VIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

IX. Field Duplicates

Samples SVW30-VPE-05 and SVW30-VPE-06 DUP, samples SVW12-VPC-11 and SVW12-VPC-12 DUP, samples SVW1-VPB-17 and SVW1-VPB-18 DUP, samples SVW4-VPB-23 and SVW4-VOB-24 DUP, samples SVW32-VPC-29 and SVW32-VPC-30 DUP, samples SVW32-VPJ-35 and SVW32-VPJ-36 DUP, samples SVW9-VPB-41 and SVW9-VPB-42 DUP, samples SVW10-VPD-47 and SVW10-VPD-48 DUP, samples SVW36-VPB-53 and SVW36-VPB-54 DUP, samples SVW33-VPD-59 and SVW33-VPD-60 DUP, samples SVW26-VPF-65 and SVW26-VPF-66 DUP, samples SVW28-VPA-71 and SVW28-VPA-72 DUP, samples SVW25-VPI-77 and SVW25-VPI-78 DUP, samples SVW37-VPB-83 and SVW37-VPB-84 DUP, samples SVW34-VPE-89 and SVW34-VPE-90 DUP, samples SVW39-VPE-95 and SVW39-VPE-96 DUP, samples SVW27-VPC-101 and SVW27-VPC-102 DUP, samples SVW27-VPI-107 and SVW27-VPI-108 DUP and samples SVW15-VPE-113 and SVW15-VPE-114 DUP were identified as field duplicates. No volatile halogenated/aromatic hydrocarbons were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	SVW4-VPB-23	SVW4-VOB-24 DUP	
Trichloroethene	24	14	53

Compound	Concentration (ug/L)		RPD
	SVW32-VPJ-35	SVW32-VPJ-36 DUP	
Benzene	1.9	1.1	53
Toluene	2.3	ND	200

Compound	Concentration (ug/L)		RPD
	SVW39-VPE-95	SVW39-VPE-96 DUP	
o-Xylene	2.2	2.4	9

X. Field Blanks

No field blanks were identified in this SDG.

NASA JPL, DO 048
Volatile Halogenated/Aromatic Hydrocarbons- Data Qualification Summary - SDG GF090302T2

SDG	Sample	Compound	Flag	A or P	Reason
GF090302T2	SVW30-VPA-01	All TCL compounds	None	P	Initial calibration
	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				
	SVW5-VPB-14				
	SVW7-VPA-15				
	SVW7-VPB-16				
	SVW1-VPB-17				
	SVW1-VPB-18 DUP				
	SVW1-VPC-19				
	SVW2-VPA-20				
	SVW3-VPC-21				
	SVW3-VPD-22				
	SVW4-VPB-23				
	SVW4-VOB-24 DUP				
	SVW4-VPD-25				
	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				
	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				
	SVW36-VPB-53				
	SVW36-VPB-54 DUP				
	SVW36-VPC-55				
	SVW36-VPD-56				

SDG	Sample	Compound	Flag	A or P	Reason
GF090302T2	SVW36-VPE-57	All TCL compounds	None	P	Initial calibration
	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				
	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				
	SVW38-VPE-80				
	SVW38-VPF-81				
	SVW38-VPJ-82				
	SVW37-VPB-83				
	SVW37-VPB-84 DUP				
	SVW37-VPE-85				
	SVW37-VPH-86				
	SVW37-VPI-87				
	SVW37-VPJ-88				
	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				
	SVW27-VPA-99				
	SVW27-VPB-100				
	SVW38-VPF-81				
	SVW38-VPJ-82				
	SVW37-VPB-83				
	SVW37-VPB-84 DUP				
	SVW37-VPE-85				
	SVW37-VPH-86				
	SVW37-VPI-87				
	SVW37-VPJ-88				
	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				
	SVW27-VPA-99				

SDG	Sample	Compound	Flag	A or P	Reason
GF090302T2	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 SVW15-VPB-110 SVW15-VPC-111 SVW15-VPD-112 SVW15-VPE-113 SVW15-VPE-114 DUP SVW6-VPB-115 SVW6-VPD-116 SVW6-VPE-117	All TCL compounds	None	P	Initial calibration

SDG	Sample	Compound	Flag	A or P	Reason
GF090302T2	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 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 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 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	1,1,2-Trichloroethane	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
GF090302T2	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	Dichloromethane	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)

GEOFON PROJECT # 04-4428.10 JPL#2
JET PROPULSION LABORATORY
4800 OAK GROVE DRIVE
PASADENA, CA

HP Labs Project #GF090302T2
GC SHIMADZU 14A
VOLATILE HALOGENATED AND AROMATIC HYDROCARBONS (EPA Method 8021) ANALYSES OF SOIL VAPOR
SOIL VAPOR DATA IN UG/L-VAPOR

	AMBIENT BLANK	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
DATE	09/17/02	09/17/02	09/17/02	09/17/02	09/17/02	09/17/02	09/17/02	09/17/02	09/17/02	09/17/02	09/17/02	09/17/02
ANALYSIS TIME	07:33	07:55	08:17	08:40	09:02	09:24	09:46	10:12	10:34	10:59	11:21	12:15
SAMPLING DEPTH (feet)	--	20	35	60	60	85	100	120	140	180	180	205
VOLUME WITHDRAWN (cc)	--	140	200	300	420	400	460	540	620	780	900	880
VOLUME INJECTED	1	1	1	1	1	1	1	1	1	1	1	1
DILUTION FACTOR	1	1	1	1	1	1	1	1	1	1	1	1
CARBON TETRACHLORIDE	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
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	nd	nd	nd
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 UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ
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 UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ	nd UJ
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												
1,4 DIFLUORO BENZENE	86%	90%	89%	91%	92%	90%	90%	90%	88%	88%	87%	84%
4 BROMOFLUORO BENZENE	93%	97%	98%	98%	100%	98%	99%	99%	97%	98%	98%	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 (CERT #1667)
ANALYSES PERFORMED BY: MARK BURKE
DATA REVIEWED BY: MS. TAMARA DAVIS

10/16/02

GEOFON PROJECT # 04-4428.10 JPL#2
JET PROPULSION LABORATORY
4800 OAK GROVE DRIVE
PASADENA, CA

HP Labs Project #GF090302T2
GC SHIMADZU 14A
VOLATILE HALOGENATED AND AROMATIC HYDROCARBONS (EPA Method 8021) ANALYSES OF SOIL VAPOR
SOIL VAPOR DATA IN UG/L-VAPOR

	AMBIENT BLANK	SVW15-VPB-110	SVW15-VPC-111	SVW15-VPD-112	SVW15-VPE-113	SVE15-VPE-114 DUP	SVW6-VPB-115	SVW6-VPD-116	SVW6-VPE-117
DATE	09/18/02	09/18/02	09/18/02	09/18/02	09/18/02	09/18/02	09/18/02	09/18/02	09/18/02
ANALYSIS TIME	07:06	07:28	07:49	08:11	08:33	08:56	09:18	09:39	10:01
SAMPLING DEPTH (feet)	--	40	60	75	95	95	40	77	96
VOLUME WITHDRAWN (cc)	--	220	300	360	440	560	220	368	444
VOLUME INJECTED	1	1	1	1	1	1	1	1	1
DILUTION FACTOR	1	1	1	1	1	1	1	1	1
CARBON TETRACHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROFORM	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,2-DICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd
CIS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRANS-1,2-DICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd
DICHLOROMETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd
TETRACHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2,2-TETRACHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2-TRICHLORO ETHANE	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLORO ETHENE	nd	nd	nd	nd	nd	nd	nd	nd	nd
VINYL CHLORIDE	nd	nd	nd	nd	nd	nd	nd	nd	nd
TRICHLOROFLUOROMETHANE (FR11)	nd	nd	nd	nd	nd	nd	nd	nd	nd
DICHLORODIFLUOROMETHANE (FR12)	nd	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2-TRICHLOROTRIFLUOROETHANE (FR113)	nd	nd	nd	nd	nd	nd	nd	nd	nd
BENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd
CHLOROBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd
ETHYLBENZENE	nd	nd	nd	nd	nd	nd	nd	nd	nd
TOLUENE	nd	nd	nd	nd	nd	nd	nd	nd	nd
m&p-XYLENES	nd	nd	nd	nd	nd	nd	nd	nd	nd
o-XYLENE	nd	nd	nd	nd	nd	nd	nd	nd	nd
SURROGATES									
1,4 DIFLUORO BENZENE	87%	88%	89%	87%	87%	88%	87%	87%	89%
4 BROMOFLUORO BENZENE	95%	98%	99%	95%	94%	97%	96%	98%	99%

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 (CERT #1667)
ANALYSES PERFORMED BY: MARK BURKE
DATA REVIEWED BY: MS. TAMARA DAVIS

10/16/02

VALIDATION COMPLETENESS WORKSHEET
EPA Level III

Date: 10-7-02
Page: 1 of 3
Reviewer: Z. Pan
2nd Reviewer: [illegible]

LDC #: 9152A23
SDG #: GF090302T2
Laboratory: HP Labs

METHOD: GC Volatile Halogenated/Aromatic Hydrocarbons (EPA SW 846 Method 8021B)

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: 9-4-02 9-18-02
IIa.	Initial calibration	SW	% RSD
IIb.	Calibration verification	SW	% D
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	Client Specified
IVc.	Laboratory control samples	A	LCS
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	$D_1 = 5, 6^*$; $D_2 = 11, 12^*$; $D_3 = 17, 18^*$; $D_4 = 23, 24$; $D_5 = 29, 30^*$; $D_6 = 35, 36$; $D_7 = 41, 42^*$; $D_8 = 47, 48^*$; $D_9 = 53, 54$; $D_{10} = 59, 60^*$; $D_{11} = 65, 66^*$; $D_{12} = 71, 72^*$
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	
X.	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

* Field Dup = ND

Validated Samples: All Air

1	SVW30-VPA-01	11 D_2	SVW12-VPC-11	21	SVW3-VPC-21	31	SVW32-VPD-31
2	SVW30-VPB-02	12 D_2	SVW12-VPC-12 DUP	22	SVW3-VPD-22	32	SVW32-VPE-32
3	SVW30-VPC-03	13	SVW12-VPD-13	23 D_4	SVW4-VPB-23	33	SVW32-VPH-33
4	SVW30-VPD-04	14	SVW5-VPB-14	24 D_4	SVW4-VOB-24 DUP	34	SVW32-VPI-34
5 D_1	SVW30-VPE-05	15	SVW7-VPA-15	25	SVW4-VPD-25	35 D_6	SVW32-VPJ-35
6 D_1	SVW30-VPE-06 DUP	16	SVW7-VPB-16	26	SVW11-VPA-26	36 D_6	SVW32-VPJ-36 DUP
7	SVW31-VPA-07	17 D_3	SVW1-VPB-17	27	SVW11-VPE-27	37	SVW14-VPA-37
8	SVW31-VPB-08	18 D_3	SVW1-VPB-18 DUP	28	SVW32-VPB-28	38	SVW14-VPB-38
9	SVW31-VPD-09	19	SVW1-VPC-19	29 D_5	SVW32-VPC-29	39	SVW13-VPB-39
10	SVW31-VPE-10	20	SVW2-VPA-20	30 D_5	SVW32-VPC-30 DUP	40	SVW9-VPA-40

Notes: $D_{13} = 77, 78^*$; $D_{14} = 83, 84^*$; $D_{15} = 89, 90^*$; $D_{16} = 95, 96$; $D_{17} = 101, 102^*$; $D_{18} = 107, 108^*$; $D_{19} = 113, 114^*$

VALIDATION COMPLETENESS WORKSHEET
EPA Level III

Reviewer: Z. Pan
2nd Reviewer:

LDC #: 9152A23
SDG #: GF090302T2
Laboratory: HP Labs

METHOD: GC Volatile Halogenated/Aromatic Hydrocarbons (EPA SW 846 Method 8021B)

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:
IIa.	Initial calibration		%RSD
IIb.	Calibration verification		%D
III.	Blanks		
IVa.	Surrogate recovery		
IVb.	Matrix spike/Matrix spike duplicates		
IVc.	Laboratory control samples		see page 1
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data		
IX.	Field duplicates		
X.	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 D_7	SVW9-VPB-41	51	SVW8-VPE-51	61	SVW33-VPE-61	71 D_{12}	SVW28-VPA-71
42 D_7	SVW9-VPB-42 DUP	52	SVW17-VPC-52	62	SVW33-VPF-62	72 D_{12}	SVW28-VPA-72 DUP
43	SVW9-VPC-43	53 D_9	SVW36-VPB-53	63	SVW33-VPG-63	73	SVW28-VPD-73
44	SVW9-VPD-44	54 D_9	SVW36-VPB-54 DUP	64	SVW33-VPJ-64	74	SVW28-VPE-74
45	SVW9-VPE-45	55	SVW36-VPC-55	65 D_{11}	SVW26-VPF-65	75	SVW25-VPA-75
46	SVW10-VPB-46	56	SVW36-VPD-56	66 D_{11}	SVW26-VPF-66 DUP	76	SVW25-VPB-76
47 D_8	SVW10-VPD-47	57	SVW36-VPE-57	67	SVW26-VPG-67	77 D_{13}	SVW25-~~VPE~~ VPI-77
48 D_8	SVW10-VPD-48 DUP	58	SVW33-VPA-58	68	SVW26-VPH-68	78 D_{13}	SVW25-VPI-78 DUP
49	SVW8-VPC-49	59 D_{10}	SVW33-VPD-59	69	SVW35-VPE-69	79	SVW25-VPJ-79
50	SVW8-VPD-50	60 D_{10}	SVW33-VPD-60 DUP	70	SVW35-VPI-70	80	SVW38-VPE-80

Notes: %RSD ≤ 20% & %D ≤ 15% except the following compounds within %RSD ≤ 30% and %D ≤ 25% :

① Freon 11, ② Freon 12, ③ Freon 113, ④ Chloroethane
⑤ Vinyl chloride

VALIDATION COMPLETENESS WORKSHEET
EPA Level III

LDC #: 9152A23
SDG #: GF090302T2
Laboratory: HP Labs

Reviewer: Z. Pan
2nd Reviewer: r

METHOD: GC Volatile Halogenated/Aromatic Hydrocarbons (EPA SW 846 Method 8021B)

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:
IIa.	Initial calibration		
IIb.	Calibration verification		
III.	Blanks		
IVa.	Surrogate recovery		
IVb.	Matrix spike/Matrix spike duplicates		
IVc.	Laboratory control samples		
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data		
IX.	Field duplicates		
X.	Field blanks		

see page 1.

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	SVW38-VPF-81	91	SVW34-VPF-91	101 D11	SVW27-VPC-101	111	SVW15-VPC-111
82	SVW38-VPJ-82	92	SVW39-VPA-92	102 D11	SVW27-VPC-102 DUP	112	SVW15-VPD-112
83 D14	SVW37-VPB-83	93	SVW39-VPC-93	103	SVW27-VPD-103	113 D	SVW15-VPE-113
84 D14	SVW37-VPB-84 DUP	94	SVW39-VPD-94	104	SVW27-VPE-104	114 D	SVW15-VPE-114 DUP
85	SVW37-VPE-85	95 D16	SVW39-VPE-95	105	SVW27-VPF-105	115	SVW6-VPB-115
86	SVW37-VPH-86	96 D16	SVW39-VPE-96 DUP	106	SVW27-VPG-106	116	SVW6-VPD-116
87	SVW37-VPI-87	97	SVW39-VPF-97	107 D10	SVW27-VPI-107	117	SVW6-VPE-117
88	SVW37-VPJ-88	98	SVW39-VPI-98	108 D10	SVW27-VPI-108 DUP	118	BLK-(9/4)
89 D15	SVW34-VPE-89	99	SVW27-VPA-99	109	SVW27-VPJ-109	119	BLK-(9/6)
90 D15	SVW34-VPE-90 DUP	100	SVW27-VPB-100	110	SVW15-VPB-110	120	BLK-(9/9)

Notes:

BLK-(9/10)
BLK-(9/11)
BLK-(9/12)
BLK-(9/13)
BLK-(9/16)
BLK-(9/17)
BLK-(9/18)

TARGET COMPOUND WORKSHEET

Page: 1 of 1
Reviewer: Z. Pan
2nd Reviewer:

METHOD: VOA (EPA SW 846 Method 8240/8260/8021))

A. Chloromethane*	P. Bromodichloromethane	EE. Ethylbenzene**	TT. 1,2-Dibromoethane	III. n-Butylbenzene
B. Bromomethane	Q. 1,2-Dichloropropane**	FF. Styrene	UU. 1,1,1,2-Tetrachloroethane	JJJ. 1,2-Dichlorobenzene
C. Vinyl choride**	R. cis-1,3-Dichloropropene	GG. Xylene, total	VV. Isopropylbenzene	KKK. 1,2,4-Trichlorobenzene
D. Chloroethane	S. Trichloroethene	HH. Vinyl acetate	WW. Bromobenzene	LLL. Hexachlorobutadiene
E. Methylene chloride	T. Dibromochloromethane	II. 2-Chloroethylvinyl ether	XX. 1,2,3-Trichloropropane	MMM. Naphthalene
F. Acetone	U. 1,1,2-Trichloroethane	JJ. Dichlorodifluoromethane	YY. n-Propylbenzene	NNN. 1,2,3-Trichlorobenzene
G. Carbon disulfide	V. Benzene	KK. Trichlorofluoromethane	ZZ. 2-Chlorotoluene	OOO. 1,3,5-Trichlorobenzene
H. 1,1-Dichloroethene**	W. trans-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	AAA. 1,3,5-Trimethylbenzene	PPP. trans-1,2-Dichloroethene
I. 1,1-Dichloroethane*	X. Bromoform*	MM. 1,2-Dibromo-3-chloropropane	BBB. 4-Chlorotoluene	QQQ. cis-1,2-Dichloroethene
J. 1,2-Dichloroethene (total)	Y. 4-Methyl-2-pentanone	NN. Diethyl ether	CCC. tert-Butylbenzene	RRR. Dichloromethane
K. Chloroform**	Z. 2-Hexanone	OO. 2,2-Dichloropropane	DDD. 1,2,4-Trimethylbenzene	SSS. 1,1,2-Trichlorotrifluoroethane
L. 1,2-Dichloroethane	AA. Tetrachloroethene	PP. Bromochloromethane	EEE. sec-Butylbenzene	TTT. m & p- Xylenes
M. 2-Butanone	BB. 1,1,2,2-Tetrachloroethane*	QQ. 1,1-Dichloropropene	FFF. 1,3-Dichlorobenzene	UUU.
N. 1,1,1-Trichloroethane	CC. Toluene**	RR. Dibromomethane	GGG. p-Isopropyltoluene	VVV.
O. Carbon tetrachloride	DD. Chlorobenzene*	SS. 1,3-Dichloropropane	HHH. 1,4-Dichlorobenzene	WWW.

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

Notes:

COMPNDL.1SS

LDC #: 9152A23
SDG #: GF090302T2

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Reviewer: Z. Pan
2nd Reviewer: ✓

METHOD: ✓ GC ⊥ HPLC

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

Y (N) N/A Was a 5 point calibration curve performed?
(Y) N N/A Was a linear fit used for evaluation? If yes, the acceptance criteria for each compound is %RSD less than or equal to 20.0%.
Y (N) N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? _____
(Y) N N/A Did the initial calibration meet the acceptance criteria?
(Y) N N/A Was initial calibration performed at the required frequency?

Level IV Only

Y N (N/A) Were the retention time windows properly established for all compounds?
Y N (N/A) Were compounds run at the required concentrations in the initial calibrations?

#	Date	Standard ID	Column / Detector	Compound	Finding RPD Limit ≤20%	Associated Samples	Qualifications
1		3 point IC was performed				All + BLKs	None /P
		5 point IC required					

Comments_____

INICALNew.wpd

LDC #: 9152A23
SDG #: GF09030272

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 2
Reviewer: Z. Pan
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? ✓ %D or ___ RPD

Y N N/A Were continuing calibration standards analyzed at the required frequencies?
Y N N/A Did the continuing calibration standards meet the %D / ~~RPD~~ validation criteria of ≤15.0%?

Level IV Only
Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD (Limit ≤ 15.0)	RT (limit)	Associated Samples	Qualifications
1	9-4-02	B1070297	HALL	U	17.9	( )	#1-13 and BLK-(9/4)	J/UJ/A
						( )		
2				RRR	16.3	( )		
						( )		
3	9-9-02			U	15.5	( )	#26-38 and BLK-(9/9)	
						( )		
4				~~J~~ L	16.7	( )		
						( )		
5	9-10-02			K	15.1	( )	#39-52 and BLK-(9/10)	
						( )		
6	9-11-02			~~J~~	15.6	( )	#53-68 and BLK-(9/11)	
				I	15.6	( )		
				BB	17.4	( )		
						( )		
						( )		
7	9-12-02			U	19.8	( )	#69-79 and BLK-(9/12)	
						( )		
						( )		
8	9-16-02			U	15.5	( )	#89-98 and BLK-(9/16)	
						( )		
9	9-17-02		PID	DD	15.8	( )	#99-109 and BLK-(9/17)	
				TTT	15.2	( )		

Reviewer: Z. Pan
2nd Reviewer: T

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

LDC #: 9152A23
SDG #: GF09030 2T2

METHOD: ✓ GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? ✓ %D or __ RPD
(Y) N N/A Were continuing calibration standards analyzed at the required frequencies?
Y (N) N/A Did the continuing calibration standards meet the %D / ~~RPD~~ validation criteria of ≤15.0%?
Level IV Only
Y N (N/A) Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD (Limit ≤ 15.0)	RT (limit)	Associated Samples	Qualifications
						( )		Text
1	CCV	was Not performed for Chloroethane,				( )	All + BLKs	(No qual)
	Vinyl Chloride, Trichlorofluoromethane, and Dichlorodifluoromethane.					( )		
	Per the Soil/gas guidelines, CCV for these compounds are					( )		
	Not required since these compounds were Not detected					( )		
	in the Site.					( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		

Reviewer: Z. Pan
2nd reviewer: f

VALIDATION FINDINGS WORKSHEET
Field Duplicates

LDC #: 9152A23
SDG #: GF090302 T2

METHOD: ✓ GC ___ HPLC

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 (ug/L)		%RPD Limit ≤____	Qualification Parent only / All Samples
	# 23	24		
S	24	14	53	

Compound	Concentration (ug/L)		%RPD Limit ≤____	Qualification Parent only / All Samples
	# 35	36		
V	1.9	1.1	53	
CC	2.3	ND (1.0U)	200	

Reviewer: Z. Pan
2nd reviewer: [illegible]

VALIDATION FINDINGS WORKSHEET
Field Duplicates

LDC #: 9152A23
SDG #: GF090302 T2

METHOD: ✓ GC __ HPLC

(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 (ug/L)		%RPD Limit ≤ ____	Qualification Parent only / All Samples
	# 95	96		
SSS	2.2	2.4	9	

Compound	Concentration ( )		%RPD Limit ≤ ____	Qualification Parent only / All Samples