



S.S. Papadopoulos & Associates, Inc.
Environmental and Water Resource Consultants

Due Diligence Site Investigation Stage II Soil Vapor Data Report

Bannister Federal Complex Kansas City, MO

November, 2015



S.S. Papadopoulos & Associates, Inc.

Evans Consulting, PA



S.S. PAPADOPULOS & ASSOCIATES, INC.
ENVIRONMENTAL & WATER-RESOURCE CONSULTANTS

November 20, 2015

Jim Cross
CenterPoint Properties Trust
1301 Burlington Ave
North Kansas City, MO 64116

**Subject: Bannister Federal Complex – CenterPoint Due Diligence Investigation
Stage II Soil Vapor Data Report**

Dear Jim:

With this letter I am transmitting to CenterPoint the Stage II (Soil Vapor) Data Report for the Bannister Federal Complex Due Diligence Investigation. This report and its appendices contain all of the soil vapor analytical results for Stage II, which were collected during September and October, 2015.

The appendices include all final laboratory reports from Eurofins Lancaster Laboratory, the data validation report from EcoChem, Inc., a table of all sample results, and an MS Access database with the validated results.

If you have any questions, please free to phone or email.

Sincerely,

S. S. PAPADOPULOS & ASSOCIATES, INC.

Harvey Cohen, PhD, RG
Principal

cc: Electronic Distribution List via FTP

Due Diligence Site Investigation Stage II Soil Vapor Data Report

Bannister Federal Complex Kansas City, MO

Prepared for:

CenterPoint Properties Trust

Prepared by:



Harvey A. Cohen
Missouri R.G. No 2004013522



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November, 2015

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List of Acronyms

1,2-DCE	1,2-Dichloroethylene (or 1,2-Dichloroethene)
BFC	Bannister Federal Complex
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CMS	Corrective Measures Study
COC	Contaminant of Concern
DOE	Department of Energy
EC	Evans Consulting, PA
GSA	General Services Administration
KCP	Kansas City Plant
MDNR	Missouri Department of Natural Resources
ND	Non-Detect
NFA	No Further Action
NNSA	National Nuclear Security Administration
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
RCRA	Resource Conservation and Recovery Act
RBSL	Risk-Based Screening Level
SSP&A	S.S. Papadopoulos & Associates
SVOC	Semi-Volatile Organic Compound
SVMP	Soil Vapor Monitoring Point
SWMU	Solid Waste Management Unit
TCE	Trichloroethylene (or Trichloroethene)
TPH	Total Petroleum Hydrocarbons
VC	Vinyl chloride
VOC	Volatile Organic Compound

REPORT

Section 1

Introduction

Under the authority of the National Defense Authorization Act of 2014, and an agreement between the National Nuclear Security Agency and CenterPoint Properties Trust (Contract No. DE-NA0002662), CenterPoint is currently evaluating the potential for transferring portions of the Bannister Federal Complex (BFC), located at 1500 East Bannister Road in Kansas City, Missouri, to a new property owner. Portions of the BFC being considered for transfer are generally those west of the existing Union Pacific railroad tracks (Figure 1). As part of this evaluation, CenterPoint is completing a due diligence investigation of the property, to include records review, analysis of existing data, and targeted site investigations. CenterPoint has retained S.S. Papadopoulos & Associates (SSP&A) and Evans Consulting (EC) to assist in this investigation.

The due diligence investigation is proceeding in a number of stages. This document is concerned only with soil vapor samples collected from the second stage of investigation (Stage II). Stage II soil vapor sampling included the following:

- Installation of nine (9) subsurface monitoring points
- Sampling of those locations via SUMMA canister methods

These samples were collected as per work plans approved by the Missouri Department of Natural Resources (MDNR):

- S.S. Papadopoulos & Associates and Evans Consulting, 2015. Bannister Federal Complex, Due Diligence Site Investigation, Work Plan, Stage I, February; and
- S.S. Papadopoulos & Associates and Evans Consulting, 2015. Bannister Federal Complex, Due Diligence Site Investigation, Work Plan, Stage II – Groundwater and Soil Vapor, July.

The analytical results were generated by Eurofins Lancaster Laboratories in Lancaster, PA. All data were independently validated by EcoChem, Inc. of Seattle, WA. The tabulated results in the main report are summaries, based upon the validated data. Full laboratory reports/data packages are attached as Appendix A. The complete laboratory results, with interpretative qualifiers (data validation qualifiers) are provided in Appendices B and C. The validation report is attached as Appendix D. The field notes are attached as Appendix E.

This report is meant to provide a summary of data collected, with minimal interpretation. Additional interpretation will be provided at the end of the due diligence investigation.

Section 2

Soil Vapor Samples

Soil Vapor Monitoring points (SVMPs) were installed under buildings as sub-slab monitoring points, as well as outdoors as Geoprobe soil implants. A map showing the final sample locations is provided as Figure 2. Generalized construction diagrams for the SVMPs are illustrated in Figure 3.

Prior to the collection of soil vapor samples, real-time helium tracer gas tests were conducted to verify the integrity of the SVMP surface seal. After purging and successfully completing the tracer test, and screening for VOCs, samples were collected with a pre-cleaned 1-liter passivated SUMMA canister fitted with a mass flow regulator valve and an inline vacuum gauge. Flow rates did not exceed 200 milliliters per minute. After sample collection, the canisters were transported to Eurofins Lancaster laboratory for analysis of VOCs via USEPA Method TO-15.

During initial sampling efforts, four of the nine SVMP locations exhibited issues, such as excessive water in the sample, or extremely tight soils, that prevented successful sample collection. These locations were abandoned and reinstalled, and samples were successfully collected subsequently. These replacement locations are indicated with an “R” in the location ID, e.g. “SVMP-04R.”

2.1 Results

All samples for which any analysis was completed are listed in Table 1, and shown in Figure 2. The analytical results are presented in Table 2. For reference, Table 2 also includes the most-recent indoor air screening levels for industrial land use. These cannot be directly compared to the SVMP results, as the attenuation factor between sub-slab and potential indoor air concentrations is unknown. Nonetheless, these values help illustrate which compounds could potentially pose risks to site occupants.

2.2 Tentatively Identified Compounds (TICs)

The TO-15 analytical results were reported with the top 15 tentatively identified compounds (TICs). Table 3 summarizes the TICs from this analysis.

2.3 QA/QC

The full Validation Data Report by EcoChem, Inc. is presented in Appendix D. As summarized in that report:

“The overall quality of the data is acceptable. A total of 144 data points (20.5%) were estimated (J/UJ/NJ). Qualified data points may have a larger associated bias or may be less precise than unqualified data, but are usable for the intended purpose.

All data, as qualified, are acceptable for use.”

Section 3

Comparison to Existing Standards

It is anticipated that under any reasonable future redevelopment for the BFC, the existing buildings will be demolished. CenterPoint's primary interest in collecting these soil vapor data was to establish parameters for future risk control measures during and after redevelopment, not for evaluating vapor intrusion into existing buildings.

There are currently no vapor-intrusion-based groundwater or soil standards in effect for the BFC. The results in Figure 2 are presented together with current industrial scenario screening levels for indoor air. However, these screening levels are not directly comparable to subsurface samples without application of a vapor intrusion attenuation factor, which is unknown for future construction. Consequently, these screening level values are only presented for reference, not for direct evaluation of the sampling results.

Section 4

References

- S.S. Papadopoulos & Associates and Evans Consulting, 2015. Bannister Federal Complex, Due Diligence Site Investigation, Work Plan, Stage I, February
- S.S. Papadopoulos & Associates and Evans Consulting, 2015. Bannister Federal Complex, Due Diligence Site Investigation, Work Plan, Stage II – Groundwater and Soil Vapor, July.

FIGURES



Figure 1 Location map of the Bannister Federal Complex (BFC)

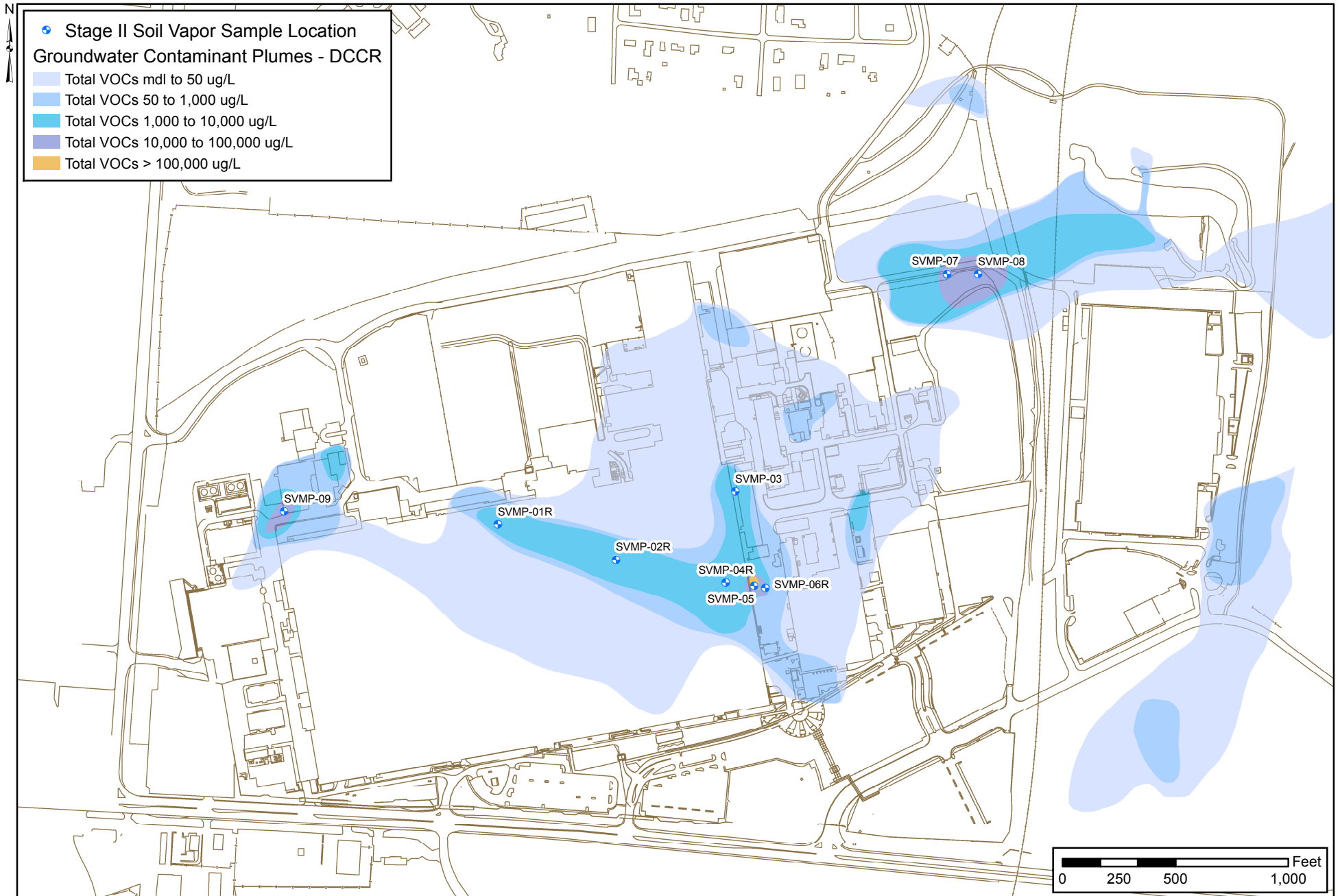


Figure 2 Stage II Soil Vapor Sample Locations

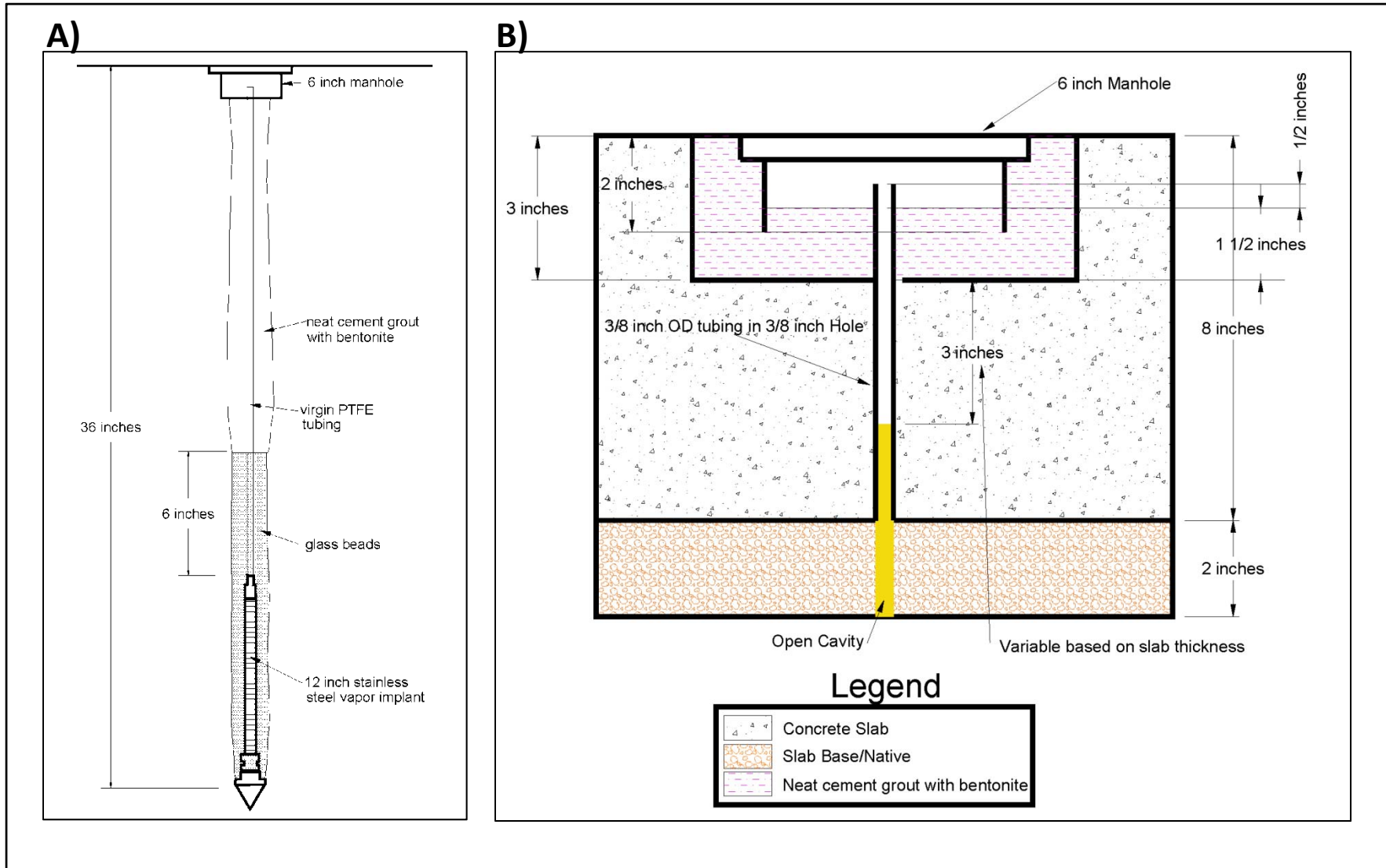


Figure 3 Construction Diagrams for A) Outside and B) Subslab Soil Vapor Monitoring Points

TABLES

TABLE 1
Soil Vapor Samples Collected in Stage II

X Coordinate	Y Coordinate	Sample Name	Field Duplicate Name	Sample Type	Sample Date
2768269.29	1016637.03	SVMP-01R		Air	10/10/2015
2768792.78	1016481.16	SVMP-02R		Air	10/10/2015
2769321.20	1016783.66	SVMP-03		Air	9/19/2015
2769280.04	1016379.11	SVMP-04R	SVMP-04R FD	Air	10/10/2015
2769405.04	1016365.11	SVMP-05		Air	9/16/2015
2769454.45	1016355.43	SVMP-06R		Air	10/14/2015
2770259.27	1017748.11	SVMP-07		Air	10/9/2015
2770397.61	1017746.44	SVMP-08		Air	10/9/2015
2767322.89	1016696.13	SVMP-09		Air	10/12/2015

TABLE 2
Analytical Results from Stage II Soil Vapor Samples

CAS Number	Chemical	Unit	Industrial Air Screening Level *	SVMP-01R	SVMP-02R	SVMP-03	SVMP-04R	SVMP-04R FD (Field Duplicate)	SVMP-05	SVMP-06R	SVMP-07	SVMP-08	SVMP-09
630-20-6	1,1,1,2-Tetrachloroethane	ug/m3	1.7	1.4 U	1.4 U	2.7 UJ	14 U	1.4 U	1400 U	14 U	1.4 U	1.4 U	1.4 U
71-55-6	1,1,1-Trichloroethane	ug/m3	2200	1.1 U	1.1 U	2.2 UJ	14 J	19	1100 U	11 U	1.1 U	1.1 U	1.1 U
79-34-5	1,1,2,2-Tetrachloroethane	ug/m3	0.21	1.4 U	1.4 U	2.7 UJ	14 U	1.4 U	1400 U	14 U	1.4 U	1.4 U	1.4 U
79-00-5	1,1,2-Trichloroethane	ug/m3	0.088	1.1 U	1.1 U	2.2 UJ	11 U	1.1 U	1100 U	11 U	1.1 U	1.1 U	1.1 U
75-34-3	1,1-Dichloroethane	ug/m3	7.7	0.81 U	0.81 U	1.6 UJ	8.1 U	0.81 U	810 U	8.1 U	0.81 U	0.81 U	0.81 U
75-35-4	1,1-Dichloroethene	ug/m3	88	0.79 U	0.79 U	6.1 J	7.9 U	0.79 U	7100	27 J	0.79 U	0.79 U	0.79 U
96-18-4	1,2,3-Trichloropropane	ug/m3	0.13	1.2 U	1.2 U	3.4 J	12 U	1.2 U	1200 U	12 U	1.2 U	1.2 U	1.2 U
95-63-6	1,2,4-Trimethylbenzene	ug/m3	3.1	2.1 J	1 J	17 J	9.8 U	11	980 U	9.8 U	0.98 U	0.98 U	0.98 U
106-93-4	1,2-Dibromoethane	ug/m3	0.02	1.5 U	1.5 U	3.7 J	15 U	1.5 U	1500 U	15 U	1.5 U	1.5 U	1.5 U
95-50-1	1,2-Dichlorobenzene	ug/m3	88	1.2 U	1.2 U	5.9 J	12 U	1.2 U	1200 U	12 U	1.2 U	1.2 U	1.2 U
107-06-2	1,2-Dichloroethane	ug/m3	0.47	0.81 U	0.81 U	1.6 UJ	8.1 U	0.81 U	810 U	8.1 U	0.81 U	0.81 U	0.81 U
78-87-5	1,2-Dichloropropane	ug/m3	1.2	0.92 U	0.92 U	8.2 J	9.2 U	0.92 U	920 U	9.2 U	0.92 U	5	7.2
108-67-8	1,3,5-Trimethylbenzene	ug/m3	N/A	1.6 J	0.98 U	22 J	9.8 U	4.8 J	980 U	9.8 U	0.98 U	0.98 U	0.98 U
106-99-0	1,3-Butadiene	ug/m3	0.41	0.88 U	0.88 U	1.8 UJ	8.8 U	0.88 U	2200 J	27 J	0.88 U	0.88 U	0.88 U
541-73-1	1,3-Dichlorobenzene	ug/m3	N/A	1.2 U	1.2 U	5.4 J	12 U	1.2 U	1200 U	12 U	1.2 U	1.2 U	1.2 U
106-46-7	1,4-Dichlorobenzene	ug/m3	1.1	1.2 U	1.2 U	6.3 J	12 U	1.2 U	1200 U	12 U	1.2 U	1.2 U	1.2 U
78-93-3	2-Butanone	ug/m3	2200	17	6.1	12 J	15 U	15	1500 U	50 J	8.6	1.5 J	13
591-78-6	2-Hexanone	ug/m3	13	4 J	2 U	4.1 UJ	20 U	2 U	2000 U	20 U	2 U	2 U	2 U
107-05-1	3-Chloropropene	ug/m3	0.44	0.63 U	0.63 U	1.3 UJ	6.3 U	0.63 U	630 U	6.3 U	0.63 U	0.63 U	0.63 U
622-96-8	4-Ethyltoluene	ug/m3	N/A	0.98 U	1.4 J	10 J	9.8 U	3.8 J	980 U	9.8 U	0.98 U	0.98 U	0.98 U
108-10-1	4-Methyl-2-pentanone	ug/m3	1300	2 U	2 U	4.1 UJ	20 U	3.3 J	2000 U	36 J	2 U	2 U	2 U
67-64-1	Acetone	ug/m3	14000	81	40	48 J	38 J	83	1200 U	210	25	7.4	30
71-43-2	Benzene	ug/m3	1.6	1.2 J	0.64 U	64 J	6.4 U	1.9 J	640 U	860	1.5 J	0.64 U	0.9 J
108-86-1	Bromobenzene	ug/m3	26	1.3 U	1.3 U	2.6 UJ	13 U	1.3 U	1300 U	13 U	1.3 U	1.3 U	1.3 U
75-27-4	Bromodichloromethane	ug/m3	0.33	1.3 U	1.3 U	2.7 UJ	13 U	1.3 U	1300 U	13 U	1.3 U	1.3 U	1.3 U
75-25-2	Bromoform	ug/m3	11	2.1 U	2.1 U	4.8 J	21 U	2.1 U	2100 U	21 U	2.1 U	2.1 U	2.1 U
74-83-9	Bromomethane	ug/m3	2.2	0.78 U	0.78 U	1.6 UJ	7.8 U	0.78 U	780 U	7.8 U	0.78 U	0.78 U	0.78 U
75-15-0	Carbon Disulfide	ug/m3	310	1.6 U	1.6 U	15 J	16 U	1.6 U	1600 U	1200	1.6 J	1.6 U	1.8 J
56-23-5	Carbon Tetrachloride	ug/m3	2	1.3 U	1.3 U	2.5 UJ	13 U	1.3 U	1300 U	13 U	1.3 U	1.3 U	1.3 U
108-90-7	Chlorobenzene	ug/m3	22	0.92 U	0.92 U	1.9 J	9.2 U	0.92 U	920 U	9.2 U	0.92 U	0.92 U	0.92 U
75-45-6	Chlorodifluoromethane	ug/m3	22000	0.71 U	0.71 U	1.4 UJ	7.1 U	3.4 J	710 U	14 J	0.71 U	1.9 J	0.71 U
75-00-3	Chloroethane	ug/m3	4400	0.53 U	0.53 U	1.1 UJ	5.3 U	0.53 U	530 U	5.3 U	0.53 U	0.53 U	0.53 U
67-66-3	Chloroform	ug/m3	0.53	3.1 J	0.98 U	2 UJ	9.8 U	1.7 J	980 U	24 J	0.98 U	2.5 J	1.1 J
74-87-3	Chloromethane	ug/m3	39	0.41 U	0.41 U	0.83 UJ	4.1 U	0.41 U	410 U	4.1 U	0.41 U	0.41 U	0.41 U
156-59-2	cis-1,2-Dichloroethene	ug/m3	N/A	0.79 U	0.79 U	520 J	7.9 U	0.79 U	1300000	3200	22	0.79 U	0.79 U
10061-01-5	cis-1,3-Dichloropropene	ug/m3	N/A	0.91 U	0.91 U	1.8 UJ	9.1 U	0.91 U	910 U	9.1 U	0.91 U	0.91 U	0.91 U
98-82-8	Cumene	ug/m3	180	1.1 J	2.9 J	4.9 J	9.8 U	5.6	980 U	27 J	0.98 U	0.98 U	0.98 U

TABLE 2
Analytical Results from Stage II Soil Vapor Samples

CAS Number	Chemical	Unit	Industrial Air Screening Level *	SVMP-01R	SVMP-02R	SVMP-03	SVMP-04R	SVMP-04R FD (Field Duplicate)	SVMP-05	SVMP-06R	SVMP-07	SVMP-08	SVMP-09
124-48-1	Dibromochloromethane	ug/m3	0.45	1.7 U	1.7 U	3.4 UJ	17 U	1.7 U	1700 U	17 U	1.7 U	1.7 U	1.7 U
74-95-3	Dibromomethane	ug/m3	1.8	1.4 U	1.4 U	2.8 UJ	14 U	1.4 U	1400 U	14 U	1.4 U	1.4 U	1.4 U
75-71-8	Dichlorodifluoromethane	ug/m3	44	2.3 J	2.7 J	2 UJ	9.9 U	2.8 J	990 U	9.9 U	0.99 U	1.5 J	0.99 U
75-43-4	Dichlorofluoromethane	ug/m3	N/A	0.84 U	0.84 U	1.7 UJ	8.4 U	0.84 U	840 U	8.4 U	0.84 U	0.84 U	0.84 U
100-41-4	Ethylbenzene	ug/m3	4.9	50	220	52 J	67	160	870 U	1100	0.87 U	1.6 J	7.8
76-13-1	Freon 113	ug/m3	13000	3.8 U	35	7.7 UJ	38 U	5.8 J	3800 U	38 U	3.8 U	3.8 U	3.8 U
76-14-2	Freon 114	ug/m3	N/A	1.4 U	1.4 U	2.8 UJ	14 U	1.4 U	1400 U	14 U	1.4 U	1.4 U	1.4 U
142-82-5	Heptane	ug/m3	N/A	2.6 J	0.82 U	2.6 J	8.2 U	2.6 J	820 U	160	1.6 J	0.82 U	2.9 J
67-72-1	Hexachloroethane	ug/m3	1.1	1.9 U	1.9 U	3.9 UJ	19 U	1.9 U	1900 U	19 U	1.9 U	1.9 U	1.9 U
110-54-3	Hexane	ug/m3	310	0.7 U	0.7 U	6.3 J	7 U	0.7 U	700 U	290	2.7 J	0.7 U	10
540-84-1	Isooctane	ug/m3	N/A	0.93 U	0.93 U	5.8 J	9.3 U	0.93 U	930 U	240	0.93 U	0.93 U	0.93 U
179601-23-1	m/p-Xylene	ug/m3	N/A	200	200	120 J	530	490	870 U	2100	1 J	15	68
1634-04-4	Methyl t-Butyl Ether	ug/m3	47	0.72 U	0.72 U	25 J	7.2 U	0.72 U	720 U	40	0.72 U	0.72 U	0.72 U
75-09-2	Methylene Chloride	ug/m3	260	0.69 U	0.69 U	1.4 UJ	6.9 U	0.69 U	690 U	6.9 U	0.69 U	0.69 U	0.69 U
111-65-9	Octane	ug/m3	N/A	2.6 J	0.93 U	14 J	9.3 U	0.93 U	930 U	210	0.93 U	0.93 U	0.93 U
95-47-6	o-Xylene	ug/m3	44	71	230	80 J	140	140	870 U	1400	0.87 U	3.7 J	11
109-66-0	Pentane	ug/m3	440	1.5 J	0.59 U	97 J	5.9 U	0.7 J	590 U	920	21	0.59 U	34
100-42-5	Styrene	ug/m3	440	0.85 U	0.85 U	1.7 UJ	8.5 U	0.85 U	850 U	8.5 U	0.85 U	0.85 U	0.85 U
127-18-4	Tetrachloroethene	ug/m3	18	1.4 U	55	7.9 J	130	210	1400 U	39 J	3.7 J	3.6 J	1.4 U
108-88-3	Toluene	ug/m3	2200	7.2	9.2	110 J	31 J	61	750 U	550	0.9 J	1.1 J	11
156-60-5	trans-1,2-Dichloroethene	ug/m3	N/A	0.79 U	0.79 U	19 J	7.9 U	0.79 U	44000	240	0.79 U	0.79 U	0.79 U
10061-02-6	trans-1,3-Dichloropropene	ug/m3	N/A	0.91 U	0.91 U	1.8 UJ	9.1 U	0.91 U	910 U	9.1 U	0.91 U	0.91 U	0.91 U
79-01-6	Trichloroethene	ug/m3	0.88	11	48	230 J	77	100	63000	140	5 J	35	190
75-69-4	Trichlorofluoromethane	ug/m3	310	1.1 U	1.7 J	2.2 UJ	11 U	1.4 J	1100 U	11 U	1.1 U	1.1 U	1.6 J
75-01-4	Vinyl Chloride	ug/m3	2.8	0.51 U	0.51 U	1 UJ	5.1 U	0.51 U	23000	16000	0.51 U	0.51 U	0.51 U

Detections in bold with gray highlighting

"U" Flag - not detected

"J" Flag - estimated value

* Use of screening levels for comparison of subsurface vapor to indoor air requires application of attenuation factor

TABLE 3
Summary of Tentatively Identified Compounds (TICs)

TENTATIVELY IDENTIFIED COMPOUNDS (TICs) *	STATISTICS					INTERPRETATION					
	CAS RN	Count of Detects	Minimum Result (ppbv)	Maximum Result (ppbv)	Average Result (ppbv)	Description	Reference	TIC Crossovers	Typical Source **	Functional Level 1	Functional Level 2
Butane	106-97-8	5	2	20	8				IND PETRO	ALIPHATIC	ALKANE
2-Methylbutane	78-78-4	3	6	220	79				IND PETRO	ALIPHATIC	ALKANE
Acetaldehyde	75-07-0	3	2	3	3	produced naturally by plants; also a common industrial intermediate			COMMON BIO	ALIPHATIC	ALDEHYDE
Isobutane	75-28-5	3	13	55	29				IND PETRO	ALIPHATIC	ALKANE
Norflurane	811-97-2	3	2	5	4	1,1,1,2-Tetrafluoroethane; CFC; various applications	PubChem		IND	HALOGENATED	HALOGENATED HYDROCARBON
1,1-Difluoroethane	75-37-6	1	2	2	2	CFC; various applications			IND	HALOGENATED	HALOGENATED HYDROCARBON
1-Hexene	592-41-6	1	3	3	3				IND PETRO	ALIPHATIC	ALKENE
2-Methyl-1-propene	115-11-7	1	120	120	120				IND PETRO	ALIPHATIC	ALKENE
2-Methylpentane	107-83-5	1	80	80	80				IND PETRO	ALIPHATIC	ALKANE
3-Methylhexane	589-34-4	1	30	30	30				IND PETRO	ALIPHATIC	ALKANE
D-Limonene	5989-27-5	1	200	200	200	Citrene; citrus fruit rind	PubChem		COMMON BIO	ALIPHATIC	TERPENE
Hexafluoropropene	116-15-4	1	300	300	300	CFC; various applications	PubChem		IND	HALOGENATED	HALOGENATED HYDROCARBON
Hexamethylcyclotrisiloxane	541-05-9	1	3	3	3	intermediate; sealants and adhesives	PubChem		IND	ORGANOSILICON	CYCLIC SILOXANE
Methylcyclopentane	96-37-7	1	44	44	44				IND PETRO	ALIPHATIC	ALICYCLIC
Naphthalene	91-20-3	1	1	1	1			8260TIC-8270TRG	IND PETRO	AROMATIC	PAH
Octamethyltetrasiloxane	556-67-2	1	1	1	1				IND	ORGANOSILICON	SILOXANE
p-Bromofluorobenzene	460-00-4	1	140	140	140	intermediate for organic synthesis, possibly pharma or agric	PubChem		IND	HALOGENATED	HALOGENATED AROMATIC
Propane	74-98-6	1	91	91	91				IND PETRO	ALIPHATIC	ALKANE
Propylcyclohexane	1678-92-8	1	23	23	23				IND PETRO	ALIPHATIC	ALICYCLIC
Tetrahydro-2-methylfuran	96-47-9	1	1	1	1				IND	AROMATIC	AROMATIC FURAN

* TICs listed do not include unknown alkanes, alkenes, organic acids or siloxanes that could not be identified

** IND = industrial; PETRO = petroleum; COMMON BIO = Common biological compound

APPENDIX A

Appendix A

**Stage II Soil Vapor Level I Reports –
Eurofins Lancaster Laboratory**



Appendix A Stage II Soil Vapor Level I Reports – Eurofins Lancaster Laboratory

ID	sample delivery group	Max Of SAMPLE DATE	PDF Data Package Name
1	1596108	42266.5875	SSX07_I_15NOV.pdf
2	1600626	42289.42431	SSX23_I_15NOV.pdf
3	1601009	42291.425	SSX26_I_15NOV.pdf

Level 1 Data Packages attached as Individual PDF Files

APPENDIX B

Appendix B

**Stage II Soil Vapor Laboratory Data
(MS Access Database)**

APPENDIX C

Appendix C

Validated Analytical Results for Stage II Soil Vapor Samples

Appendix C Validated Analytical Results for Stage II Soil Vapor Samples

ID	Sample Location ID	Sample Date	Analysis Date	Sample Type Code	Result Type Code	Sample Matrix Code	Lab Anl Method Name	Sample Delivery Group	Dilution Factor	Lab Sample Id	Chemical Name	Cas rn	Result Value	Reportable Result	Qual	MDL	Result Unit
1	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	1,1,1,2-Tetrachloroethane	630-20-6		Yes	U	1.4	ug/m3
2	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	1,1,1-Trichloroethane	71-55-6		Yes	U	1.1	ug/m3
3	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	1,1,2,2-Tetrachloroethane	79-34-5		Yes	U	1.4	ug/m3
4	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	1,1,2-Trichloroethane	79-00-5		Yes	U	1.1	ug/m3
5	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	1,1-Dichloroethane	75-34-3		Yes	U	0.81	ug/m3
6	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	1,1-Dichloroethene	75-35-4		Yes	U	0.79	ug/m3
7	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	1,2,3-Trichloropropane	96-18-4		Yes	U	1.2	ug/m3
8	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	1,2,4-Trimethylbenzene	95-63-6	2.1	Yes	J	0.98	ug/m3
9	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	1,2-Dibromoethane	106-93-4		Yes	U	1.5	ug/m3
10	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	1,2-Dichlorobenzene	95-50-1		Yes	U	1.2	ug/m3
11	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	1,2-Dichloroethane	107-06-2		Yes	U	0.81	ug/m3
12	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	1,2-Dichloropropane	78-87-5		Yes	U	0.92	ug/m3
13	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	1,3,5-Trimethylbenzene	108-67-8	1.6	Yes	J	0.98	ug/m3
14	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	1,3-Butadiene	106-99-0		Yes	U	0.88	ug/m3
15	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	1,3-Dichlorobenzene	541-73-1		Yes	U	1.2	ug/m3
16	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	1,4-Dichlorobenzene	106-46-7		Yes	U	1.2	ug/m3
17	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	2-Butanone	78-93-3	17	Yes		1.5	ug/m3
18	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	2-Hexanone	591-78-6	4	Yes	J	2	ug/m3
19	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	3-Chloropropene	107-05-1		Yes	U	0.63	ug/m3
20	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	4-Ethyltoluene	622-96-8		Yes	U	0.98	ug/m3
21	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	4-Methyl-2-pentanone	108-10-1		Yes	U	2	ug/m3
22	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Acetone	67-64-1	81	Yes		1.2	ug/m3
23	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Benzene	71-43-2	1.2	Yes	J	0.64	ug/m3
24	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Bromobenzene	108-86-1		Yes	U	1.3	ug/m3
25	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Bromodichloromethane	75-27-4		Yes	U	1.3	ug/m3
26	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Bromoform	75-25-2		Yes	U	2.1	ug/m3
27	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Bromomethane	74-83-9		Yes	U	0.78	ug/m3
28	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Carbon Disulfide	75-15-0		Yes	U	1.6	ug/m3
29	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Carbon Tetrachloride	56-23-5		Yes	U	1.3	ug/m3
30	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Chlorobenzene	108-90-7		Yes	U	0.92	ug/m3
31	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Chlorodifluoromethane	75-45-6		Yes	U	0.71	ug/m3
32	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Chloroethane	75-00-3		Yes	U	0.53	ug/m3
33	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Chloroform	67-66-3	3.1	Yes	J	0.98	ug/m3
34	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Chloromethane	74-87-3		Yes	U	0.41	ug/m3
35	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	cis-1,2-Dichloroethene	156-59-2		Yes	U	0.79	ug/m3
36	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	cis-1,3-Dichloropropene	10061-01-5		Yes	U	0.91	ug/m3
37	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Cumene	98-82-8	1.1	Yes	J	0.98	ug/m3
38	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Dibromochloromethane	124-48-1		Yes	U	1.7	ug/m3
39	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Dibromomethane	74-95-3		Yes	U	1.4	ug/m3
40	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Dichlorodifluoromethane	75-71-8	2.3	Yes	J	0.99	ug/m3
41	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Dichlorofluoromethane	75-43-4		Yes	U	0.84	ug/m3

Appendix C Validated Analytical Results for Stage II Soil Vapor Samples

ID	Sample Location ID	Sample Date	Analysis Date	Sample Type Code	Result Type Code	Sample Matrix Code	Lab Anl Method Name	Sample Delivery Group	Dilution Factor	Lab Sample Id	Chemical Name	Cas rn	Result Value	Reportable Result	Qual	MDL	Result Unit
42	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Ethylbenzene	100-41-4	50	Yes		0.87	ug/m3
43	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Freon 113	76-13-1		Yes	U	3.8	ug/m3
44	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Freon 114	76-14-2		Yes	U	1.4	ug/m3
45	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Heptane	142-82-5	2.6	Yes	J	0.82	ug/m3
46	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Hexachloroethane	67-72-1		Yes	U	1.9	ug/m3
47	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Hexane	110-54-3		Yes	U	0.7	ug/m3
48	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Isooctane	540-84-1		Yes	U	0.93	ug/m3
49	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	m/p-Xylene	179601-23-1	200	Yes		0.87	ug/m3
50	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Methyl t-Butyl Ether	1634-04-4		Yes	U	0.72	ug/m3
51	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Methylene Chloride	75-09-2		Yes	U	0.69	ug/m3
52	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Octane	111-65-9	2.6	Yes	J	0.93	ug/m3
53	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	o-Xylene	95-47-6	71	Yes		0.87	ug/m3
54	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Pentane	109-66-0	1.5	Yes	J	0.59	ug/m3
55	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Styrene	100-42-5		Yes	U	0.85	ug/m3
56	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Tetrachloroethene	127-18-4		Yes	U	1.4	ug/m3
57	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Toluene	108-88-3	7.2	Yes		0.75	ug/m3
58	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	trans-1,2-Dichloroethene	156-60-5		Yes	U	0.79	ug/m3
59	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	trans-1,3-Dichloropropene	10061-02-6		Yes	U	0.91	ug/m3
60	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Trichloroethene	79-01-6	11	Yes		1.1	ug/m3
61	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Trichlorofluoromethane	75-69-4		Yes	U	1.1	ug/m3
62	SVMP-01R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087715	Vinyl Chloride	75-01-4		Yes	U	0.51	ug/m3
63	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	1,1,1,2-Tetrachloroethane	630-20-6		Yes	U	1.4	ug/m3
64	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	1,1,1-Trichloroethane	71-55-6		Yes	U	1.1	ug/m3
65	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	1,1,2,2-Tetrachloroethane	79-34-5		Yes	U	1.4	ug/m3
66	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	1,1,2-Trichloroethane	79-00-5		Yes	U	1.1	ug/m3
67	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	1,1-Dichloroethane	75-34-3		Yes	U	0.81	ug/m3
68	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	1,1-Dichloroethene	75-35-4		Yes	U	0.79	ug/m3
69	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	1,2,3-Trichloropropane	96-18-4		Yes	U	1.2	ug/m3
70	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	1,2,4-Trimethylbenzene	95-63-6	1	Yes	J	0.98	ug/m3
71	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	1,2-Dibromoethane	106-93-4		Yes	U	1.5	ug/m3
72	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	1,2-Dichlorobenzene	95-50-1		Yes	U	1.2	ug/m3
73	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	1,2-Dichloroethane	107-06-2		Yes	U	0.81	ug/m3
74	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	1,2-Dichloropropane	78-87-5		Yes	U	0.92	ug/m3
75	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	1,3,5-Trimethylbenzene	108-67-8		Yes	U	0.98	ug/m3
76	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	1,3-Butadiene	106-99-0		Yes	U	0.88	ug/m3
77	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	1,3-Dichlorobenzene	541-73-1		Yes	U	1.2	ug/m3
78	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	1,4-Dichlorobenzene	106-46-7		Yes	U	1.2	ug/m3
79	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	2-Butanone	78-93-3	6.1	Yes		1.5	ug/m3
80	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	2-Hexanone	591-78-6		Yes	U	2	ug/m3
81	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	3-Chloropropene	107-05-1		Yes	U	0.63	ug/m3
82	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	4-Ethyltoluene	622-96-8	1.4	Yes	J	0.98	ug/m3

Appendix C Validated Analytical Results for Stage II Soil Vapor Samples

ID	Sample Location ID	Sample Date	Analysis Date	Sample Type Code	Result Type Code	Sample Matrix Code	Lab Anl Method Name	Sample Delivery Group	Dilution Factor	Lab Sample Id	Chemical Name	Cas rn	Result Value	Reportable Result	Qual	MDL	Result Unit
83	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	4-Methyl-2-pentanone	108-10-1		Yes	U	2	ug/m3
84	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Acetone	67-64-1	40	Yes		1.2	ug/m3
85	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Benzene	71-43-2		Yes	U	0.64	ug/m3
86	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Bromobenzene	108-86-1		Yes	U	1.3	ug/m3
87	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Bromodichloromethane	75-27-4		Yes	U	1.3	ug/m3
88	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Bromoform	75-25-2		Yes	U	2.1	ug/m3
89	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Bromomethane	74-83-9		Yes	U	0.78	ug/m3
90	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Carbon Disulfide	75-15-0		Yes	U	1.6	ug/m3
91	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Carbon Tetrachloride	56-23-5		Yes	U	1.3	ug/m3
92	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Chlorobenzene	108-90-7		Yes	U	0.92	ug/m3
93	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Chlorodifluoromethane	75-45-6		Yes	U	0.71	ug/m3
94	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Chloroethane	75-00-3		Yes	U	0.53	ug/m3
95	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Chloroform	67-66-3		Yes	U	0.98	ug/m3
96	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Chloromethane	74-87-3		Yes	U	0.41	ug/m3
97	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	cis-1,2-Dichloroethene	156-59-2		Yes	U	0.79	ug/m3
98	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	cis-1,3-Dichloropropene	10061-01-5		Yes	U	0.91	ug/m3
99	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Cumene	98-82-8	2.9	Yes	J	0.98	ug/m3
100	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Dibromochloromethane	124-48-1		Yes	U	1.7	ug/m3
101	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Dibromomethane	74-95-3		Yes	U	1.4	ug/m3
102	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Dichlorodifluoromethane	75-71-8	2.7	Yes	J	0.99	ug/m3
103	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Dichlorofluoromethane	75-43-4		Yes	U	0.84	ug/m3
104	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Ethylbenzene	100-41-4	220	Yes		0.87	ug/m3
105	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Freon 113	76-13-1	35	Yes		3.8	ug/m3
106	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Freon 114	76-14-2		Yes	U	1.4	ug/m3
107	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Heptane	142-82-5		Yes	U	0.82	ug/m3
108	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Hexachloroethane	67-72-1		Yes	U	1.9	ug/m3
109	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Hexane	110-54-3		Yes	U	0.7	ug/m3
110	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Isooctane	540-84-1		Yes	U	0.93	ug/m3
111	SVMP-02R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087714	m/p-Xylene	179601-23-1	200	Yes		8.7	ug/m3
112	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Methyl t-Butyl Ether	1634-04-4		Yes	U	0.72	ug/m3
113	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Methylene Chloride	75-09-2		Yes	U	0.69	ug/m3
114	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Octane	111-65-9		Yes	U	0.93	ug/m3
115	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	o-Xylene	95-47-6	230	Yes		0.87	ug/m3
116	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Pentane	109-66-0		Yes	U	0.59	ug/m3
117	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Styrene	100-42-5		Yes	U	0.85	ug/m3
118	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Tetrachloroethene	127-18-4	55	Yes		1.4	ug/m3
119	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Toluene	108-88-3	9.2	Yes		0.75	ug/m3
120	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	trans-1,2-Dichloroethene	156-60-5		Yes	U	0.79	ug/m3
121	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	trans-1,3-Dichloropropene	10061-02-6		Yes	U	0.91	ug/m3
122	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Trichloroethene	79-01-6	48	Yes		1.1	ug/m3
123	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Trichlorofluoromethane	75-69-4	1.7	Yes	J	1.1	ug/m3

Appendix C Validated Analytical Results for Stage II Soil Vapor Samples

ID	Sample Location ID	Sample Date	Analysis Date	Sample Type Code	Result Type Code	Sample Matrix Code	Lab Anl Method Name	Sample Delivery Group	Dilution Factor	Lab Sample Id	Chemical Name	Cas rn	Result Value	Reportable Result	Qual	MDL	Result Unit
124	SVMP-02R	10/10/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087714	Vinyl Chloride	75-01-4		Yes	U	0.51	ug/m3
125	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	1,1,1,2-Tetrachloroethane	630-20-6		Y	UJ	2.7	ug/m3
126	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	1,1,1-Trichloroethane	71-55-6		Y	UJ	2.2	ug/m3
127	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	1,1,2,2-Tetrachloroethane	79-34-5		Y	UJ	2.7	ug/m3
128	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	1,1,2-Trichloroethane	79-00-5		Y	UJ	2.2	ug/m3
129	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	1,1-Dichloroethane	75-34-3		Y	UJ	1.6	ug/m3
130	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	1,1-Dichloroethene	75-35-4	6.1	Y	J	1.6	ug/m3
131	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	1,2,3-Trichloropropane	96-18-4	3.4	Y	J	2.4	ug/m3
132	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	1,2,4-Trimethylbenzene	95-63-6	17	Y	J	2	ug/m3
133	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	1,2-Dibromoethane	106-93-4	3.7	Y	J	3.1	ug/m3
134	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	1,2-Dichlorobenzene	95-50-1	5.9	Y	J	2.4	ug/m3
135	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	1,2-Dichloroethane	107-06-2		Y	UJ	1.6	ug/m3
136	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	1,2-Dichloropropane	78-87-5	8.2	Y	J	1.8	ug/m3
137	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	1,3,5-Trimethylbenzene	108-67-8	22	Y	J	2	ug/m3
138	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	1,3-Butadiene	106-99-0		Y	UJ	1.8	ug/m3
139	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	1,3-Dichlorobenzene	541-73-1	5.4	Y	J	2.4	ug/m3
140	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	1,4-Dichlorobenzene	106-46-7	6.3	Y	J	2.4	ug/m3
141	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	2-Butanone	78-93-3	12	Y	J	2.9	ug/m3
142	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	2-Hexanone	591-78-6		Y	UJ	4.1	ug/m3
143	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	3-Chloropropene	107-05-1		Y	UJ	1.3	ug/m3
144	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	4-Ethyltoluene	622-96-8	10	Y	J	2	ug/m3
145	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	4-Methyl-2-pentanone	108-10-1		Y	UJ	4.1	ug/m3
146	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Acetone	67-64-1	48	Y	J	2.4	ug/m3
147	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Benzene	71-43-2	64	Y	J	1.3	ug/m3
148	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Bromobenzene	108-86-1		Y	UJ	2.6	ug/m3
149	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Bromodichloromethane	75-27-4		Y	UJ	2.7	ug/m3
150	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Bromoform	75-25-2	4.8	Y	J	4.1	ug/m3
151	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Bromomethane	74-83-9		Y	UJ	1.6	ug/m3
152	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Carbon Disulfide	75-15-0	15	Y	J	3.1	ug/m3
153	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Carbon Tetrachloride	56-23-5		Y	UJ	2.5	ug/m3
154	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Chlorobenzene	108-90-7	1.9	Y	J	1.8	ug/m3
155	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Chlorodifluoromethane	75-45-6		Y	UJ	1.4	ug/m3
156	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Chloroethane	75-00-3		Y	UJ	1.1	ug/m3
157	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Chloroform	67-66-3		Y	UJ	2	ug/m3
158	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Chloromethane	74-87-3		Y	UJ	0.83	ug/m3
159	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	cis-1,2-Dichloroethene	156-59-2	520	Y	J	1.6	ug/m3
160	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	cis-1,3-Dichloropropene	10061-01-5		Y	UJ	1.8	ug/m3
161	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Cumene	98-82-8	4.9	Y	J	2	ug/m3
162	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Dibromochloromethane	124-48-1		Y	UJ	3.4	ug/m3
163	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Dibromomethane	74-95-3		Y	UJ	2.8	ug/m3
164	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Dichlorodifluoromethane	75-71-8		Y	UJ	2	ug/m3

Appendix C Validated Analytical Results for Stage II Soil Vapor Samples

ID	Sample Location ID	Sample Date	Analysis Date	Sample Type Code	Result Type Code	Sample Matrix Code	Lab Anl Method Name	Sample Delivery Group	Dilution Factor	Lab Sample Id	Chemical Name	Cas rn	Result Value	Reportable Result	Qual	MDL	Result Unit
165	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Dichlorofluoromethane	75-43-4		Y	UJ	1.7	ug/m3
166	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Ethylbenzene	100-41-4	52	Y	J	1.7	ug/m3
167	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Freon 113	76-13-1		Y	UJ	7.7	ug/m3
168	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Freon 114	76-14-2		Y	UJ	2.8	ug/m3
169	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Heptane	142-82-5	2.6	Y	J	1.6	ug/m3
170	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Hexachloroethane	67-72-1		Y	UJ	3.9	ug/m3
171	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Hexane	110-54-3	6.3	Y	J	1.4	ug/m3
172	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Isooctane	540-84-1	5.8	Y	J	1.9	ug/m3
173	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	m/p-Xylene	179601-23-1	120	Y	J	1.7	ug/m3
174	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Methyl t-Butyl Ether	1634-04-4	25	Y	J	1.4	ug/m3
175	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Methylene Chloride	75-09-2		Y	UJ	1.4	ug/m3
176	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Octane	111-65-9	14	Y	J	1.9	ug/m3
177	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	o-Xylene	95-47-6	80	Y	J	1.7	ug/m3
178	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Pentane	109-66-0	97	Y	J	1.2	ug/m3
179	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Styrene	100-42-5		Y	UJ	1.7	ug/m3
180	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Tetrachloroethene	127-18-4	7.9	Y	J	2.7	ug/m3
181	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Toluene	108-88-3	110	Y	J	1.5	ug/m3
182	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	trans-1,2-Dichloroethene	156-60-5	19	Y	J	1.6	ug/m3
183	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	trans-1,3-Dichloropropene	10061-02-6		Y	UJ	1.8	ug/m3
184	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Trichloroethene	79-01-6	230	Y	J	2.1	ug/m3
185	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Trichlorofluoromethane	75-69-4		Y	UJ	2.2	ug/m3
186	SVMP-03	9/19/2015	10/8/2015	N	TRG	AA	TO15	1596108	2	8065068	Vinyl Chloride	75-01-4		Y	UJ	1	ug/m3
187	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	1,1,1,2-Tetrachloroethane	630-20-6		Yes	U	1.4	ug/m3
188	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	1,1,1,2-Tetrachloroethane	630-20-6		Yes	U	14	ug/m3
189	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	1,1,1-Trichloroethane	71-55-6	14	Yes	J	11	ug/m3
190	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	1,1,1-Trichloroethane	71-55-6	19	Yes	U	1.1	ug/m3
191	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	1,1,2,2-Tetrachloroethane	79-34-5		Yes	U	14	ug/m3
192	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	1,1,2,2-Tetrachloroethane	79-34-5		Yes	U	1.4	ug/m3
193	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	1,1,2-Trichloroethane	79-00-5		Yes	U	11	ug/m3
194	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	1,1,2-Trichloroethane	79-00-5		Yes	U	1.1	ug/m3
195	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	1,1-Dichloroethane	75-34-3		Yes	U	0.81	ug/m3
196	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	1,1-Dichloroethane	75-34-3		Yes	U	8.1	ug/m3
197	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	1,1-Dichloroethene	75-35-4		Yes	U	7.9	ug/m3
198	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	1,1-Dichloroethene	75-35-4		Yes	U	0.79	ug/m3
199	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	1,2,3-Trichloropropane	96-18-4		Yes	U	1.2	ug/m3
200	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	1,2,3-Trichloropropane	96-18-4		Yes	U	12	ug/m3
201	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	1,2,4-Trimethylbenzene	95-63-6		Yes	U	9.8	ug/m3
202	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	1,2,4-Trimethylbenzene	95-63-6	11	Yes	U	0.98	ug/m3
203	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	1,2-Dibromoethane	106-93-4		Yes	U	1.5	ug/m3
204	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	1,2-Dibromoethane	106-93-4		Yes	U	15	ug/m3
205	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	1,2-Dichlorobenzene	95-50-1		Yes	U	1.2	ug/m3

Appendix C Validated Analytical Results for Stage II Soil Vapor Samples

ID	Sample Location ID	Sample Date	Analysis Date	Sample Type Code	Result Type Code	Sample Matrix Code	Lab Anl Method Name	Sample Delivery Group	Dilution Factor	Lab Sample Id	Chemical Name	Cas rn	Result Value	Reportable Result	Qual	MDL	Result Unit
206	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	1,2-Dichlorobenzene	95-50-1		Yes	U	12	ug/m3
207	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	1,2-Dichloroethane	107-06-2		Yes	U	0.81	ug/m3
208	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	1,2-Dichloroethane	107-06-2		Yes	U	8.1	ug/m3
209	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	1,2-Dichloropropane	78-87-5		Yes	U	0.92	ug/m3
210	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	1,2-Dichloropropane	78-87-5		Yes	U	9.2	ug/m3
211	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	1,3,5-Trimethylbenzene	108-67-8		Yes	U	9.8	ug/m3
212	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	1,3,5-Trimethylbenzene	108-67-8	4.8	Yes	J	0.98	ug/m3
213	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	1,3-Butadiene	106-99-0		Yes	U	0.88	ug/m3
214	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	1,3-Butadiene	106-99-0		Yes	U	8.8	ug/m3
215	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	1,3-Dichlorobenzene	541-73-1		Yes	U	1.2	ug/m3
216	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	1,3-Dichlorobenzene	541-73-1		Yes	U	12	ug/m3
217	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	1,4-Dichlorobenzene	106-46-7		Yes	U	12	ug/m3
218	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	1,4-Dichlorobenzene	106-46-7		Yes	U	1.2	ug/m3
219	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	2-Butanone	78-93-3	15	Yes		1.5	ug/m3
220	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	2-Butanone	78-93-3		Yes	U	15	ug/m3
221	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	2-Hexanone	591-78-6		Yes	U	20	ug/m3
222	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	2-Hexanone	591-78-6		Yes	U	2	ug/m3
223	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	3-Chloropropene	107-05-1		Yes	U	6.3	ug/m3
224	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	3-Chloropropene	107-05-1		Yes	U	0.63	ug/m3
225	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	4-Ethyltoluene	622-96-8		Yes	U	9.8	ug/m3
226	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	4-Ethyltoluene	622-96-8	3.8	Yes	J	0.98	ug/m3
227	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	4-Methyl-2-pentanone	108-10-1	3.3	Yes	J	2	ug/m3
228	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	4-Methyl-2-pentanone	108-10-1		Yes	U	20	ug/m3
229	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Acetone	67-64-1	38	Yes	J	12	ug/m3
230	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Acetone	67-64-1	83	Yes		1.2	ug/m3
231	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Benzene	71-43-2		Yes	U	6.4	ug/m3
232	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Benzene	71-43-2	1.9	Yes	J	0.64	ug/m3
233	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Bromobenzene	108-86-1		Yes	U	1.3	ug/m3
234	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Bromobenzene	108-86-1		Yes	U	13	ug/m3
235	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Bromodichloromethane	75-27-4		Yes	U	13	ug/m3
236	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Bromodichloromethane	75-27-4		Yes	U	1.3	ug/m3
237	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Bromoform	75-25-2		Yes	U	2.1	ug/m3
238	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Bromoform	75-25-2		Yes	U	21	ug/m3
239	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Bromomethane	74-83-9		Yes	U	0.78	ug/m3
240	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Bromomethane	74-83-9		Yes	U	7.8	ug/m3
241	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Carbon Disulfide	75-15-0		Yes	U	16	ug/m3
242	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Carbon Disulfide	75-15-0		Yes	U	1.6	ug/m3
243	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Carbon Tetrachloride	56-23-5		Yes	U	1.3	ug/m3
244	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Carbon Tetrachloride	56-23-5		Yes	U	13	ug/m3
245	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Chlorobenzene	108-90-7		Yes	U	0.92	ug/m3
246	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Chlorobenzene	108-90-7		Yes	U	9.2	ug/m3

Appendix C Validated Analytical Results for Stage II Soil Vapor Samples

ID	Sample Location ID	Sample Date	Analysis Date	Sample Type Code	Result Type Code	Sample Matrix Code	Lab Anl Method Name	Sample Delivery Group	Dilution Factor	Lab Sample Id	Chemical Name	Cas rn	Result Value	Reportable Result	Qual	MDL	Result Unit
247	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Chlorodifluoromethane	75-45-6	3.4	Yes	J	0.71	ug/m3
248	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Chlorodifluoromethane	75-45-6		Yes	U	7.1	ug/m3
249	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Chloroethane	75-00-3		Yes	U	5.3	ug/m3
250	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Chloroethane	75-00-3		Yes	U	0.53	ug/m3
251	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Chloroform	67-66-3		Yes	U	9.8	ug/m3
252	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Chloroform	67-66-3	1.7	Yes	J	0.98	ug/m3
253	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Chloromethane	74-87-3		Yes	U	0.41	ug/m3
254	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Chloromethane	74-87-3		Yes	U	4.1	ug/m3
255	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	cis-1,2-Dichloroethene	156-59-2		Yes	U	7.9	ug/m3
256	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	cis-1,2-Dichloroethene	156-59-2		Yes	U	0.79	ug/m3
257	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	cis-1,3-Dichloropropene	10061-01-5		Yes	U	0.91	ug/m3
258	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	cis-1,3-Dichloropropene	10061-01-5		Yes	U	9.1	ug/m3
259	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Cumene	98-82-8	5.6	Yes		0.98	ug/m3
260	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Cumene	98-82-8		Yes	U	9.8	ug/m3
261	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Dibromochloromethane	124-48-1		Yes	U	17	ug/m3
262	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Dibromochloromethane	124-48-1		Yes	U	1.7	ug/m3
263	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Dibromomethane	74-95-3		Yes	U	1.4	ug/m3
264	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Dibromomethane	74-95-3		Yes	U	14	ug/m3
265	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Dichlorodifluoromethane	75-71-8		Yes	U	9.9	ug/m3
266	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Dichlorodifluoromethane	75-71-8	2.8	Yes	J	0.99	ug/m3
267	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Dichlorofluoromethane	75-43-4		Yes	U	0.84	ug/m3
268	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Dichlorofluoromethane	75-43-4		Yes	U	8.4	ug/m3
269	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Ethylbenzene	100-41-4	160	Yes		0.87	ug/m3
270	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Ethylbenzene	100-41-4	67	Yes		8.7	ug/m3
271	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Freon 113	76-13-1		Yes	U	38	ug/m3
272	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Freon 113	76-13-1	5.8	Yes	J	3.8	ug/m3
273	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Freon 114	76-14-2		Yes	U	14	ug/m3
274	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Freon 114	76-14-2		Yes	U	1.4	ug/m3
275	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Heptane	142-82-5		Yes	U	8.2	ug/m3
276	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Heptane	142-82-5	2.6	Yes	J	0.82	ug/m3
277	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Hexachloroethane	67-72-1		Yes	U	19	ug/m3
278	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Hexachloroethane	67-72-1		Yes	U	1.9	ug/m3
279	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Hexane	110-54-3		Yes	U	0.7	ug/m3
280	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Hexane	110-54-3		Yes	U	7	ug/m3
281	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Isooctane	540-84-1		Yes	U	9.3	ug/m3
282	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Isooctane	540-84-1		Yes	U	0.93	ug/m3
283	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	m/p-Xylene	179601-23-1	530	Yes		8.7	ug/m3
284	SVMP-04R	10/10/2015	10/19/2015	FD	TRG	AA	TO15	1600626	10	8087713	m/p-Xylene	179601-23-1	490	Yes		8.7	ug/m3
285	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Methyl t-Butyl Ether	1634-04-4		Yes	U	0.72	ug/m3
286	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Methyl t-Butyl Ether	1634-04-4		Yes	U	7.2	ug/m3
287	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Methylene Chloride	75-09-2		Yes	U	0.69	ug/m3

Appendix C Validated Analytical Results for Stage II Soil Vapor Samples

ID	Sample Location ID	Sample Date	Analysis Date	Sample Type Code	Result Type Code	Sample Matrix Code	Lab Anl Method Name	Sample Delivery Group	Dilution Factor	Lab Sample Id	Chemical Name	Cas rn	Result Value	Reportable Result	Qual	MDL	Result Unit	
288	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Methylene Chloride	75-09-2		Yes	U	6.9	ug/m3	
289	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Octane	111-65-9		Yes	U	0.93	ug/m3	
290	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Octane	111-65-9		Yes	U	9.3	ug/m3	
291	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	o-Xylene	95-47-6	140	Yes			8.7	ug/m3
292	SVMP-04R	10/10/2015	10/19/2015	FD	TRG	AA	TO15	1600626	10	8087713	o-Xylene	95-47-6	140	Yes			8.7	ug/m3
293	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Pentane	109-66-0	0.7	Yes	J	0.59	ug/m3	
294	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Pentane	109-66-0		Yes	U	5.9	ug/m3	
295	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Styrene	100-42-5		Yes	U	0.85	ug/m3	
296	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Styrene	100-42-5		Yes	U	8.5	ug/m3	
297	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Tetrachloroethene	127-18-4	130	Yes		14	ug/m3	
298	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Tetrachloroethene	127-18-4	210	Yes		1.4	ug/m3	
299	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Toluene	108-88-3	61	Yes		0.75	ug/m3	
300	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Toluene	108-88-3	31	Yes	J	7.5	ug/m3	
301	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	trans-1,2-Dichloroethene	156-60-5		Yes	U	0.79	ug/m3	
302	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	trans-1,2-Dichloroethene	156-60-5		Yes	U	7.9	ug/m3	
303	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	trans-1,3-Dichloropropene	10061-02-6		Yes	U	9.1	ug/m3	
304	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	trans-1,3-Dichloropropene	10061-02-6		Yes	U	0.91	ug/m3	
305	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Trichloroethene	79-01-6	100	Yes		1.1	ug/m3	
306	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Trichloroethene	79-01-6	77	Yes		11	ug/m3	
307	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Trichlorofluoromethane	75-69-4	1.4	Yes	J	1.1	ug/m3	
308	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Trichlorofluoromethane	75-69-4		Yes	U	11	ug/m3	
309	SVMP-04R	10/10/2015	10/19/2015	N	TRG	AA	TO15	1600626	10	8087712	Vinyl Chloride	75-01-4		Yes	U	5.1	ug/m3	
310	SVMP-04R	10/10/2015	10/17/2015	FD	TRG	AA	TO15	1600626	1	8087713	Vinyl Chloride	75-01-4		Yes	U	0.51	ug/m3	
311	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	1,1,1,2-Tetrachloroethane	630-20-6		Y	U	1400	ug/m3	
312	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	1,1,1-Trichloroethane	71-55-6		Y	U	1100	ug/m3	
313	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	1,1,2,2-Tetrachloroethane	79-34-5		Y	U	1400	ug/m3	
314	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	1,1,2-Trichloroethane	79-00-5		Y	U	1100	ug/m3	
315	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	1,1-Dichloroethane	75-34-3		Y	U	810	ug/m3	
316	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	1,1-Dichloroethane	75-35-4	7100	Y		790	ug/m3	
317	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	1,2,3-Trichloropropane	96-18-4		Y	U	1200	ug/m3	
318	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	1,2,4-Trimethylbenzene	95-63-6		Y	U	980	ug/m3	
319	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	1,2-Dibromoethane	106-93-4		Y	U	1500	ug/m3	
320	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	1,2-Dichlorobenzene	95-50-1		Y	U	1200	ug/m3	
321	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	1,2-Dichloroethane	107-06-2		Y	U	810	ug/m3	
322	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	1,2-Dichloropropane	78-87-5		Y	U	920	ug/m3	
323	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	1,3,5-Trimethylbenzene	108-67-8		Y	U	980	ug/m3	
324	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	1,3-Butadiene	106-99-0	2200	Y	J	880	ug/m3	
325	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	1,3-Dichlorobenzene	541-73-1		Y	U	1200	ug/m3	
326	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	1,4-Dichlorobenzene	106-46-7		Y	U	1200	ug/m3	
327	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	2-Butanone	78-93-3		Y	U	1500	ug/m3	
328	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	2-Hexanone	591-78-6		Y	U	2000	ug/m3	

Appendix C Validated Analytical Results for Stage II Soil Vapor Samples

ID	Sample Location ID	Sample Date	Analysis Date	Sample Type Code	Result Type Code	Sample Matrix Code	Lab Anl Method Name	Sample Delivery Group	Dilution Factor	Lab Sample Id	Chemical Name	Cas rn	Result Value	Reportable Result	Qual	MDL	Result Unit
329	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	3-Chloropropene	107-05-1		Y	U	630	ug/m3
330	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	4-Ethyltoluene	622-96-8		Y	U	980	ug/m3
331	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	4-Methyl-2-pentanone	108-10-1		Y	U	2000	ug/m3
332	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Acetone	67-64-1		Y	U	1200	ug/m3
333	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Benzene	71-43-2		Y	U	640	ug/m3
334	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Bromobenzene	108-86-1		Y	U	1300	ug/m3
335	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Bromodichloromethane	75-27-4		Y	U	1300	ug/m3
336	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Bromoform	75-25-2		Y	U	2100	ug/m3
337	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Bromomethane	74-83-9		Y	U	780	ug/m3
338	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Carbon Disulfide	75-15-0		Y	U	1600	ug/m3
339	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Carbon Tetrachloride	56-23-5		Y	U	1300	ug/m3
340	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Chlorobenzene	108-90-7		Y	U	920	ug/m3
341	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Chlorodifluoromethane	75-45-6		Y	U	710	ug/m3
342	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Chloroethane	75-00-3		Y	U	530	ug/m3
343	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Chloroform	67-66-3		Y	U	980	ug/m3
344	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Chloromethane	74-87-3		Y	U	410	ug/m3
345	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	20000	8065067	cis-1,2-Dichloroethene	156-59-2	1300000	Y		16000	ug/m3
346	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	cis-1,3-Dichloropropene	10061-01-5		Y	U	910	ug/m3
347	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Cumene	98-82-8		Y	U	980	ug/m3
348	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Dibromochloromethane	124-48-1		Y	U	1700	ug/m3
349	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Dibromomethane	74-95-3		Y	U	1400	ug/m3
350	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Dichlorodifluoromethane	75-71-8		Y	U	990	ug/m3
351	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Dichlorofluoromethane	75-43-4		Y	U	840	ug/m3
352	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Ethylbenzene	100-41-4		Y	U	870	ug/m3
353	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Freon 113	76-13-1		Y	U	3800	ug/m3
354	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Freon 114	76-14-2		Y	U	1400	ug/m3
355	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Heptane	142-82-5		Y	U	820	ug/m3
356	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Hexachloroethane	67-72-1		Y	U	1900	ug/m3
357	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Hexane	110-54-3		Y	U	700	ug/m3
358	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Isooctane	540-84-1		Y	U	930	ug/m3
359	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	m/p-Xylene	179601-23-1		Y	U	870	ug/m3
360	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Methyl t-Butyl Ether	1634-04-4		Y	U	720	ug/m3
361	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Methylene Chloride	75-09-2		Y	U	690	ug/m3
362	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Octane	111-65-9		Y	U	930	ug/m3
363	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	o-Xylene	95-47-6		Y	U	870	ug/m3
364	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Pentane	109-66-0		Y	U	590	ug/m3
365	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Styrene	100-42-5		Y	U	850	ug/m3
366	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Tetrachloroethene	127-18-4		Y	U	1400	ug/m3
367	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Toluene	108-88-3		Y	U	750	ug/m3
368	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	trans-1,2-Dichloroethene	156-60-5	44000	Y		790	ug/m3
369	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	trans-1,3-Dichloropropene	10061-02-6		Y	U	910	ug/m3

Appendix C Validated Analytical Results for Stage II Soil Vapor Samples

ID	Sample Location ID	Sample Date	Analysis Date	Sample Type Code	Result Type Code	Sample Matrix Code	Lab Anl Method Name	Sample Delivery Group	Dilution Factor	Lab Sample Id	Chemical Name	Cas rn	Result Value	Reportable Result	Qual	MDL	Result Unit
370	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Trichloroethene	79-01-6	63000	Y		1100	ug/m3
371	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Trichlorofluoromethane	75-69-4		Y	U	1100	ug/m3
372	SVMP-05	9/16/2015	10/6/2015	N	TRG	AA	TO15	1596108	1000	8065067	Vinyl Chloride	75-01-4	23000	Y		510	ug/m3
373	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	1,1,1,2-Tetrachloroethane	630-20-6		Yes	U	14	ug/m3
374	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	1,1,1-Trichloroethane	71-55-6		Yes	U	11	ug/m3
375	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	1,1,2,2-Tetrachloroethane	79-34-5		Yes	U	14	ug/m3
376	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	1,1,2-Trichloroethane	79-00-5		Yes	U	11	ug/m3
377	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	1,1-Dichloroethane	75-34-3		Yes	U	8.1	ug/m3
378	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	1,1-Dichloroethene	75-35-4	27	Yes	J	7.9	ug/m3
379	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	1,2,3-Trichloropropane	96-18-4		Yes	U	12	ug/m3
380	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	1,2,4-Trimethylbenzene	95-63-6		Yes	U	9.8	ug/m3
381	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	1,2-Dibromoethane	106-93-4		Yes	U	15	ug/m3
382	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	1,2-Dichlorobenzene	95-50-1		Yes	U	12	ug/m3
383	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	1,2-Dichloroethane	107-06-2		Yes	U	8.1	ug/m3
384	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	1,2-Dichloropropane	78-87-5		Yes	U	9.2	ug/m3
385	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	1,3,5-Trimethylbenzene	108-67-8		Yes	U	9.8	ug/m3
386	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	1,3-Butadiene	106-99-0	27	Yes	J	8.8	ug/m3
387	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	1,3-Dichlorobenzene	541-73-1		Yes	U	12	ug/m3
388	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	1,4-Dichlorobenzene	106-46-7		Yes	U	12	ug/m3
389	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	2-Butanone	78-93-3	50	Yes	J	15	ug/m3
390	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	2-Hexanone	591-78-6		Yes	U	20	ug/m3
391	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	3-Chloropropene	107-05-1		Yes	U	6.3	ug/m3
392	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	4-Ethyltoluene	622-96-8		Yes	U	9.8	ug/m3
393	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	4-Methyl-2-pentanone	108-10-1	36	Yes	J	20	ug/m3
394	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Acetone	67-64-1	210	Yes		12	ug/m3
395	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Benzene	71-43-2	860	Yes		6.4	ug/m3
396	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Bromobenzene	108-86-1		Yes	U	13	ug/m3
397	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Bromodichloromethane	75-27-4		Yes	U	13	ug/m3
398	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Bromoform	75-25-2		Yes	U	21	ug/m3
399	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Bromomethane	74-83-9		Yes	U	7.8	ug/m3
400	SVMP-06R	10/14/2015	10/19/2015	N	TRG	AA	TO15	1601009	100	8089423	Carbon Disulfide	75-15-0	1200	Yes		160	ug/m3
401	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Carbon Tetrachloride	56-23-5		Yes	U	13	ug/m3
402	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Chlorobenzene	108-90-7		Yes	U	9.2	ug/m3
403	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Chlorodifluoromethane	75-45-6	14	Yes	J	7.1	ug/m3
404	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Chloroethane	75-00-3		Yes	U	5.3	ug/m3
405	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Chloroform	67-66-3	24	Yes	J	9.8	ug/m3
406	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Chloromethane	74-87-3		Yes	U	4.1	ug/m3
407	SVMP-06R	10/14/2015	10/19/2015	N	TRG	AA	TO15	1601009	100	8089423	cis-1,2-Dichloroethene	156-59-2	3200	Yes		79	ug/m3
408	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	cis-1,3-Dichloropropene	10061-01-5		Yes	U	9.1	ug/m3
409	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Cumene	98-82-8	27	Yes	J	9.8	ug/m3
410	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Dibromochloromethane	124-48-1		Yes	U	17	ug/m3

Appendix C Validated Analytical Results for Stage II Soil Vapor Samples

ID	Sample Location ID	Sample Date	Analysis Date	Sample Type Code	Result Type Code	Sample Matrix Code	Lab Anl Method Name	Sample Delivery Group	Dilution Factor	Lab Sample Id	Chemical Name	Cas rn	Result Value	Reportable Result	Qual	MDL	Result Unit	
411	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Dibromomethane	74-95-3		Yes	U	14	ug/m3	
412	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Dichlorodifluoromethane	75-71-8		Yes	U	9.9	ug/m3	
413	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Dichlorofluoromethane	75-43-4		Yes	U	8.4	ug/m3	
414	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Ethylbenzene	100-41-4	1100	Yes			8.7	ug/m3
415	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Freon 113	76-13-1		Yes	U	38	ug/m3	
416	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Freon 114	76-14-2		Yes	U	14	ug/m3	
417	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Heptane	142-82-5	160	Yes			8.2	ug/m3
418	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Hexachloroethane	67-72-1		Yes	U	19	ug/m3	
419	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Hexane	110-54-3	290	Yes			7	ug/m3
420	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Isooctane	540-84-1	240	Yes			9.3	ug/m3
421	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	m/p-Xylene	179601-23-1	2100	Yes			8.7	ug/m3
422	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Methyl t-Butyl Ether	1634-04-4	40	Yes			7.2	ug/m3
423	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Methylene Chloride	75-09-2		Yes	U	6.9	ug/m3	
424	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Octane	111-65-9	210	Yes			9.3	ug/m3
425	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	o-Xylene	95-47-6	1400	Yes			8.7	ug/m3
426	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Pentane	109-66-0	920	Yes			5.9	ug/m3
427	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Styrene	100-42-5		Yes	U	8.5	ug/m3	
428	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Tetrachloroethene	127-18-4	39	Yes	J	14	ug/m3	
429	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Toluene	108-88-3	550	Yes			7.5	ug/m3
430	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	trans-1,2-Dichloroethene	156-60-5	240	Yes			7.9	ug/m3
431	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	trans-1,3-Dichloropropene	10061-02-6		Yes	U	9.1	ug/m3	
432	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Trichloroethene	79-01-6	140	Yes			11	ug/m3
433	SVMP-06R	10/14/2015	10/17/2015	N	TRG	AA	TO15	1601009	10	8089423	Trichlorofluoromethane	75-69-4		Yes	U	11	ug/m3	
434	SVMP-06R	10/14/2015	10/19/2015	N	TRG	AA	TO15	1601009	100	8089423	Vinyl Chloride	75-01-4	16000	Yes			51	ug/m3
435	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	1,1,1,2-Tetrachloroethane	630-20-6		Yes	U	1.4	ug/m3	
436	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	1,1,1-Trichloroethane	71-55-6		Yes	U	1.1	ug/m3	
437	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	1,1,2,2-Tetrachloroethane	79-34-5		Yes	U	1.4	ug/m3	
438	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	1,1,2-Trichloroethane	79-00-5		Yes	U	1.1	ug/m3	
439	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	1,1-Dichloroethane	75-34-3		Yes	U	0.81	ug/m3	
440	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	1,1-Dichloroethene	75-35-4		Yes	U	0.79	ug/m3	
441	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	1,2,3-Trichloropropane	96-18-4		Yes	U	1.2	ug/m3	
442	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	1,2,4-Trimethylbenzene	95-63-6		Yes	U	0.98	ug/m3	
443	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	1,2-Dibromoethane	106-93-4		Yes	U	1.5	ug/m3	
444	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	1,2-Dichlorobenzene	95-50-1		Yes	U	1.2	ug/m3	
445	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	1,2-Dichloroethane	107-06-2		Yes	U	0.81	ug/m3	
446	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	1,2-Dichloropropane	78-87-5		Yes	U	0.92	ug/m3	
447	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	1,3,5-Trimethylbenzene	108-67-8		Yes	U	0.98	ug/m3	
448	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	1,3-Butadiene	106-99-0		Yes	U	0.88	ug/m3	
449	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	1,3-Dichlorobenzene	541-73-1		Yes	U	1.2	ug/m3	
450	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	1,4-Dichlorobenzene	106-46-7		Yes	U	1.2	ug/m3	
451	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	2-Butanone	78-93-3	8.6	Yes			1.5	ug/m3

Appendix C Validated Analytical Results for Stage II Soil Vapor Samples

ID	Sample Location ID	Sample Date	Analysis Date	Sample Type Code	Result Type Code	Sample Matrix Code	Lab Anl Method Name	Sample Delivery Group	Dilution Factor	Lab Sample Id	Chemical Name	Cas rn	Result Value	Reportable Result	Qual	MDL	Result Unit
452	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	2-Hexanone	591-78-6		Yes	U	2	ug/m3
453	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	3-Chloropropene	107-05-1		Yes	U	0.63	ug/m3
454	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	4-Ethyltoluene	622-96-8		Yes	U	0.98	ug/m3
455	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	4-Methyl-2-pentanone	108-10-1		Yes	U	2	ug/m3
456	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Acetone	67-64-1	25	Yes		1.2	ug/m3
457	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Benzene	71-43-2	1.5	Yes	J	0.64	ug/m3
458	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Bromobenzene	108-86-1		Yes	U	1.3	ug/m3
459	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Bromodichloromethane	75-27-4		Yes	U	1.3	ug/m3
460	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Bromoform	75-25-2		Yes	U	2.1	ug/m3
461	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Bromomethane	74-83-9		Yes	U	0.78	ug/m3
462	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Carbon Disulfide	75-15-0	1.6	Yes	J	1.6	ug/m3
463	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Carbon Tetrachloride	56-23-5		Yes	U	1.3	ug/m3
464	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Chlorobenzene	108-90-7		Yes	U	0.92	ug/m3
465	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Chlorodifluoromethane	75-45-6		Yes	U	0.71	ug/m3
466	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Chloroethane	75-00-3		Yes	U	0.53	ug/m3
467	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Chloroform	67-66-3		Yes	U	0.98	ug/m3
468	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Chloromethane	74-87-3		Yes	U	0.41	ug/m3
469	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	cis-1,2-Dichloroethene	156-59-2	22	Yes		0.79	ug/m3
470	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	cis-1,3-Dichloropropene	10061-01-5		Yes	U	0.91	ug/m3
471	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Cumene	98-82-8		Yes	U	0.98	ug/m3
472	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Dibromochloromethane	124-48-1		Yes	U	1.7	ug/m3
473	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Dibromomethane	74-95-3		Yes	U	1.4	ug/m3
474	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Dichlorodifluoromethane	75-71-8		Yes	U	0.99	ug/m3
475	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Dichlorofluoromethane	75-43-4		Yes	U	0.84	ug/m3
476	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Ethylbenzene	100-41-4		Yes	U	0.87	ug/m3
477	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Freon 113	76-13-1		Yes	U	3.8	ug/m3
478	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Freon 114	76-14-2		Yes	U	1.4	ug/m3
479	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Heptane	142-82-5	1.6	Yes	J	0.82	ug/m3
480	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Hexachloroethane	67-72-1		Yes	U	1.9	ug/m3
481	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Hexane	110-54-3	2.7	Yes	J	0.7	ug/m3
482	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Isooctane	540-84-1		Yes	U	0.93	ug/m3
483	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	m/p-Xylene	179601-23-1	1	Yes	J	0.87	ug/m3
484	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Methyl t-Butyl Ether	1634-04-4		Yes	U	0.72	ug/m3
485	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Methylene Chloride	75-09-2		Yes	U	0.69	ug/m3
486	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Octane	111-65-9		Yes	U	0.93	ug/m3
487	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	o-Xylene	95-47-6		Yes	U	0.87	ug/m3
488	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Pentane	109-66-0	21	Yes		0.59	ug/m3
489	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Styrene	100-42-5		Yes	U	0.85	ug/m3
490	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Tetrachloroethene	127-18-4	3.7	Yes	J	1.4	ug/m3
491	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Toluene	108-88-3	0.9	Yes	J	0.75	ug/m3
492	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	trans-1,2-Dichloroethene	156-60-5		Yes	U	0.79	ug/m3

Appendix C Validated Analytical Results for Stage II Soil Vapor Samples

ID	Sample Location ID	Sample Date	Analysis Date	Sample Type Code	Result Type Code	Sample Matrix Code	Lab Anl Method Name	Sample Delivery Group	Dilution Factor	Lab Sample Id	Chemical Name	Cas rn	Result Value	Reportable Result	Qual	MDL	Result Unit
493	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	trans-1,3-Dichloropropene	10061-02-6		Yes	U	0.91	ug/m3
494	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Trichloroethene	79-01-6	5	Yes	J	1.1	ug/m3
495	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Trichlorofluoromethane	75-69-4		Yes	U	1.1	ug/m3
496	SVMP-07	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087711	Vinyl Chloride	75-01-4		Yes	U	0.51	ug/m3
497	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	1,1,1,2-Tetrachloroethane	630-20-6		Yes	U	1.4	ug/m3
498	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	1,1,1-Trichloroethane	71-55-6		Yes	U	1.1	ug/m3
499	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	1,1,2,2-Tetrachloroethane	79-34-5		Yes	U	1.4	ug/m3
500	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	1,1,2-Trichloroethane	79-00-5		Yes	U	1.1	ug/m3
501	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	1,1-Dichloroethane	75-34-3		Yes	U	0.81	ug/m3
502	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	1,1-Dichloroethene	75-35-4		Yes	U	0.79	ug/m3
503	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	1,2,3-Trichloropropane	96-18-4		Yes	U	1.2	ug/m3
504	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	1,2,4-Trimethylbenzene	95-63-6		Yes	U	0.98	ug/m3
505	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	1,2-Dibromoethane	106-93-4		Yes	U	1.5	ug/m3
506	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	1,2-Dichlorobenzene	95-50-1		Yes	U	1.2	ug/m3
507	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	1,2-Dichloroethane	107-06-2		Yes	U	0.81	ug/m3
508	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	1,2-Dichloropropane	78-87-5	5	Yes		0.92	ug/m3
509	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	1,3,5-Trimethylbenzene	108-67-8		Yes	U	0.98	ug/m3
510	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	1,3-Butadiene	106-99-0		Yes	U	0.88	ug/m3
511	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	1,3-Dichlorobenzene	541-73-1		Yes	U	1.2	ug/m3
512	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	1,4-Dichlorobenzene	106-46-7		Yes	U	1.2	ug/m3
513	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	2-Butanone	78-93-3	1.5	Yes	J	1.5	ug/m3
514	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	2-Hexanone	591-78-6		Yes	U	2	ug/m3
515	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	3-Chloropropene	107-05-1		Yes	U	0.63	ug/m3
516	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	4-Ethyltoluene	622-96-8		Yes	U	0.98	ug/m3
517	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	4-Methyl-2-pentanone	108-10-1		Yes	U	2	ug/m3
518	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Acetone	67-64-1	7.4	Yes		1.2	ug/m3
519	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Benzene	71-43-2		Yes	U	0.64	ug/m3
520	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Bromobenzene	108-86-1		Yes	U	1.3	ug/m3
521	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Bromodichloromethane	75-27-4		Yes	U	1.3	ug/m3
522	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Bromoform	75-25-2		Yes	U	2.1	ug/m3
523	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Bromomethane	74-83-9		Yes	U	0.78	ug/m3
524	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Carbon Disulfide	75-15-0		Yes	U	1.6	ug/m3
525	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Carbon Tetrachloride	56-23-5		Yes	U	1.3	ug/m3
526	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Chlorobenzene	108-90-7		Yes	U	0.92	ug/m3
527	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Chlorodifluoromethane	75-45-6	1.9	Yes	J	0.71	ug/m3
528	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Chloroethane	75-00-3		Yes	U	0.53	ug/m3
529	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Chloroform	67-66-3	2.5	Yes	J	0.98	ug/m3
530	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Chloromethane	74-87-3		Yes	U	0.41	ug/m3
531	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	cis-1,2-Dichloroethene	156-59-2		Yes	U	0.79	ug/m3
532	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	cis-1,3-Dichloropropene	10061-01-5		Yes	U	0.91	ug/m3
533	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Cumene	98-82-8		Yes	U	0.98	ug/m3

Appendix C Validated Analytical Results for Stage II Soil Vapor Samples

ID	Sample Location ID	Sample Date	Analysis Date	Sample Type Code	Result Type Code	Sample Matrix Code	Lab Anl Method Name	Sample Delivery Group	Dilution Factor	Lab Sample Id	Chemical Name	Cas rn	Result Value	Reportable Result	Qual	MDL	Result Unit
534	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Dibromochloromethane	124-48-1		Yes	U	1.7	ug/m3
535	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Dibromomethane	74-95-3		Yes	U	1.4	ug/m3
536	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Dichlorodifluoromethane	75-71-8	1.5	Yes	J	0.99	ug/m3
537	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Dichlorofluoromethane	75-43-4		Yes	U	0.84	ug/m3
538	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Ethylbenzene	100-41-4	1.6	Yes	J	0.87	ug/m3
539	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Freon 113	76-13-1		Yes	U	3.8	ug/m3
540	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Freon 114	76-14-2		Yes	U	1.4	ug/m3
541	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Heptane	142-82-5		Yes	U	0.82	ug/m3
542	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Hexachloroethane	67-72-1		Yes	U	1.9	ug/m3
543	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Hexane	110-54-3		Yes	U	0.7	ug/m3
544	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Isooctane	540-84-1		Yes	U	0.93	ug/m3
545	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	m/p-Xylene	179601-23-1	15	Yes		0.87	ug/m3
546	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Methyl t-Butyl Ether	1634-04-4		Yes	U	0.72	ug/m3
547	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Methylene Chloride	75-09-2		Yes	U	0.69	ug/m3
548	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Octane	111-65-9		Yes	U	0.93	ug/m3
549	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	o-Xylene	95-47-6	3.7	Yes	J	0.87	ug/m3
550	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Pentane	109-66-0		Yes	U	0.59	ug/m3
551	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Styrene	100-42-5		Yes	U	0.85	ug/m3
552	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Tetrachloroethene	127-18-4	3.6	Yes	J	1.4	ug/m3
553	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Toluene	108-88-3	1.1	Yes	J	0.75	ug/m3
554	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	trans-1,2-Dichloroethene	156-60-5		Yes	U	0.79	ug/m3
555	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	trans-1,3-Dichloropropene	10061-02-6		Yes	U	0.91	ug/m3
556	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Trichloroethene	79-01-6	35	Yes		1.1	ug/m3
557	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Trichlorofluoromethane	75-69-4		Yes	U	1.1	ug/m3
558	SVMP-08	10/9/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087710	Vinyl Chloride	75-01-4		Yes	U	0.51	ug/m3
559	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	1,1,1,2-Tetrachloroethane	630-20-6		Yes	U	1.4	ug/m3
560	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	1,1,1-Trichloroethane	71-55-6		Yes	U	1.1	ug/m3
561	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	1,1,2,2-Tetrachloroethane	79-34-5		Yes	U	1.4	ug/m3
562	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	1,1,2-Trichloroethane	79-00-5		Yes	U	1.1	ug/m3
563	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	1,1-Dichloroethane	75-34-3		Yes	U	0.81	ug/m3
564	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	1,1-Dichloroethene	75-35-4		Yes	U	0.79	ug/m3
565	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	1,2,3-Trichloropropane	96-18-4		Yes	U	1.2	ug/m3
566	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	1,2,4-Trimethylbenzene	95-63-6		Yes	U	0.98	ug/m3
567	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	1,2-Dibromoethane	106-93-4		Yes	U	1.5	ug/m3
568	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	1,2-Dichlorobenzene	95-50-1		Yes	U	1.2	ug/m3
569	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	1,2-Dichloroethane	107-06-2		Yes	U	0.81	ug/m3
570	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	1,2-Dichloropropane	78-87-5	7.2	Yes		0.92	ug/m3
571	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	1,3,5-Trimethylbenzene	108-67-8		Yes	U	0.98	ug/m3
572	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	1,3-Butadiene	106-99-0		Yes	U	0.88	ug/m3
573	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	1,3-Dichlorobenzene	541-73-1		Yes	U	1.2	ug/m3
574	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	1,4-Dichlorobenzene	106-46-7		Yes	U	1.2	ug/m3

Appendix C Validated Analytical Results for Stage II Soil Vapor Samples

ID	Sample Location ID	Sample Date	Analysis Date	Sample Type Code	Result Type Code	Sample Matrix Code	Lab Anl Method Name	Sample Delivery Group	Dilution Factor	Lab Sample Id	Chemical Name	Cas rn	Result Value	Reportable Result	Qual	MDL	Result Unit
575	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	2-Butanone	78-93-3	13	Yes		1.5	ug/m3
576	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	2-Hexanone	591-78-6		Yes	U	2	ug/m3
577	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	3-Chloropropene	107-05-1		Yes	U	0.63	ug/m3
578	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	4-Ethyltoluene	622-96-8		Yes	U	0.98	ug/m3
579	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	4-Methyl-2-pentanone	108-10-1		Yes	U	2	ug/m3
580	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Acetone	67-64-1	30	Yes		1.2	ug/m3
581	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Benzene	71-43-2	0.9	Yes	J	0.64	ug/m3
582	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Bromobenzene	108-86-1		Yes	U	1.3	ug/m3
583	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Bromodichloromethane	75-27-4		Yes	U	1.3	ug/m3
584	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Bromoform	75-25-2		Yes	U	2.1	ug/m3
585	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Bromomethane	74-83-9		Yes	U	0.78	ug/m3
586	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Carbon Disulfide	75-15-0	1.8	Yes	J	1.6	ug/m3
587	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Carbon Tetrachloride	56-23-5		Yes	U	1.3	ug/m3
588	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Chlorobenzene	108-90-7		Yes	U	0.92	ug/m3
589	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Chlorodifluoromethane	75-45-6		Yes	U	0.71	ug/m3
590	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Chloroethane	75-00-3		Yes	U	0.53	ug/m3
591	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Chloroform	67-66-3	1.1	Yes	J	0.98	ug/m3
592	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Chloromethane	74-87-3		Yes	U	0.41	ug/m3
593	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	cis-1,2-Dichloroethene	156-59-2		Yes	U	0.79	ug/m3
594	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	cis-1,3-Dichloropropene	10061-01-5		Yes	U	0.91	ug/m3
595	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Cumene	98-82-8		Yes	U	0.98	ug/m3
596	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Dibromochloromethane	124-48-1		Yes	U	1.7	ug/m3
597	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Dibromomethane	74-95-3		Yes	U	1.4	ug/m3
598	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Dichlorodifluoromethane	75-71-8		Yes	U	0.99	ug/m3
599	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Dichlorofluoromethane	75-43-4		Yes	U	0.84	ug/m3
600	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Ethylbenzene	100-41-4	7.8	Yes		0.87	ug/m3
601	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Freon 113	76-13-1		Yes	U	3.8	ug/m3
602	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Freon 114	76-14-2		Yes	U	1.4	ug/m3
603	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Heptane	142-82-5	2.9	Yes	J	0.82	ug/m3
604	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Hexachloroethane	67-72-1		Yes	U	1.9	ug/m3
605	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Hexane	110-54-3	10	Yes		0.7	ug/m3
606	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Isooctane	540-84-1		Yes	U	0.93	ug/m3
607	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	m/p-Xylene	179601-23-1	68	Yes		0.87	ug/m3
608	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Methyl t-Butyl Ether	1634-04-4		Yes	U	0.72	ug/m3
609	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Methylene Chloride	75-09-2		Yes	U	0.69	ug/m3
610	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Octane	111-65-9		Yes	U	0.93	ug/m3
611	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	o-Xylene	95-47-6	11	Yes		0.87	ug/m3
612	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Pentane	109-66-0	34	Yes		0.59	ug/m3
613	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Styrene	100-42-5		Yes	U	0.85	ug/m3
614	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Tetrachloroethene	127-18-4		Yes	U	1.4	ug/m3
615	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Toluene	108-88-3	11	Yes		0.75	ug/m3

Appendix C Validated Analytical Results for Stage II Soil Vapor Samples

ID	Sample Location ID	Sample Date	Analysis Date	Sample Type Code	Result Type Code	Sample Matrix Code	Lab Anl Method Name	Sample Delivery Group	Dilution Factor	Lab Sample Id	Chemical Name	Cas rn	Result Value	Reportable Result	Qual	MDL	Result Unit
616	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	trans-1,2-Dichloroethene	156-60-5		Yes	U	0.79	ug/m3
617	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	trans-1,3-Dichloropropene	10061-02-6		Yes	U	0.91	ug/m3
618	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Trichloroethene	79-01-6	190	Yes		1.1	ug/m3
619	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Trichlorofluoromethane	75-69-4	1.6	Yes	J	1.1	ug/m3
620	SVMP-09	10/12/2015	10/17/2015	N	TRG	AA	TO15	1600626	1	8087716	Vinyl Chloride	75-01-4		Yes	U	0.51	ug/m3

APPENDIX D

Appendix D

EcoChem Stage II Soil Vapor Data Validation Report



ECOChem
Data Quality

DATA QUALITY REPORT

BANNISTER FEDERAL COMPLEX

Due Diligence Site Investigation Stage 2 Soil Vapor

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DATA QUALITY REPORT

Stage II Soil Vapor Sampling

INTRODUCTION

This report documents the results of data validation and quality assurance review of soil vapor sample data collected in support of the Stage 2 sampling for the Bannister Federal Complex Due Diligence Site Investigation. This data set includes analytical results for air samples and field quality control samples as well as the associated quality control analyses (method blanks and laboratory control samples). A summary of laboratory sample delivery group (SDG) and associated samples is provided as TABLE 1.

Samples were analyzed by Eurofins Lancaster Laboratories, Lancaster, Pennsylvania. Data were validated by the following EcoChem, Inc. chemists.

TEST	METHOD	PRIMARY REVIEW CHEMISTS	SECONDARY REVIEW CHEMIST
Volatile Organic Compounds (VOC)	TO-15	M. Swanson	C. Frans

DATA VALIDATION PROCESS AND PROCEDURES

The data validation process and measurement quality objectives (MQO) were based on requirements and guidance from the *Due Diligence Site Investigation Work Plan Stage I for Bannister Federal Complex, Kansas City, Missouri* (February, 2015); and the USEPA *National Functional Guidelines for Organic Data Review* (October, 1999, June 2008 & Aug 2014).

Sample results and related QC data were received in both electronic and portable document format (pdf) format. The laboratory electronic data deliverables (EDD) were verified against the hard copy data packages prior to validation.

For each data package, either a Summary or Full level of review was performed. A summary level is equivalent to an USEPA CLP "QA Level III" level of effort, and a full level review is equivalent to an USEPA CLP "QA Level IV" level of effort. The validation level for each sample is provided in the database.

For each data package, the QC elements described below were reviewed:

QUALITY CONTROL ELEMENTS
<ul style="list-style-type: none">• Analytical holding times• Chain of custody and sample handling• Instrument performance: MS tune (from summary forms)• Method blank contamination (from summary forms)• Initial and continuing calibration (from summary forms)• Analytical accuracy: laboratory control sample %R (from summary forms)• Analytical precision: laboratory control sample duplicate RPD (from summary forms)• Internal standard areas (from summary forms)• Reported detection limits (from sample result summaries)• Compound identification evaluated from raw data - <i>Full Validation Only</i>• Compound quantitation, transcription and calculation checks performed at a frequency of 10 percent from raw data. If an error was noted, 100 percent of the calculations and transcriptions for that data package were verified. - <i>Full Validation Only</i>

Laboratory QC samples were used to assess the effectiveness of extraction/preparation procedures and to evaluate laboratory method performance, potential contamination during the analytical process, and sample matrix effects. Quality control samples included method blanks and laboratory control samples (LCS).

During validation, the results of the QC samples and instrument calibration and tuning are compared to the measurement quality objectives (MQO) initially established during project planning and documented in the QAPP. Validation also provides a quantitative and qualitative evaluation of the data and identifies potential sources of error, uncertainty, and bias that may affect the overall data usability.

Data were qualified when associated QC sample and instrument performance results were outside the laboratory QC sample control limits. The qualifiers assigned to results during the data validation process are defined in **TABLE 2**.

For each qualifier, one or more reason codes were added to indicate which QC element(s) did not meet the MQO. The reason codes assigned during the data validation process are defined in **TABLE 3**.

SUMMARY OF DATA USABILITY

All data packages were evaluated to determine whether the measurement quality objectives were met. Data validation criteria, developed from the analytical methods and EPA Functional Guidelines, are included as **ATTACHMENT A**. The technical sections that follow this summary provide detailed discussion of each quality control outlier and resulting data qualification.

EcoChem's goal in assigning qualifiers is to assist in proper data interpretation. If values are assigned a J or UJ, data may be used for site evaluation and risk assessment purposes, but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R, the data are to be rejected and should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet all measurement quality objectives as stated in the documents and methods referenced in this report.

The overall quality of the data is acceptable. A total of 144 data points (20.5%) were estimated (J/UJ/NJ). Qualified data points may have a larger associated bias or may be less precise than unqualified data, but are usable for the intended purpose.

All data, as qualified, are acceptable for use.

A Qualified Data Summary Table is included in **TABLE 4**. A tabulation of number of qualified data points is provided in **TABLE 5**. Please refer to the database to reference all qualified data.

DATA VALIDATION REPORT
S.S. Papadopoulos & Associates
Bannister Federal Complex – Phase II Soil Vapor
Volatile Organic Compounds in Air Method TO-15

TECHNICAL DATA VALIDATION

This report documents the review of analytical QC requirements as listed in the following table.

✓	Data Package Completeness	✓	Laboratory Control Samples (LCS)
1	EDD to Hardcopy Verification	✓	Internal Standards
2	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	GC/MS Instrument Performance	✓	Reporting Limits
✓	Initial Calibration (ICAL)	✓	Reported Results
✓	Continuing Calibration Verification (CCV)	2	Compound Identification (Level 4 Only)
✓	Laboratory Blanks	1	Calculation Verification (Level 4 Only)
1	Field Blanks		

✓ *Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*

1 *Quality control results are discussed below, but no data were qualified.*

2 *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Data Package Completeness

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD to Hardcopy Verification

A verification of the electronic data deliverable (EDD) results was performed by comparison to the laboratory data package. All sample results and 10% of the QC results were verified.

SDGs 1596108 and 1600626: Results for the Tentatively Identified Compounds (TICs) were included in the pdf laboratory report but not in the EDD. The laboratory was contacted and resubmitted the EDDs with the TIC results.

Sample Receipt, Preservation, and Holding Times

The chain-of-custody (COC) record from field to laboratory was complete, and custody was maintained as evidenced by field and laboratory personnel signatures, dates, and times of receipt.

Sample identification (ID) numbers listed on COC record are consistent with the sample ID reported in the laboratory electronic data deliverable (EDD) and hardcopy data package.

SDG 1596108: For Sample SVMP-03, the canister vacuum pressures upon receipt at the laboratory indicated insufficient sample volume was collected. All results for this sample were estimated (J/UJ-1).

Field Blanks

No field blanks were collected for this parameter for the Phase II Soil Vapor sampling.

Field Duplicates

For air samples, the RPD control limit is 30% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and replicate must be less than the RL. No qualifiers were applied based on field duplicate precision outliers. Data users should take field precision into account when interpreting sample data.

SDG 1600626: The data for one set of field duplicates were submitted: SVMP-04R and SVMP-04R DUP. Please note that Sample SVMP-04R DUP was analyzed neat and at dilution (10x), while the parent sample was analyzed only at dilution (10x). The field duplicate outliers are noted in the following table. No qualifiers were applied based on field duplicate precision outliers. Data users should take field precision into account when interpreting sample data.

ANALYTE	RPD (%)	DIFFERENCE
Ethylbenzene	82	93
Tetrachloroethene	47	80

Compound Identification

All SDGs: The analyses indicated the presence of tentatively identified compounds (TIC). These results were estimated (NJ-4) because calibrations were not performed for these compounds and the identity of the compounds is tentative and the associated concentrations are approximations.

No anomalies were noted during validation for compound identification.

Reporting Limits

All SDGs: Reporting limits (RLs) were elevated due to interferences in this sample matrix and/or dilution.

Reported Results

No anomalies were noted during validation for evaluated results.

Calculation Verification (Full Level Validation Only)

SDG 1596108: Several results were verified by recalculation from the raw data. No calculation or transcription errors were found.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable as demonstrated by the LCS/LCSD percent recovery values and precision was acceptable as demonstrated by the LCS/LCSD and field duplicate RPD values.

Results were estimated because the initial canister vacuum was outside acceptance limits. Additionally, TICs were estimated because these results were not quantitated based on an analyte-specific calibration and are tentatively identified.

All data, as qualified, are acceptable for use.

Table 1: Sample Index

SDG	Group	Sample ID	Laboratory ID
SSX07	1596108	SVMP-05	8065068
SSX07	1596108	SVMP-03	8065067
SSX23	1600626	SVMP-08	8087710
SSX23	1600626	SVMP-07	8087711
SSX23	1600626	SVMP-04R	8087712
SSX23	1600626	SVMP-04R DUP	8087713
SSX23	1600626	SVMP-02R	8087714
SSX23	1600626	SVMP-01R	8087715
SSX23	1600626	SVMP-09	8087716
SSX26	1601009	SVMP-06R	8089423

Table 2: Data Validation Qualifier Codes - Based on National Functional Guidelines

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents the approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

The following is an EcoChem qualifier that may also be assigned during the data review process:

DNR	Do not report; a more appropriate result is reported from another analysis or dilution.
M	The record in the electronic data deliverable (EDD) was manually entered or updated during data validation.

TABLE 3: Data Qualifier Reason Codes

Group	Code	Reason for Qualification
Sample Handling	1	Improper Sample Handling or Sample Preservation (i.e., headspace, cooler temperature, pH, summa canister pressure); Exceeded Holding Times
Instrument Performance	24	Instrument Performance (i.e., tune, resolution, retention time window, endrin breakdown, lock-mass)
	5A	Initial Calibration (RF, %RSD, r ²)
	5B	Calibration Verification (CCV, CCAL; RF, %D, %R) Use bias flags (H,L) ¹ where appropriate
	5C	Initial Calibration Verification (ICV %D, %R) Use bias flags (H,L) ¹ where appropriate
Blank Contamination	6	Field Blank Contamination (Equipment Rinsate, Trip Blank, etc.)
	7	Lab Blank Contamination (i.e., method blank, instrument blank, etc.) Use low bias flag (L) ¹ for negative instrument blanks
Precision and Accuracy	8	Matrix Spike (MS and/or MSD) Recoveries Use bias flags (H,L) ¹ where appropriate
	9	Precision (all replicates: LCS/LCSD, MS/MSD, Lab Replicate, Field Replicate)
	10	Laboratory Control Sample Recoveries (a.k.a. Blank Spikes) Use bias flags (H,L) ¹ where appropriate
	12	Reference Material Use bias flags (H,L) ¹ where appropriate
	13	Surrogate Spike Recoveries (a.k.a. labeled compounds, recovery standards) Use bias flags (H,L) ¹ where appropriate
Interferences	16	ICP/ICP-MS Serial Dilution Percent Difference
	17	ICP/ICP-MS Interference Check Standard Recovery Use bias flags (H,L) ¹ where appropriate
	19	Internal Standard Performance (i.e., area, retention time, recovery)
	22	Elevated Detection Limit due to Interference (i.e., chemical and/or matrix)
	23	Bias from Matrix Interference (i.e. diphenyl ether, PCB/pesticides)
Identification and Quantitation	2	Chromatographic pattern in sample does not match pattern of calibration standard
	3	2 nd column confirmation (RPD or %D)
	4	Tentatively Identified Compound (TIC) (associated with NJ only)
	20	Calibration Range or Linear Range Exceeded
	25	Compound Identification (i.e., ion ratio, retention time, relative abundance, etc.)
Miscellaneous	11	A more appropriate result is reported (multiple reported analyses i.e., dilutions, re-extractions, etc. Associated with "R" and "DNR" only)
	14	Other (See DV report for details)
	26	Method QC information not provided

¹H = high bias indicated

L = low bias indicated

Table 4: Qualified Data Summary Table

SDG	Group	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Flag	Validation Qualifier	Validation Reason
SSX23	1600626	SVMP-08	8087710	TO15	Unknown_01	1	ppbv	J	NJ	4
SSX23	1600626	SVMP-08	8087710	TO15	Octamethyltetrasiloxane	1	ppbv	J	NJ	4
SSX23	1600626	SVMP-08	8087710	TO15	Total VOC TICs	3	ppbv	J	NJ	4
SSX23	1600626	SVMP-07	8087711	TO15	Unknown_01	150	ppbv	J	NJ	4
SSX23	1600626	SVMP-07	8087711	TO15	Unknown_07	5	ppbv	J	NJ	4
SSX23	1600626	SVMP-07	8087711	TO15	Unknown_02	35	ppbv	J	NJ	4
SSX23	1600626	SVMP-07	8087711	TO15	Unknown_03	14	ppbv	J	NJ	4
SSX23	1600626	SVMP-07	8087711	TO15	Isobutane	19	ppbv	J	NJ	4
SSX23	1600626	SVMP-07	8087711	TO15	Isobutane	13	ppbv	J	NJ	4
SSX23	1600626	SVMP-07	8087711	TO15	Unknown_08	4	ppbv	J	NJ	4
SSX23	1600626	SVMP-07	8087711	TO15	Unknown_05	10	ppbv	J	NJ	4
SSX23	1600626	SVMP-07	8087711	TO15	Unknown_04	14	ppbv	J	NJ	4
SSX23	1600626	SVMP-07	8087711	TO15	Unknown_06	10	ppbv	J	NJ	4
SSX23	1600626	SVMP-07	8087711	TO15	2-Methylbutane	12	ppbv	J	NJ	4
SSX23	1600626	SVMP-07	8087711	TO15	Hexamethylcyclotrisiloxane	3	ppbv	J	NJ	4
SSX23	1600626	SVMP-07	8087711	TO15	Total VOC TICs	290	ppbv	J	NJ	4
SSX23	1600626	SVMP-04R	8087712	TO15	Butane	10	ppbv	J	NJ	4
SSX23	1600626	SVMP-04R	8087712	TO15	Total VOC TICs	10	ppbv	J	NJ	4
SSX23	1600626	SVMP-04R DUP	8087713	TO15	Norflurane	5	ppbv	J	NJ	4
SSX23	1600626	SVMP-04R DUP	8087713	TO15	Butane	3	ppbv	J	NJ	4
SSX23	1600626	SVMP-04R DUP	8087713	TO15	Acetaldehyde	3	ppbv	J	NJ	4
SSX23	1600626	SVMP-04R DUP	8087713	TO15	Unknown Siloxane_01	13	ppbv	J	NJ	4
SSX23	1600626	SVMP-04R DUP	8087713	TO15	Unknown Siloxane_02	4	ppbv	J	NJ	4
SSX23	1600626	SVMP-04R DUP	8087713	TO15	Unknown Siloxane_03	2	ppbv	J	NJ	4
SSX23	1600626	SVMP-04R DUP	8087713	TO15	Total VOC TICs	29	ppbv	J	NJ	4

Table 4: Qualified Data Summary Table

SDG	Group	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Flag	Validation Qualifier	Validation Reason
SSX23	1600626	SVMP-02R	8087714	TO15	Norflurane	4	ppbv	J	NJ	4
SSX23	1600626	SVMP-02R	8087714	TO15	1,1-Difluoroethane	2	ppbv	J	NJ	4
SSX23	1600626	SVMP-02R	8087714	TO15	Butane	3	ppbv	J	NJ	4
SSX23	1600626	SVMP-02R	8087714	TO15	Acetaldehyde	3	ppbv	J	NJ	4
SSX23	1600626	SVMP-02R	8087714	TO15	Naphthalene	1	ppbv	J	NJ	4
SSX23	1600626	SVMP-02R	8087714	TO15	Total VOC TICs	12	ppbv	J	NJ	4
SSX23	1600626	SVMP-01R	8087715	TO15	Norflurane	2	ppbv	J	NJ	4
SSX23	1600626	SVMP-01R	8087715	TO15	Butane	2	ppbv	J	NJ	4
SSX23	1600626	SVMP-01R	8087715	TO15	Acetaldehyde	2	ppbv	J	NJ	4
SSX23	1600626	SVMP-01R	8087715	TO15	Total VOC TICs	5	ppbv	J	NJ	4
SSX23	1600626	SVMP-09	8087716	TO15	Hexafluoropropene	300	ppbv	J	NJ	4
SSX23	1600626	SVMP-09	8087716	TO15	Unknown_01	67	ppbv	J	NJ	4
SSX23	1600626	SVMP-09	8087716	TO15	Unknown_02	23	ppbv	J	NJ	4
SSX23	1600626	SVMP-09	8087716	TO15	Unknown_04	12	ppbv	J	NJ	4
SSX23	1600626	SVMP-09	8087716	TO15	Butane	20	ppbv	J	NJ	4
SSX23	1600626	SVMP-09	8087716	TO15	Unknown_03	17	ppbv	J	NJ	4
SSX23	1600626	SVMP-09	8087716	TO15	2-Methylbutane	6	ppbv	J	NJ	4
SSX23	1600626	SVMP-09	8087716	TO15	Unknown_05	2	ppbv	J	NJ	4
SSX23	1600626	SVMP-09	8087716	TO15	Tetrahydro-2-methylfuran	1	ppbv	J	NJ	4
SSX23	1600626	SVMP-09	8087716	TO15	Unknown_06	1	ppbv	J	NJ	4
SSX23	1600626	SVMP-09	8087716	TO15	1-Hexene	3	ppbv	J	NJ	4
SSX23	1600626	SVMP-09	8087716	TO15	Total VOC TICs	460	ppbv	J	NJ	4
SSX26	1601009	SVMP-06R	8089423	TO15	Isobutane	55	ppbv	J	NJ	4
SSX26	1601009	SVMP-06R	8089423	TO15	2-Methylbutane	220	ppbv	J	NJ	4
SSX26	1601009	SVMP-06R	8089423	TO15	Unknown_01	38	ppbv	J	NJ	4

Table 4: Qualified Data Summary Table

SDG	Group	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Flag	Validation Qualifier	Validation Reason
SSX26	1601009	SVMP-06R	8089423	TO15	2-Methylpentane	80	ppbv	J	NJ	4
SSX26	1601009	SVMP-06R	8089423	TO15	Methylcyclopentane	44	ppbv	J	NJ	4
SSX26	1601009	SVMP-06R	8089423	TO15	3-Methylhexane	30	ppbv	J	NJ	4
SSX26	1601009	SVMP-06R	8089423	TO15	Unknown Alkane_04	19	ppbv	J	NJ	4
SSX26	1601009	SVMP-06R	8089423	TO15	Unknown Alkane_01	29	ppbv	J	NJ	4
SSX26	1601009	SVMP-06R	8089423	TO15	Unknown Alkane_02	20	ppbv	J	NJ	4
SSX26	1601009	SVMP-06R	8089423	TO15	Unknown Alkane_03	20	ppbv	J	NJ	4
SSX26	1601009	SVMP-06R	8089423	TO15	Unknown_02	16	ppbv	J	NJ	4
SSX26	1601009	SVMP-06R	8089423	TO15	Unknown Alkane_05	17	ppbv	J	NJ	4
SSX26	1601009	SVMP-06R	8089423	TO15	p-Bromofluorobenzene	140	ppbv	J	NJ	4
SSX26	1601009	SVMP-06R	8089423	TO15	Total VOC TICs	720	ppbv	J	NJ	4
SSX07	1596108	SVMP-03	8065068	TO15	Octane	14	ug/m3		J	1
SSX07	1596108	SVMP-03	8065068	TO15	trans-1,3-Dichloropropene		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	1,1,2-Trichloroethane		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	Tetrachloroethene	7.9	ug/m3	J	J	1
SSX07	1596108	SVMP-03	8065068	TO15	2-Hexanone		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	Dibromochloromethane		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	1,2-Dibromoethane	3.7	ug/m3	J	J	1
SSX07	1596108	SVMP-03	8065068	TO15	Chlorobenzene	1.9	ug/m3	J	J	1
SSX07	1596108	SVMP-03	8065068	TO15	1,1,1,2-Tetrachloroethane		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	Ethylbenzene	52	ug/m3		J	1
SSX07	1596108	SVMP-03	8065068	TO15	m/p-Xylene	120	ug/m3		J	1
SSX07	1596108	SVMP-03	8065068	TO15	o-Xylene	80	ug/m3		J	1
SSX07	1596108	SVMP-03	8065068	TO15	Styrene		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	Bromoform	4.8	ug/m3	J	J	1

Table 4: Qualified Data Summary Table

SDG	Group	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Flag	Validation Qualifier	Validation Reason
SSX07	1596108	SVMP-03	8065068	TO15	Cumene	4.9	ug/m3	J	J	1
SSX07	1596108	SVMP-03	8065068	TO15	1,1,2,2-Tetrachloroethane		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	1,2,3-Trichloropropane	3.4	ug/m3	J	J	1
SSX07	1596108	SVMP-03	8065068	TO15	Bromobenzene		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	4-Ethyltoluene	10	ug/m3		J	1
SSX07	1596108	SVMP-03	8065068	TO15	1,3,5-Trimethylbenzene	22	ug/m3		J	1
SSX07	1596108	SVMP-03	8065068	TO15	1,2,4-Trimethylbenzene	17	ug/m3		J	1
SSX07	1596108	SVMP-03	8065068	TO15	1,3-Dichlorobenzene	5.4	ug/m3	J	J	1
SSX07	1596108	SVMP-03	8065068	TO15	1,4-Dichlorobenzene	6.3	ug/m3	J	J	1
SSX07	1596108	SVMP-03	8065068	TO15	1,2-Dichlorobenzene	5.9	ug/m3	J	J	1
SSX07	1596108	SVMP-03	8065068	TO15	Hexachloroethane		ug/m3	U	UJ	1
SSX07	1596108	SVMP-05	8065067	TO15	Unknown Alkene_01	3000	ppbv	J	NJ	4
SSX07	1596108	SVMP-05	8065067	TO15	Total VOC TICs	3000	ppbv	J	NJ	4
SSX07	1596108	SVMP-03	8065068	TO15	Propane	91	ppbv	J	NJ	1,4
SSX07	1596108	SVMP-03	8065068	TO15	2-Methyl-1-propene	120	ppbv	J	NJ	1,4
SSX07	1596108	SVMP-03	8065068	TO15	Unknown_03	43	ppbv	J	NJ	1,4
SSX07	1596108	SVMP-03	8065068	TO15	Unknown_01	54	ppbv	J	NJ	1,4
SSX07	1596108	SVMP-03	8065068	TO15	Propylcyclohexane	23	ppbv	J	NJ	1,4
SSX07	1596108	SVMP-03	8065068	TO15	Unknown_02	45	ppbv	J	NJ	1,4
SSX07	1596108	SVMP-03	8065068	TO15	Unknown_08	22	ppbv	J	NJ	1,4
SSX07	1596108	SVMP-03	8065068	TO15	Unknown Alkane_01	36	ppbv	J	NJ	1,4
SSX07	1596108	SVMP-03	8065068	TO15	Unknown Organic Acid_01	21	ppbv	J	NJ	1,4
SSX07	1596108	SVMP-03	8065068	TO15	Unknown Alkane_02	22	ppbv	J	NJ	1,4
SSX07	1596108	SVMP-03	8065068	TO15	D-Limonene	200	ppbv	J	NJ	1,4
SSX07	1596108	SVMP-03	8065068	TO15	Unknown_09	22	ppbv	J	NJ	1,4

Table 4: Qualified Data Summary Table

SDG	Group	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Flag	Validation Qualifier	Validation Reason
SSX07	1596108	SVMP-03	8065068	TO15	Unknown Alkane_03	22	ppbv	J	NJ	1,4
SSX07	1596108	SVMP-03	8065068	TO15	Unknown_10	22	ppbv	J	NJ	1,4
SSX07	1596108	SVMP-03	8065068	TO15	Unknown_05	28	ppbv	J	NJ	1,4
SSX07	1596108	SVMP-03	8065068	TO15	Unknown_04	33	ppbv	J	NJ	1,4
SSX07	1596108	SVMP-03	8065068	TO15	Unknown_07	24	ppbv	J	NJ	1,4
SSX07	1596108	SVMP-03	8065068	TO15	Unknown_06	26	ppbv	J	NJ	1,4
SSX07	1596108	SVMP-03	8065068	TO15	Total VOC TICs	850	ppbv	J	NJ	1,4
SSX07	1596108	SVMP-03	8065068	TO15	Dichlorodifluoromethane		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	Chlorodifluoromethane		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	Freon 114		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	Chloromethane		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	Vinyl Chloride		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	1,3-Butadiene		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	Bromomethane		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	Chloroethane		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	Dichlorofluoromethane		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	Trichlorofluoromethane		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	Pentane	97	ug/m3		J	1
SSX07	1596108	SVMP-03	8065068	TO15	1,1-Dichloroethene	6.1	ug/m3	J	J	1
SSX07	1596108	SVMP-03	8065068	TO15	Freon 113		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	Acetone	48	ug/m3		J	1
SSX07	1596108	SVMP-03	8065068	TO15	Carbon Disulfide	15	ug/m3		J	1
SSX07	1596108	SVMP-03	8065068	TO15	3-Chloropropene		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	Methylene Chloride		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	trans-1,2-Dichloroethene	19	ug/m3		J	1

Table 4: Qualified Data Summary Table

SDG	Group	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Laboratory Flag	Validation Qualifier	Validation Reason
SSX07	1596108	SVMP-03	8065068	TO15	Methyl t-Butyl Ether	25	ug/m3		J	1
SSX07	1596108	SVMP-03	8065068	TO15	Hexane	6.3	ug/m3	J	J	1
SSX07	1596108	SVMP-03	8065068	TO15	1,1-Dichloroethane		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	cis-1,2-Dichloroethene	520	ug/m3		J	1
SSX07	1596108	SVMP-03	8065068	TO15	2-Butanone	12	ug/m3		J	1
SSX07	1596108	SVMP-03	8065068	TO15	Chloroform		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	1,1,1-Trichloroethane		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	Carbon Tetrachloride		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	1,2-Dichloroethane		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	Benzene	64	ug/m3		J	1
SSX07	1596108	SVMP-03	8065068	TO15	Isooctane	5.8	ug/m3	J	J	1
SSX07	1596108	SVMP-03	8065068	TO15	Heptane	2.6	ug/m3	J	J	1
SSX07	1596108	SVMP-03	8065068	TO15	Trichloroethene	230	ug/m3		J	1
SSX07	1596108	SVMP-03	8065068	TO15	1,2-Dichloropropane	8.2	ug/m3	J	J	1
SSX07	1596108	SVMP-03	8065068	TO15	Dibromomethane		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	Bromodichloromethane		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	cis-1,3-Dichloropropene		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	4-Methyl-2-pentanone		ug/m3	U	UJ	1
SSX07	1596108	SVMP-03	8065068	TO15	Toluene	110	ug/m3		J	1

Table 5: Number of Qualifiers by QC Element and Test

Test	Total # Data Points Reported for Method	Holding Times				ICAL/CCAL				Accuracy			
		# Data Points Estimated (J/UJ)	%	# Data Points Rejected (R)	%	# Data Points Estimated (J/UJ)	%	# Data Points Rejected (R)	%	# Data Points Estimated (J/UJ)	%	# Data Points Rejected (R)	%
VOC (TO-15)	702	81	11.5	0	0	0	0	0	0	0	0	0	0
TOTALS	702	81	11.5	0	0	0	0	0	0	0	0	0	0

Test	Total # Data Points Reported for Method	Precision				Internal Standards (GCMS & ICP-MS Only)				Serial Dilution (Metals Only)			
		# Data Points Estimated (J/UJ)	%	# Data Points Rejected (R)	%	# Data Points Estimated (J/UJ)	%	# Data Points Rejected (R)	%	# Data Points Estimated (J/UJ)	%	# Data Points Rejected (R)	%
VOC (TO-15)	702	0	0	0	0	0	0	0	0	NA		NA	
TOTALS	702	0	0	0	0	0	0	0	0	NA	0	NA	0

0

Test	Total # Data Points Reported for Method	Blank Contamination		Negative Blank Contamination		Other	
		# Data Points Qualified (U/UJ)	%	# Data Points Estimated (J/UJ)	%	# Data Points Estimated (J/UJ/NJ)	%
VOC (TO-15)	702	0	0	NA		82	11.7
TOTALS	702	0	0	NA	0	82	11.7

0

This summary is for Stage 2 field samples and field duplicate samples only. Lab QC samples are not included.



ATTACHMENT A

CRITERIA TABLES

Volatile Organics in Air by GCMS and GCMS-SIM, Method TO-15

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	SUMMA Canister - no preservation requirements				
SUMMA Canister Pressure	Pressure of Canister upon receipt at lab should be between 5-10 inches of Hg or greater of vacuum	Method ^{1,2}	If vacuum is > 8 inch Hg or < 1 inch Hg, note in report.	1	Professional judgment
Holding Time	30 days from collection to analysis	Method ¹	J(pos)/UJ(ND) if HT exceeded J(pos)/R(ND) if gross exceedance (> 2X HT)	1	Gross exceedance = > 2X HT, as per 1999 NFG
Instrument Performance					
Tuning	BFB Beginning of each 24 hour period Use method acceptance criteria (Table 3)	Method ¹	R(pos/ND) all analytes in all samples associated with the tune	5A	every 24 hours or every 20 samples (Section 10.4.2 of method) TM-06 EcoChem Policy for the Evaluation and Qualification of GCMS Instrument Performance
Initial Calibration (Minimum 5 stds.) Sensitivity	RRF \geq 0.05 Note: not discussed in method. Default to NFG criteria.	NFG ³	J(pos)/R(ND) if RRF/RF is less than criterion		
Initial Calibration (Minimum 5 stds.) Stability	%RSD \leq 30% with up to 2 compounds max 40%; OR Linear $r \geq 0.995$ or $r^2 \geq 0.990$ (6 points must be used) (NFG optional criteria)	Method ¹ NFG ³	J(pos) if %RSD > 30% OR r/r2-value < 0.995 (or 0.990)		
Initial Calibration Verification (ICV) Stability	Not required by method. Standard from independent source Analyzed immediately after ICAL If analyzed, use lab or QAPP limits		J(pos) if high bias J(pos)/UJ(ND) if low bias J(pos)/R(ND) if significant low bias		
Continuing Calibration (Prior to each 24 hr. shift) Sensitivity	RRF \geq 0.05 Note: not discussed in method. Default to NFG criteria.	NFG ³	J(pos)/R(ND) if RRF/RF is less than criterion	5B	
Continuing Calibration (Prior to each 24 hr. shift) Stability	%Drift \leq 30%	Method ¹	If > +/- 70%: J(pos)/R(ND) If -69% to -31%: J(pos) (high bias) If 31% to 69%: J(pos)/UJ(ND) (low bias)	5B (H,L) ⁴	

Volatile Organics in Air by GCMS and GCMS-SIM, Method TO-15

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Blank Contamination					
Method Blank (MB)	MB: One per batch of (of ≤ 20 samples) No detected compounds > MDL	Method ¹ NFG ³	U(pos) if result is < 5X or 10X action level, as per analyte.	7	10X action level for methylene chloride, acetone, & 2-butanone. 5X for all other target analytes Hierarchy of blank review: #1 - Review MB, qualify as needed #2 - Review FB, qualify as needed
	No TICs present		R(pos) TICs using 10X rule		
Field Blank (FB)	FB: frequency as per QAPP No detected compounds > MDL	Method ¹ NFG ³	U(pos) if result is < 5X or 10X action level, as per analyte.	6	
Precision and Accuracy					
LCS	One per lab batch (of ≤ 20 samples) Note: not discussed in method. Default to lab or QAPP limits.	NFG ³	Qualify all associated samples J(pos) if %R > UCL - high bias J(pos)/UJ(ND) if both %R < LCL - low bias J(pos)/R(ND) if both %R < 10% - very low bias J(pos)/UJ(ND) if one > UCL & one < LCL, with no bias	10 (H,L) ⁴	No action if only one spike %R is outside criteria, when LCSD is analyzed. Qualify all associated samples.
LCS/LCSD (RPD)	if analyzed RPD $\leq 30\%$	NFG ³	J(pos) assoc. compd. in all samples	9	Qualify all associated samples.
Surrogates	Note: not discussed in method. Default to lab or QAPP limits.	NFG ³	J(pos) if %R > UCL - high bias J(pos)/UJ(ND) if %R < LCL - low bias J(pos)/R(ND) if < 10% - very low bias	13 (H,L) ⁴	Note: No action if there are 4+ surrogates and only 1 outlier.
Internal Standards	Added to all samples Acceptable Range: IS area $\pm 40\%$ of CCAL area RT within 20 seconds of mean RT over ICAL range RT within 0.33 minutes of CC RT	Method ¹ NFG ³	J(pos) if > 140% J(pos)/UJ(ND) if < 60% J(pos)/R(ND) if < 25% RT > 0.33 mins, narrate and notify PM	19	
Field Duplicates	RPD $\leq 25\%$ OR difference < 1X RL (for results < 5X RL)	Method ¹ EcoChem standard policy	Narrate and qualify if required by project (EcoChem PJ) Qualify only field duplicate samples J(pos)/UJ(ND)	9	
Compound ID and Calculation					
Quantitation/ Identification	RRT within 0.06 of standard RRT Ion relative intensity within 20% of standard All ions in std. at > 10% intensity must be present in sample	Method ¹ NFG ³	See Technical Director if outliers are found	14 25 (false pos)	
TICs	Major ions (>10%) in reference must be present in sample; intensities agree within 20%; check identification	Method ¹ NFG ³	NJ the TIC unless: R(pos) common laboratory contaminants See Technical Director for ID issues	4	Common laboratory contaminants: aldol condensation products, solvent preservatives, and reagent contaminants
Calibration Range	Results exceed the upper calibration range	EcoChem standard policy	Qualify J(pos)	20	If result from dilution analysis is not reported.
Calculation Check	Check 10% of field & QC sample results	EcoChem standard policy	Contact laboratory for resolution and/or corrective action	na	Full data validation only.

Volatile Organics in Air by GCMS and GCMS-SIM, Method TO-15

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Electronic Data Deliverable (EDD)					
Verification of EDD to hardcopy data	EcoChem verify @ 10% unless problems noted; then increase level up to 100% for next several packages.	EcoChem standard policy	Depending on scope of problem, correct at EcoChem (minor issues) to resubmittal by laboratory (major issues).	na	EcoChem Project Manager and/or Database Administrator will work with lab to provide long-term corrective action.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	TM-04 Rev. 1 EcoChem Policy for Rejection/Selection Process for Multiple Results

(pos): Positive Result(s)
 (ND): Non-detects

- ¹ Compendium Method TO-15, Determination of Volatile Organic Compounds (VOCs) in Air Collected In Specially-Prepared Canisters And Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), Second Edition, January 1999. EPA/625/R-96/010b
- ¹ Supplement to EPA Compendium Method TO-15. Reduction of Method Detection Limits to Meet Vapor Intrusion Monitoring Needs. E.H. Daughtrey Jr., K.D. Oliver, H.H. Jacumin Jr., and W.A. McClenny, 2/18/2009.
- ¹ ASTM D1945 - 03 Standard Test Method for Analysis of Natural Gas by Gas Chromatography. January 1, 2010.
- ² Air Toxics Ltd: Guide to Air Sampling and Analysis
- ³ National Functional Guidelines for Organic Data Review, June, 2008
- ⁴ "H" = high bias indicated; "L" = low bias indicated

APPENDIX E

Appendix E

Field Notes

Soil vapor samples were collected during the same mobilization as Stage III and IV soil and groundwater sampling (September to October, 2015). Consequently, notes on the vapor sampling are interspersed with notes on collection of other samples. For ease of reference, the attached field book copies have been modified so that only notes on the collection of soil vapor samples are visible.

Location BFC Date 10/10/15
 Project / Client SSP-1428

10:25 @ SVMP-01R

PID out of SUMP tube = 0.2 ppm
 Bkg = 0.1 ppm

Summa lab # 1014

Serial # 5242

catalog # 24172

cleaned + evacuated: 9/15/15 ADS7818

certified file: di00224.cl

Regulator lab # 217753

Serial # W0114577

SN 7217753

92% He in shroud.

4.5% He in SUMP tube

11:31 Start sampling 1014

starting pressure - 27.5 inHg

11:35 stop sampling

final pressure - 2 inHg

Location BFC Date 10/10/15
 Project / Client SSP-1428

2% He in SUMP tube

74% He in shroud.

PID out of SUMP tube = 0.1 ppm

Bkg = 0.1 ppm

Location BFC Date 10/10/15

Project / Client SSP-1428

11:52 @ SJMP-02R

PID out of SJMP tube = 0.7 ppm
(max)

Bkg = 0.1 ppm

Summa lab #: 985

serial #: illegible

Catalog #: illegible

direct + evaluated: 9/10/2015

ADS 7818

certified file: ci00175.d

Regulator lab # 236751

serial # W0119084

SN 7236751

Location BFC Date 10/10/15
Project / Client SSP-1428

12:32 Started sampling
Starting pressure = -28 in Hg

12:37 stop sampling
final pressure = -2 in Hg.

5300 ppm He out of SUMP tube.
62% He in shroud.

PID out of SUMP tube = 0.1 ppm
BKJ = 0.1 ppm

Location BFC Date 9/19/15Project / Client SSP-1428

SUMMA lab number: 1165

Summa serial #: A9052

Flow valve regulator ^{lab} # : 337691Flow valve regulator
serial #: 153851

8337691

14:00 : Begin sampling SUMP-03

Pressure = 29 inHg

lab = 29.91 inHg

certified file #: ci00179.d

14:10 : Pressure = 26 inHg

14:31 : Pressure = 24 inHg

15:02 : Pressure = 23.3 inHg

15:28 : Pressure = 23.00 inHg

16:18 : Pressure = ~~slightly less than 23~~
22.6 inHg ^{AZ 9/19/15} inHg.Location BFC Date 9/19/15Project / Client SSP-1428

16:58 Pressure = 22.3 inHg

17:00 Pressure remains the same

17:07 Removed summa, pressure valve remained 22.3 inHg

17:08 He in chamber = 28.6%

He out of SUMP tube
once summa was
removed = 0 ppm

SAMPLE COLLECTED

17:45 OmniK + Alexa
leaving site.

Location BFC Date 10/10/15Project / Client SSP-1428

7:00 OS&AZ on site LM&MS on site

8:45 SVMP-04R sampling

PID = 2.4 ppm

summas (2) for duplicate.

1) Summa lab # 1058 ADS7818
 serial # 5253 ci00178.d
 catalog # 24172 Certified
 file

Regulator lab # 204636
 serial # W0110419
 SN 7204636

2) Summa lab # 1167 ADS7818
 serial # A9651 ci00176.d
 catalog # 22105 Certified
 file

Regulator lab # 415304
 serial # A0241530-4
 H/L 570523

Location BFC Date 10/10/15Project / Client SSP-1428

Reached 92% saturation helium
~~read~~ helium <10% out of SVMP
~~summa~~ tube

9:41 opened both summas
 (1058 + 1167)
 starting pressure = 29 inHg
 for both.

9:47 stopped both summas
 final pressure:
 1058: -2.5 inHg
 1167: -2.0 inHg.

1167 He = 13,000 ppm from sump
 tube

~~1058 He =~~

showed He = 11%

Location BFC Date 9/16/15
 Project / Client SSP-1428

12:35 Moved to SUMP-05

12:48 PID out of SUMP line: 109.4 ppm
 dropped down to zero (0.0 ppm)

Location BFC Date 9/16/15
 Project / Client SSP-1428

Summa lab ID: 912

Summa serial #: ~~912~~ unreadable
 on sticker

Flow valve lab ID: 249935

Flow valve SN: 123642
 7249935

49.5% He in plastic bucket

13:09: 29 inHg measured
 29.91 inHg lab meas

13:09 Started collecting

13:30 22 inHg

13:47 While summa is filling,
 we received peristaltic pump,
 and are seeing how long it
 takes to fill up one tedlar
 bag from SUMP-06

13:49 SUMP-05 at 18 inHg

Location BFC Date 9/16/15 17
Project / Client SSP - 1428

15:44 Turned off SUMP-05
Summa
Final pressure at 5.0 inHg

Location BFC Date 10/14/15
 Project / Client SSP 1428

7:00 OS & AZ on site

Demob & organize storage

9:00 Pick up SUMMA from FEDEX
 Calibrate PID

9:30 Ser # U6133X

Zero = 0.0

Iso 100 = 100 ppm

SVMP-06R

9:40 PID at Probe 23.4 ppm

Summa lab #: 9194

Serial #: 1801

catalog #: 24170

Regulator lab #: 242153

Serial #: 345458-0

H/L 550239

S/N 7342158

summa cleaned + evacuated.

10/13/15 ADS 7818

Certified file:

cj00051.cl

Location BFC Date 10/14/15
 Project / Client SSP-1428

Lab evaluation Pressure:
 29.91 in Hg

Reached 99.3% He

in shroud

↳ 0% He in sump tube
 no leaks

10:12 started sampling

-28.7 in Hg

↑ starting pressure

11:47 stop sampling

pressure 2 in Hg

0% He in SVMP probe
 at the end

12:00 Leave SVMP-06R

lab
Summa # 1011

Serial number = #5226

lab regulator # : 336825
serial # : 15833
7336925

He in chamber = 89.9%

14:10 He out of SVMP tube = 50 ppm

14:11 Second measurement = 0 ppm

14:13 start sampling.

Starting pressure = 23.5 in Hg

14:23 stop sampling

stop pressure = 2 in Hg

He in SVMP tube = 0%
in chamber > 20%

13:55

@ SVMP-07

Pumped with peristaltic - no
water.

Location _____ Date 10/9/15⁵⁵

Project / Client _____



* 9:30 at SVMP-08
no water in the tubing.
Set up the chamber
Summa #1019 Ser# 5238
Flow 314041
Evacuation Pressure 29.91 in Hg
Certified file # 00180d
cleaned & Evacuated
9/10/2015 ADS 7818
Helium saturation up to 90%
No Detection from SVMP Probe

Location BFC Date 10/9/15
Project / Client SSP-1428

start Summa @ 10:44
Start Pressure -28 in Hg.

@ Stop time 10:50
Stop Pressure -2 in Hg.

He detected in ^{SUMP tube} ~~port~~ 9,250 ppm
after shut down

He = 51% in the chamber

11:10 Leave the site. SUMP-08

64 Location BFC Date 10/12/15
Project / Client SSP-1428

9:20 SUMP-09

Summa 988 Serial #1678

Flow gage 336746

Cleaned - 10/8/2015 AD57818

Pressure - 29.91 in Hg.

Some water in the hole

In chamber He 98%

From Probe He = 0%

Start 10:11:10

pressure - 29 in Hg

10:16 - 25 in Hg

10:19 - 23 in Hg

10:36 - 13 in Hg

10:50 - 7 in Hg

11:00 - 5 in Hg

Stop 11:15:10 - 2 in Hg

He in probe 50 ppm in chamber 58%