd	nd	nd	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	111%	112%	112%	115%	114%	114%	116%	118%	120%	116%	118%
1,2-DICHLOROETHANE-d4	104%	100%	101%	106%	103%	106%	106%	109%	106%	107%	110%
4 BROMOFLUORO BENZENE	97%	96%	98%	97%	98%	100%	96%	95%	97%	95%	93%

ND INDICATES NOT DETECTED AT A DETECTION LIMIT OF 1.0 UG/L-VAPOR FOR EACH COMPOUND
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PASADENA, CA

HP Labs Project #GF040604-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	SVW26-VPF-033	SVW26-VPG-034	SVW26-VPH-035	SVW36-VPA-036	SVW36-VPB-037	SVW36-VPC-038	SVW36-VPD-039	SVW36-VPE-040	SVW36-VPE-041 Dup
DATE	04/09/04	04/09/04	04/09/04	04/09/04	04/09/04	04/09/04	04/09/04	04/09/04	04/09/04	04/09/04
ANALYSIS TIME	6:30	7:22	7:48	8:14	8:40	9:06	9:33	10:00	10:27	10:54
SAMPLING DEPTH (feet)	--	115	140	160	20	35	55	75	92	92
VOLUME WITHDRAWN (cc)	--	520	620	700	140	200	280	360	428	488
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	nd	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	nd	nd	nd	nd	nd	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	108%	111%	112%	114%	116%	116%	115%	119%	121%	120%
1,2-DICHLOROETHANE-d4	100%	102%	104%	106%	107%	107%	109%	110%	111%	113%
4 BROMOFLUORO BENZENE	97%	96%	99%	95%	98%	97%	97%	96%	92%	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

5/5/04

LDC #: 11876A1

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 5/3/04

SDG #: GF040604-L6

Page: 1 of 1

Laboratory: H & P Mobile GeoChemistry

Reviewer:

2nd Reviewer:

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: 4/6 - 9/04
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	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	ND	D = 9+10, 21+22, 31+32, 40+41
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:

All ~~air~~ soil vapor spls.

1 1	SVW33-VPD-001	11 2	SVW37-VPH-011	21 2	SVW27-VPI-021	31 3	SVW39-VPI-031
2 1	SVW33-VPE-002	12 2	SVW37-VPI-012	22 2	SVW27-VPI-022Dup	32 3	SVW39-VPI-032Dup
3 1	SVW33-VPF-003	13 2	SVW37-VPJ-013	23 3	SVW35-VPE-023	33 4	SVW26-VPF-033
4 1	SVW17-VPC-004	14 2	SVW27-VPA-014	24 3	SVW35-VPI-024	34 4	SVW26-VPG-034
5 1	SVW4-VPB-005	15 2	SVW27-VPB-015	25 3	SVW38-VPD-025	35 4	SVW26-VPH-035
6 1	SVW4-VPD-006	16 2	SVW27-VPC-016	26 3	SVW38-VPF-026	36 4	SVW36-VPA-036
7 1	SVW37-VPB-007	17 2	SVW27-VPD-017	27 3	SVW38-VPJ-027	37 4	SVW36-VPB-037
8 1	SVW37-VPD-008	18 2	SVW27-VPE-018	28 3	SVW39-VPE-028	38 4	SVW36-VPC-038
9 1	SVW37-VPE-009	19 2	SVW27-VPF-019	29 3	SVW39-VPF-029	39 4	SVW36-VPD-039
10 1	SVW37-VPE-010Dup	20 2	SVW27-VPG-020	30 3	SVW39-VPG-030	40 4	SVW36-VPE-040
1	MB4/6/04	2	MB4/7/04	3	MB4/8/04	41 4	SVW36-VPE-041Dup

4 MB4/9/04

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 choride**	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 #: 118'A1
SDG #: 40604-66

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: 9
2nd Reviewer: 2

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
	4/6/04	CCV2	D	32.6		1-10. MB4/6/04	J/UJ/A
	4/7/04	CCV2	D	28.4		11-20. MB4/7/04	J/UJ/A
	4/7/04	CCV2R1	D	38.9		21-22	J/UJ/A
	4/8/04	CCV2	D	27.4		23-32 MB4/8/04	J/UJ/A

CONCAL1S

APPENDIX B

B-1 RESULTS OF SOIL VAPOR ANALYSES

B-2 CHAIN-OF-CUSTODY FORMS

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

APPENDIX B-1

RESULTS OF SOIL VAPOR ANALYSES

APR 2 1 2004

MOBILE GEO CHEMISTRY

H&P

April 16, 2004

Mr. Jay Robinson
Geofon
22632 Golden Springs Drive
Suite 270
Diamond Bar, CA 91765

SUBJECT: DATA REPORT – JET PROPULSION LAB – 4800 OAK GROVE DRIVE – PASADENA, CA - GEOFON PROJECT #04-4428.10 JPL#2

HP Labs Project # GF040604-L6

Mr. Robinson:

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 41 points was analyzed for:

- volatile halogenated hydrocarbons by EPA Method 8260B
- volatile aromatic hydrocarbons (BTEX) 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,

Ms. Tamara Davis
Lab Director

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 # 04-12812
JET PROPULSION LABORATORY
4800 OAK GROVE DRIVE
PASADENA, CA

HP Labs Project #GF040604-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	SVW33-VPD-001	SVW33-VPE-002	SVW33-VPF-003	SVW17-VPC-004	SVW4-VPB-005	SVW4-VPD-006	SVW37-VPB-007	SVW37-VPD-008	SVW37-VPE-009	SVW37-VPE-010 Dup
DATE	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04
ANALYSIS TIME	6:47	7:42	8:07	8:34	8:59	9:25	9:52	10:18	10:45	11:14	11:40
SAMPLING DEPTH (feet)	–	85	105	120	36	20	56	40	80	100	100
VOLUME WITHDRAWN (cc)	–	400	480	540	204	140	284	220	380	460	520
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	nd	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	7.8	nd	nd	nd	nd	nd	nd
1,1-DICHLORO ETHENE	nd	nd	1.0	nd	nd	nd	nd	nd	nd	nd	nd
CIS-1,2-DICHLORO ETHENE	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
DICHLOROMETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
TETRACHLORO ETHENE	nd	nd	nd	nd	5.9	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	1.9	24	14	nd	nd	nd	nd
VINYL CHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
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	76	nd	nd	nd	nd	nd	nd
CHLOROBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
ETHYLBENZENE	nd	nd	nd	nd	2.9	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	11	nd	nd	nd	nd	nd	nd
o-XYLENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
SURROGATES (75-125% RECOVERY)											
DIBROMODIFLUOROMETHANE	112%	114%	113%	117%	91%	110%	112%	117%	117%	118%	121%
1,2-DICHLOROETHANE-d4	104%	105%	108%	108%	86%	101%	105%	107%	106%	107%	111%
4 BROMOFLUORO BENZENE	98%	99%	96%	96%	99%	98%	99%	93%	93%	96%	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

GEOFON PROJECT # 04-12812
JET PROPULSION LABORATORY
4800 OAK GROVE DRIVE
PASADENA, CA

HP Labs Project #GF040604-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-VPH-011	SVW37-VPI-012	SVW37-VPJ-013	SVW27-VPA-014	SVW27-VPB-015	SVW27-VPC-016	SVW27-VPD-017	SVW27-VPE-018	SVW27-VPF-019	SVW27-VPG-020	SVW27-VPI-021	SVW27-VPI-022 Dup
DATE	04/07/04	04/07/04	04/07/04	04/07/04	04/07/04	04/07/04	04/07/04	04/07/04	04/07/04	04/07/04	04/07/04	04/07/04	04/07/04
ANALYSIS TIME	6:43	7:24	7:56	8:22	8:49	9:15	9:41	10:07	10:34	11:00	11:27	12:40	13:07
SAMPLING DEPTH (feet)	--	155	170	185	20	35	60	85	100	120	140	180	180
VOLUME WITHDRAWN (cc)	--	680	740	800	140	140	300	400	460	540	620	780	840
VOLUME INJECTED	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
CARBON TETRACHLORIDE	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
CHLOROFORM	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
CIS-1,2-DICHLORO ETHENE	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
DICHLOROMETHANE	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
1,1,1,2-TETRACHLORO ETHANE	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
1,1,1-TRICHLORO ETHANE	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
TRICHLORO ETHENE	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
TRICHLOROFLUOROMETHANE (FR11)	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
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	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
CHLOROBENZENE	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
TOLUENE	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
o-XYLENE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
SURROGATES (75-125% RECOVERY)													
DIBROMODIFLUOROMETHANE	110%	110%	112%	117%	117%	117%	119%	121%	122%	121%	121%	115%	118%
1,2-DICHLOROETHANE-d4	100%	103%	100%	106%	108%	106%	106%	110%	106%	109%	116%	103%	106%
4 BROMOFLUORO BENZENE	96%	101%	98%	93%	97%	96%	97%	94%	95%	94%	92%	92%	92%

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
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VOLATILE HALOGENATED AND AROMATIC HYDROCARBONS (EPA Method 8260) ANALYSES OF SOIL VAPOR
SOIL VAPOR DATA IN UG/L-VAPOR

	AMBIENT BLANK	SVW35-VPE-023	SVW35-VPI-024	SVW38-VPD-025	SVW38-VPF-026	SVW38-VPJ-027	SVW39-VPE-028	SVW39-VPF-029	SVW39-VPG-030	SVW39-VPI-031	SVW39-VPI-032 Dup
DATE	04/08/04	04/08/04	04/08/04	04/08/04	04/08/04	04/08/04	04/08/04	04/08/04	04/08/04	04/08/04	04/08/04
ANALYSIS TIME	6:40	7:24	7:50	8:16	9:10	9:37	10:05	10:32	11:00	11:27	11:53
SAMPLING DEPTH (feet)	--	80	140	80	110	170	85	100	110	130	130
VOLUME WITHDRAWN (cc)	--	380	620	380	500	740	400	460	500	580	640
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	nd	nd	2.3	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	nd	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	1.1	4.4	nd	nd	nd
VINYL CHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
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	1.2	nd	nd	nd	8.1	9.2	nd	nd	nd
BENZENE	nd	nd	nd	nd	nd	nd	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	111%	112%	112%	115%	114%	114%	116%	118%	120%	116%	118%
1,2-DICHLOROETHANE-d4	104%	100%	101%	106%	103%	106%	106%	109%	106%	107%	110%
4 BROMOFLUORO BENZENE	97%	96%	98%	97%	98%	100%	96%	95%	97%	95%	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

GEOFON PROJECT # 04-12812
JET PROPULSION LABORATORY
4800 OAK GROVE DRIVE
PASADENA, CA

HP Labs Project #GF040604-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	SVW26-VPF-033	SVW26-VPG-034	SVW26-VPH-035	SVW36-VPA-036	SVW36-VPB-037	SVW36-VPC-038	SVW36-VPD-039	SVW36-VPE-040	SVW36-VPE-041 Dup
DATE	04/09/04	04/09/04	04/09/04	04/09/04	04/09/04	04/09/04	04/09/04	04/09/04	04/09/04	04/09/04
ANALYSIS TIME	6:30	7:22	7:48	8:14	8:40	9:06	9:33	10:00	10:27	10:54
SAMPLING DEPTH (feet)	–	115	140	160	20	35	55	75	92	92
VOLUME WITHDRAWN (cc)	–	520	620	700	140	200	280	360	428	488
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	nd	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	nd	nd	nd	nd	nd	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	108%	111%	112%	114%	116%	116%	115%	119%	121%	120%
1,2-DICHLOROETHANE-d4	100%	102%	104%	106%	107%	107%	109%	110%	111%	113%
4 BROMOFLUORO BENZENE	97%	96%	99%	95%	98%	97%	97%	96%	92%	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

APPENDIX B-2

CHAIN-OF-CUSTODY FORMS

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: GF040604-L6	LABORATORY CONTACT: MARK BURKE	MAIL REPORT (COMPANY NAME): GEOFON INC
PROJECT NAME: JPL #2	PROJECT LOCATION: SEMI ANNUAL SVE SAMPLING	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: 22632 GOLDEN SPRING DR #270
PROJECT ADDRESS: 4800 OAK GROVE DR	CITY, STATE AND ZIPCODE: PASADENA CA 91108	CLIENT: US NAVY SWDIV	CITY, STATE AND ZIPCODE: SOLANA BEACH CA 92075		CITY, STATE AND ZIPCODE: DIAMOND BAR CA 91765
PROJECT MANAGER: ASLAN FAHGEM	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	SW33-VPD-001	AIR	4/6/04	0715	NONE	1*	3	NORM	X								1*60 cc SYRINGE
2	SW33-VPE-002			0747					X								
3	SW33-VPF-003			0813					X								
4	SW17-VPC-004			0839					X								
5	SW4-VPB-005			0906					X								
6	SW4-VPD-006			0932					X								
7	SW37-VPB-007			0958					X								
8	SW37-VPD-008			1024					X								
9	SW37-VPE-009			1050					X								
10	SW37-VPE-010 DUPLICATE			1116					X								DUPLICATE

SAMPLES COLLECTED BY: [signature]

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT:

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
[signature]	[signature]	4-6-04	1230	

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

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: GF040604-L6	LABORATORY CONTACT: MARK BURKE	MAIL REPORT (COMPANY NAME): GEOFON INC
PROJECT NAME: JPL #2	PROJECT LOCATION: SEMI ANNUAL SVW SAMPLING	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: 22632 GOLDEN SPRINGS DR #270
PROJECT ADDRESS: 4800 OAK GROVE DR	CITY, STATE AND ZIPCODE: PASADENA CA 91108	CLIENT: US NAVY 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-VPH-011	AIR	4/7/04	0706	NONE	1*	3	NORM	X								1*60 cc SYRINGE
2	SVW37-VPI-012			0732					X								
3	SVW37-VPJ-013			0758					X								
4	SVW27-VPA-014			0824					X								
5	SVW27-VPB-015			0850					X								
6	SVW27-VPC-016			0916					X								
7	SVW27-VPD-017			0942					X								
8	SVW27-VPE-018			1008					X								
9	SVW27-VPF-019			1034					X								
10	SVW27-VPG-020			1100					X								

SAMPLES COLLECTED BY: TM & JJ

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
[signature]	[signature]	4-7-04	1245	

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

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-~~7662~~ 1455	LABORATORY SERVICE ID: GF040604-L6	LABORATORY CONTACT: MARK BURKE	MAIL REPORT (COMPANY NAME): GEOFON INC
PROJECT NAME: JPL #2	PROJECT LOCATION: SEMI ANNUAL SW SAMPLING	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: 22632 GOLDEN SPRINGS DR #270
PROJECT ADDRESS: 4800 OAK GROVE DR	CITY, STATE AND ZIPCODE: PASADENA CA 91108	CLIENT: US NAVY SWDIV	CITY, STATE AND ZIPCODE: SOLANA BEACH CA 92075		CITY, STATE AND ZIPCODE: DIAMOND BAR CA 91765
PROJECT MANAGER: ASLAM PARKEM	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	SW27-VPI-021	AIR	4/7/04	1240	NONE	1*	3	NORM	X								1* 60 cc SYRINGE
2	SW 27-VPI-022 DUPLICATE	1	1	1222	1	1	1	1	X								DUPLICATE
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

SAMPLES COLLECTED BY	COURIER AND AIR BILL NUMBER			COOLER TEMPERATURE UPON RECEIPT
RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
		4-7-04	1245	

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

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: GF040604-26	LABORATORY CONTACT: MARK BURKE	MAIL REPORT (COMPANY NAME): GEOFON INC
PROJECT NAME: JPL #2	PROJECT LOCATION: SEMI ANNUAL SRW SAMPLING	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: 22632 GOLDEN SPRINGS DR #270
PROJECT ADDRESS: 4800 OAK GROVE DR	CITY, STATE AND ZIPCODE: PASADENA CA 91108	CLIENT: US NAVY 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	SRW35-VPE-023	AIR	4/8/04	0706	NONE	1*	3	NORM	X								1* 60cc SYRINGE
2	SRW35-VPI-024			0732					X								
3	SRW38-VPD-025			0758					X								
4	SRW38-VPF-026			0824					X								
5	SRW38-VPJ-027			0850					X								
6	SRW39-VPE-028			0944					X								
7	SRW39-VPF-029			1010					X								
8	SRW39-VPG-030			1036					X								
9	SRW39-VPI-031			1102					X								
10	SRW39-VPI-032 DUPLICATE			1128					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
		4-8-04	1230	

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

GEOFON INCORPORATED

22632 GOLDEN SPRINGS DR., SUITE 270
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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: GF040604-L6	LABORATORY CONTACT: MARK BURKE	MAIL REPORT (COMPANY NAME): GEOFON INC
PROJECT NAME: JPL #2	PROJECT LOCATION: SEMI ANNUAL SVW SAMPLING	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: 22632 GOLDEN SPRINGS DR #270
PROJECT ADDRESS: 4800 OAKGROVE DR	CITY, STATE AND ZIPCODE: PASADENA CA 91108	CLIENT: US NAVY SWDIV	CITY, STATE AND ZIPCODE: SOLANA BEACH CA 92075		CITY, STATE AND ZIPCODE: DIAMOND BAR CA 91765
PROJECT MANAGER: ASRAR PAHEEM	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	SVW26-VPF-033	AIR	4/9/04	0704	None	1*	3	NORM	X								1* 60cc SYRINGE
2	SVW26-VPG-034			0730					X								
3	SVW26-VPH-035			0756					X								
4	SVW36-VPA-036			0822					X								
5	SVW36-VPB-037			0848					X								
6	SVW36-VPC-038			0914					X								
7	SVW36-VPD-039			0940					X								
8	SVW36-VPE-040			1006					X								
9	SVW36-VPE-041 DUPLICATE			1032					X								DUPLICATE
10																	

SAMPLES COLLECTED BY	COURIER AND AIR BILL NUMBER				COOLER TEMPERATURE UPON RECEIPT
RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT	
		4-10-04	1240		

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: 04/06/04
HP Labs Project #GF040604-L6
LAB-6

SUPPLY SOURCE: CONTINUING CALIBRATION (OPENING) SUPELCO LOT #LSS-856
SUPPLY SOURCE: QUALITY CONTROL (CLOSING) SUPELCO LOT #LSS-857
INSTRUMENT: AGILENT 6850 GC / 5973 MASS SPECTROMETER

	OPENING STANDARD			2ND SOURCE (1ug/L) CLOSING		
COMPOUND	MASS	RESULT	%DIFF	MASS	RESULT	%DIFF
CARBON TETRACHLORIDE	50	49.3	1.4%	50	51.8	3.6%
CHLOROFORM	50	52.8	5.6%	50	55.8	11.6%
1,1-DICHLORO ETHANE	50	56.3	12.6%	50	58.9	17.8%
1,2-DICHLORO ETHANE	50	52.4	4.8%	50	55.2	10.4%
1,1-DICHLORO ETHENE	50	53.4	6.8%	50	52.2	4.4%
CIS-1,2-DICHLORO ETHENE	50	49.4	1.2%	50	54.7	9.4%
TRANS-1,2-DICHLORO ETHENE	50	54.5	9.0%	50	56.7	13.4%
DICHLOROMETHANE	50	56.4	12.8%	50	59.8	19.6%
TETRACHLORO ETHENE	50	51.0	2.0%	50	55.7	11.4%
1,1,1,2-TETRACHLORO ETHANE	50	55.8	11.6%	50	59.4	18.8%
1,1,2,2-TETRACHLORO ETHANE	50	49.2	1.6%	50	52.8	5.6%
1,1,1-TRICHLORO ETHANE	50	47.6	4.8%	50	49.2	1.6%
1,1,2-TRICHLORO ETHANE	50	51.1	2.2%	50	54.9	9.8%
TRICHLORO ETHENE	50	45.9	8.2%	50	46.7	6.6%
VINYL CHLORIDE	50	59.8	19.6%	50	62.0	24.0%
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	50	58.4	16.8%	50	60.2	20.4%
BENZENE	50	56.2	12.4%	50	59.9	19.8%
CHLOROBENZENE	50	52.0	4.0%	50	54.7	9.4%
ETHYLBENZENE	50	53.5	7.0%	50	55.8	11.6%
TOLUENE	50	49.4	1.2%	50	51.4	2.8%
m&p-XYLENES	100	112	12.0%	100	118	18.0%
o-XYLENE	50	53.8	7.6%	50	56.4	12.8%

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

QA/QC CALIBRATION DATA

DATE: 04/07/04
HP Labs Project #GF040604-L6
LAB-6

SUPPLY SOURCE: CONTINUING CALIBRATION (OPENING) SUPELCO LOT #LSS-856
SUPPLY SOURCE: QUALITY CONTROL (CLOSING) SUPELCO LOT #LSS-857
INSTRUMENT: AGILENT 6850 GC / 5973 MASS SPECTROMETER

	OPENING STANDARD			2ND SOURCE (1ug/L) CLOSING		
COMPOUND	MASS	RESULT	%DIFF	MASS	RESULT	%DIFF
CARBON TETRACHLORIDE	50	49.1	1.8%	50	49.6	0.8%
CHLOROFORM	50	51.3	2.6%	50	53.6	7.2%
1,1-DICHLORO ETHANE	50	55.2	10.4%	50	56.8	13.6%
1,2-DICHLORO ETHANE	50	51.1	2.2%	50	52.4	4.8%
1,1-DICHLORO ETHENE	50	51.4	2.8%	50	49.7	0.6%
CIS-1,2-DICHLORO ETHENE	50	52.4	4.8%	50	53.2	6.4%
TRANS-1,2-DICHLORO ETHENE	50	53.7	7.4%	50	52.8	5.6%
DICHLOROMETHANE	50	55.8	11.6%	50	57.1	14.2%
TETRACHLORO ETHENE	50	52.9	5.8%	50	54.4	8.8%
1,1,1,2-TETRACHLORO ETHANE	50	55.6	11.2%	50	58.8	17.6%
1,1,2,2-TETRACHLORO ETHANE	50	51.4	2.8%	50	48.3	3.4%
1,1,1-TRICHLORO ETHANE	50	47.7	4.6%	50	46.6	6.8%
1,1,2-TRICHLORO ETHANE	50	50.2	0.4%	50	52.1	4.2%
TRICHLORO ETHENE	50	47.3	5.4%	50	45.0	10.0%
VINYL CHLORIDE	50	59.8	19.6%	50	62.3	24.6%
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	50	56.3	12.6%	50	58.5	17.0%
BENZENE	50	55.5	11.0%	50	58.1	16.2%
CHLOROBENZENE	50	53.0	6.0%	50	53.9	7.8%
ETHYLBENZENE	50	55.1	10.2%	50	56.2	12.4%
TOLUENE	50	50.9	1.8%	50	49.8	0.4%
m&p-XYLENES	100	112	12.0%	100	115	15.0%
o-XYLENE	50	54.5	9.0%	50	56.1	12.2%

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

QA/QC - CALIBRATION DATA

DATE: 04/07/04
HP Labs Project #GF040604-L6
Lab 6

CALIBRATION VERIFICATION
SUPPLY SOURCE: SUPELCO LOT #LSS-856
INSTRUMENT: AGILENT 6850 GC / 5973 MASS SPECTROMETER

COMPOUND	MASS	CONTINUING STANDARD RESPONSE	%DIFF
CARBON TETRACHLORIDE	50	51.0	2.0%
CHLOROFORM	50	55.4	10.8%
1,1-DICHLORO ETHANE	50	59.0	18.0%
1,2-DICHLORO ETHANE	50	54.4	8.8%
1,1-DICHLORO ETHENE	50	51.4	2.8%
CIS-1,2-DICHLORO ETHENE	50	51.8	3.6%
TRANS-1,2-DICHLORO ETHENE	50	55.5	11.0%
DICHLOROMETHANE	50	59.9	19.8%
TETRACHLORO ETHENE	50	54.3	8.6%
1,1,1,2-TETRACHLORO ETHANE	50	59.7	19.4%
1,1,2,2-TETRACHLORO ETHANE	50	52.6	5.2%
1,1,1-TRICHLORO ETHANE	50	49.2	1.6%
1,1,2-TRICHLORO ETHANE	50	56.3	12.6%
TRICHLORO ETHENE	50	46.1	7.8%
VINYL CHLORIDE	50	59.8	19.6%
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	50	59.9	19.7%
BENZENE	50	59.9	19.8%
CHLOROBENZENE	50	53.0	6.0%
ETHYLBENZENE	50	55.3	10.6%
TOLUENE	50	50.7	1.4%
m&p-XYLENES	100	117	17.0%
o-XYLENE	50	55.0	10.0%

ANALYSES PERFORMED ON-SITE IN DOHS CERTIFIED MOBILE LABORATORY (CERT #1561)
ANALYSES PERFORMED BY: MARK BURKE
DATA REVIEWED BY: TAMARA DAVIS

QA/QC CALIBRATION DATA

DATE: 04/08/04
HP Labs Project #GF040604-L6
LAB-6

SUPPLY SOURCE: CONTINUING CALIBRATION (OPENING) SUPELCO LOT #LSS-856
SUPPLY SOURCE: QUALITY CONTROL (CLOSING) SUPELCO LOT #LSS-857
INSTRUMENT: AGILENT 6850 GC / 5973 MASS SPECTROMETER

	OPENING STANDARD			2ND SOURCE (1ug/L) CLOSING		
COMPOUND	MASS	RESULT	%DIFF	MASS	RESULT	%DIFF
CARBON TETRACHLORIDE	50	48.6	2.8%	50	48.1	3.8%
CHLOROFORM	50	51.9	3.8%	50	53.1	6.2%
1,1-DICHLORO ETHANE	50	55.5	11.0%	50	56.1	12.2%
1,2-DICHLORO ETHANE	50	50.5	1.0%	50	51.5	3.0%
1,1-DICHLORO ETHENE	50	53.0	6.0%	50	52.2	4.4%
CIS-1,2-DICHLORO ETHENE	50	53.0	6.0%	50	53.0	6.0%
TRANS-1,2-DICHLORO ETHENE	50	54.2	8.4%	50	54.7	9.4%
DICHLOROMETHANE	50	56.3	12.6%	50	58.4	16.8%
TETRACHLORO ETHENE	50	53.4	6.8%	50	53.6	7.2%
1,1,1,2-TETRACHLORO ETHANE	50	56.3	12.6%	50	58.9	17.8%
1,1,2,2-TETRACHLORO ETHANE	50	50.5	1.0%	50	51.6	3.2%
1,1,1-TRICHLORO ETHANE	50	47.5	5.0%	50	47.5	5.0%
1,1,2-TRICHLORO ETHANE	50	49.5	1.0%	50	52.0	4.0%
TRICHLORO ETHENE	50	46.3	7.4%	50	46.0	8.0%
VINYL CHLORIDE	50	59.4	18.8%	50	62.3	24.6%
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	50	56.0	12.0%	50	57.9	15.8%
BENZENE	50	55.5	11.0%	50	57.9	15.8%
CHLOROBENZENE	50	53.7	7.4%	50	54.2	8.4%
ETHYLBENZENE	50	55.1	10.2%	50	55.4	10.8%
TOLUENE	50	49.0	2.0%	50	49.4	1.2%
m&p-XYLENES	100	113	13.0%	100	114	14.0%
o-XYLENE	50	55.1	10.2%	50	55.2	10.4%

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

QA/QC CALIBRATION DATA

DATE: 04/09/04
HP Labs Project #GF040604-L6
LAB-6

SUPPLY SOURCE: CONTINUING CALIBRATION (OPENING) SUPELCO LOT #LSS-856
SUPPLY SOURCE: QUALITY CONTROL (CLOSING) SUPELCO LOT #LSS-857
INSTRUMENT: AGILENT 6850 GC / 5973 MASS SPECTROMETER

COMPOUND	OPENING STANDARD			2ND SOURCE (1ug/L) CLOSING		
	MASS	RESULT	%DIFF	MASS	RESULT	%DIFF
CARBON TETRACHLORIDE	50	47.8	4.4%	50	48.7	2.6%
CHLOROFORM	50	51.7	3.4%	50	55.1	10.2%
1,1-DICHLORO ETHANE	50	54.2	8.4%	50	58.5	17.0%
1,2-DICHLORO ETHANE	50	49.4	1.2%	50	52.9	5.8%
1,1-DICHLORO ETHENE	50	51.4	2.8%	50	52.9	5.8%
CIS-1,2-DICHLORO ETHENE	50	52.6	5.2%	50	54.1	8.2%
TRANS-1,2-DICHLORO ETHENE	50	52.5	5.0%	50	55.1	10.2%
DICHLOROMETHANE	50	53.8	7.6%	50	58.9	17.8%
TETRACHLORO ETHENE	50	51.6	3.2%	50	55.5	11.0%
1,1,1,2-TETRACHLORO ETHANE	50	54.4	8.8%	50	59.4	18.8%
1,1,2,2-TETRACHLORO ETHANE	50	50.9	1.8%	50	52.9	5.8%
1,1,1-TRICHLORO ETHANE	50	48.0	4.0%	50	48.2	3.6%
1,1,2-TRICHLORO ETHANE	50	51.1	2.2%	50	55.1	10.2%
TRICHLORO ETHENE	50	47.1	5.8%	50	47.4	5.2%
VINYL CHLORIDE	50	59.2	18.4%	50	62.3	24.6%
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	50	55.5	11.0%	50	56.8	13.6%
BENZENE	50	54.8	9.6%	50	58.8	17.6%
CHLOROBENZENE	50	52.0	4.0%	50	54.7	9.4%
ETHYLBENZENE	50	53.0	6.0%	50	56.7	13.4%
TOLUENE	50	50.6	1.2%	50	49.9	0.2%
m&p-XYLENES	100	110	10.0%	100	114	14.0%
o-XYLENE	50	52.4	4.8%	50	56.3	12.6%

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-836
INSTRUMENT: AGILENT 6850 GC / 5973 MASS SPECTROMETER

COMPOUND	CAL DATE	MASS	RESULT	%DIFF
CARBON TETRACHLORIDE	3/1/2004	50	48.2	3.6%
CHLOROETHANE	3/1/2004	50	53.1	6.2%
CHLOROFORM	3/1/2004	50	49.5	1.0%
1,1-DICHLORO ETHANE	3/1/2004	50	49.3	1.4%
1,2-DICHLORO ETHANE	3/1/2004	50	49.5	1.0%
1,1-DICHLORO ETHENE	3/1/2004	50	51.5	3.0%
CIS-1,2-DICHLORO ETHENE	3/1/2004	50	50.3	0.6%
TRANS-1,2-DICHLORO ETHENE	3/1/2004	50	51.0	2.0%
DICHLOROMETHANE	3/1/2004	50	49.2	1.6%
TETRACHLORO ETHENE	3/1/2004	50	51.9	3.8%
1,1,1,2-TETRACHLORO ETHANE	3/1/2004	50	51.1	2.2%
1,1,2,2-TETRACHLORO ETHANE	3/1/2004	50	46.1	7.8%
1,1,1-TRICHLORO ETHANE	3/1/2004	50	48.0	4.0%
1,1,2-TRICHLORO ETHANE	3/1/2004	50	46.7	6.6%
TRICHLORO ETHENE	3/1/2004	50	48.4	3.2%
VINYL CHLORIDE	3/1/2004	50	52.0	4.0%
TRICHLOROFLUOROMETHANE (FR11)	3/1/2004	50	50.3	0.6%
DICHLORODIFLUOROMETHANE (FR12)	3/1/2004	50	49.0	2.0%
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	3/1/2004	50	49.7	0.6%
BENZENE	3/1/2004	50	50.5	1.0%
ETHYLBENZENE	3/1/2004	50	50.9	1.8%
TOLUENE	3/1/2004	50	48.8	2.4%
m&p-XYLENES	3/1/2004	100	107	7.0%
o-XYLENE	3/1/2004	50	53.3	6.6%

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