MACTEC

July 8, 2005

PN 3618058008

Mr. Wes LaParl
Technical BRAC Environmental Coordinator
Stratford Army Engine Plant
550 Main Street
Stratford, CT 06615

SUBJECT: Supplemental RI Soil Vapor Monitoring Data
June 2005 Monitoring Round
Stratford Army Engine Plant
Stratford, Connecticut

Dear Mr. LaParl:

The purpose of this technical memorandum is to summarize results of the June 2005 Soil Vapor Monitoring Round conducted at the Stratford Army Engine Plant (SAEP) by MACTEC Engineering and Consulting, Inc. (MACTEC) on June 1, 2005.

REPAIR OF PERMANENT SOIL VAPOR MONITORING POINTS

During the period of May 31 through June 1, 2005, one permanent soil vapor probe, SVM-04-58 was repaired in the parking lot adjacent to building B-19. The location of the ~~location of the~~ repaired soil vapor probe can be found on Figure 1.

Permanent soil vapor monitoring point, SVM-04-73 in building B-16, appears to have been ~~run over~~ by a facility maintenance vehicle. The protective PVC casing was bent over and crimped and the screen appears to have been pulled up out of the drilled location. Therefore, this point was not sampled during the June 2005 monitoring event.

SAMPLE COLLECTION AND ANALYSIS

Soil vapor samples were collected from 41 locations at SAEP on June 1, 2005. The locations of soil vapor monitoring points from which samples were collected are indicated on Figure 2.

At each vapor monitoring location, the flush mount protective casing was opened, and the LDPE tubing connected to the screen point was connected to a quick release, barbed fitting. Using a new section of LDPE tubing, a one-liter Tedlar® bag, labeled with the sample location was connected to the sampling tee located inside an SKC Vac-U-Chamber™. The sample valve on the Tedlar® bag was opened one full rotation counter-clockwise. The quick release fitting was introduced into the purge port of the Vac-U-Chamber™ and the cover closed. A Gillian™ brand or similar personal monitoring pump was connected to the exhaust port in the Vac-U-Chamber™. The monitoring pump was calibrated prior to draw 0.5 liters per minute (L/min.) of air. The pump was turned on and allowed to run for four minutes, effectively purging two liters of soil vapor from the sampling location. After four minutes, the quick release connection was transferred to the sample inlet port in the Vac-U-Chamber™ and the Tedlar® bag was observed through the viewing port until it was filled. Upon completion of filling, the pump was turned off. The release valve in the Vac-U-Chamber™ was opened to allow the chamber to equilibrate. The Vac-U-Chamber™ was opened

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and the Tedlar® bag sampling valve was closed. The Tedlar® bag was then removed and labeled with the location ID, date and time of sample collection, and the initials of the sampling personnel. Sampling information and observations were recorded in the field log book and on the chain-of-custody.

Since the holding time for chlorinated VOCs in a Tedlar® bag is only 3 days (see Table 6-1 of the QAPP), soil vapor samples were shipped to the analytical laboratory via overnight delivery on the day they were sampled. Samples were kept out of direct light to minimize the potential for loss, reaction, or degradation of VOCs.

A trip blank (TBK060105) was submitted with the Tedlar® bags. The trip blank was prepared by collecting an aliquot of outdoor ambient air from an upwind location. The trip blank collection process was performed using the Vac-U-Chamber™.

A duplicate sample was collected at a rate of 1 per 20 samples (see section 3.1.2.3 of the SAP). The duplicates were collected immediately after sampling the initial sample for that location. The collection process was the same as the initial soil vapor sample collection process.

Soil vapor samples were submitted to Air Toxics Ltd. in Folsom, California for analysis of vinyl chloride, 1,1-dichloroethene (1,1-DCE), 1,1,1-trichloroethane (1,1,1-TCA), trichlorothene (TCE), tetrachloroethene (PCE), cis-1,2-dichloroethene (cis-1,2-DCE), and trans-1,2-dichloroethene (trans-1,2-DCE) by modified USEPA method TO-15 (direct-inject) using gas chromatography/mass spectrometry. A syringe was used to remove an aliquot from the Tedlar® bag and was introduced into the injection port of the GC/MS via direct injection with the sample containing syringe. Data was received by MACTEC E&C on June 23, 2005, and has undergone data validation procedures, as presented in Attachment 2.

ANALYTICAL RESULTS

On March 20, 2003, the Connecticut Department of Environmental Protection (CTDEP) issued a memorandum indicating proposed changes in the Industrial/Commercial Soil Vapor Volatilization Criteria (I/C SV VC). The following Table presents the 1995 I/C SV VC and the proposed 2003 I/C SV VC.

Chemical of Concern	1995 I/C SV VC (ppmv)	Proposed 2003 I/C SV VC (ppmv)
1,1,1-TCA	4520	130
1,1-DCE	1	7
PCE	27	1
TCE	16	0.26
cis-1,2-DCE	NA	35
trans-1,2-DCE	NA	70
vinyl chloride	1	1

Notes: NA – None available

Concentrations of chlorinated volatile organic compounds (cVOCs) detected in this round of soil vapor monitoring have been compared to the proposed 2003 I/C SV VC. Analytical results

indicate concentrations of TCE exceed I/C SV VC at eight, and PCE exceed I/C SV VC at two, of the 41 monitoring locations (see Table 1). The following table summarizes the locations and concentrations of samples collected which had analyte concentrations exceeding the proposed 2003 I/C SV VC:

Location ID	Sample Location	TCE Conc. (ppmv)	PCE Conc. (ppmv)	Factor of Conc. Exceeding IATC (TCE/PCE)
SVM-04-34	Building B-3	0 49	2 0	1 9/2.0
SVM-04-36	Building B-3	0 44	1 9	1 7/1 9
SVM-04-38	Building B-3	1 8	NE	6 9/NE
SVM-04-39	Building B-3	0 27	NE	1 04/NE
SVM-04-40	Building B-3	0 83	NE	3 2/NE
SVM-04-48	Building B-3A	2 9	NE	11 2/NE
SVM-04-49	Building B-3A	0 62	NE	2 4/NE
SVM-04-74	Building B-16	1 3	NE	5 0/NE

Notes NE – No Exceedance

- ADD TIME RESULTS TABLE

A comparison of the June 2005 soil vapor monitoring data to March and September 2005 monitoring rounds will be conducted following the September 2005 monitoring event. - COMPLIANCE DETERMINATION

If you have any questions or issues concerning this memorandum, please contact me at (207) 775-5401.

Sincerely,

MACTEC Engineering and Consulting, Inc.

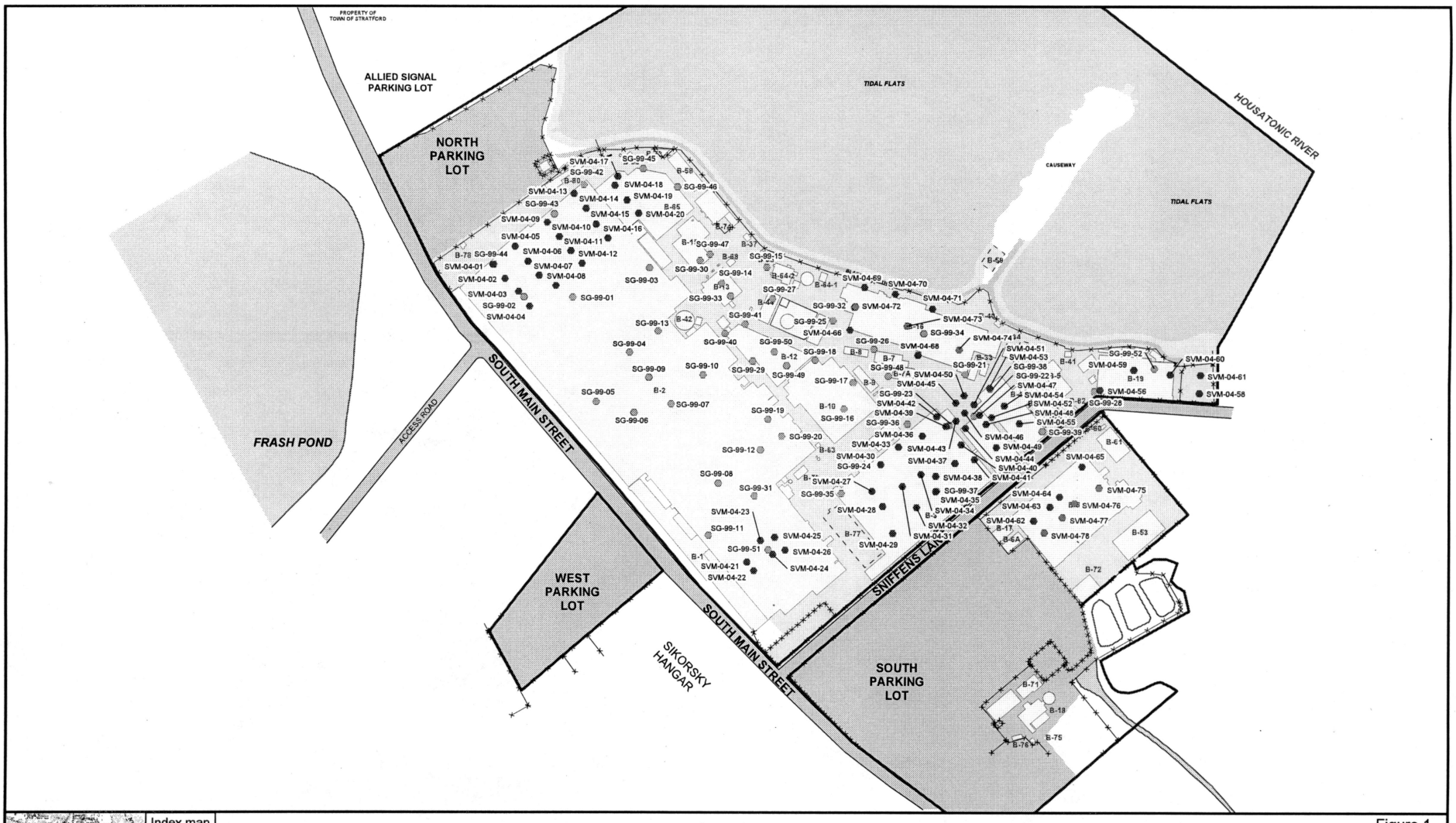
D. Roderick Pendleton

Rod Pendleton, P.G.
Project Manager/Principal Scientist

Enclosures

cc: File PN 3618058008/4.1-Reports

FIGURES



Index map

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Prepared by BRP | Checked by DRP

Legend

- 1999 Soil Vapor Sampling Locations
- Soil Vapor Monitoring Points Installed March 2004
- Soil Vapor Monitoring Points Installed March 2005

Figure 1
Soil Vapor Monitoring Locations

Stratford Army Engine Plant
Stratford, Connecticut
MACTEC Engineering and Consulting, Inc.

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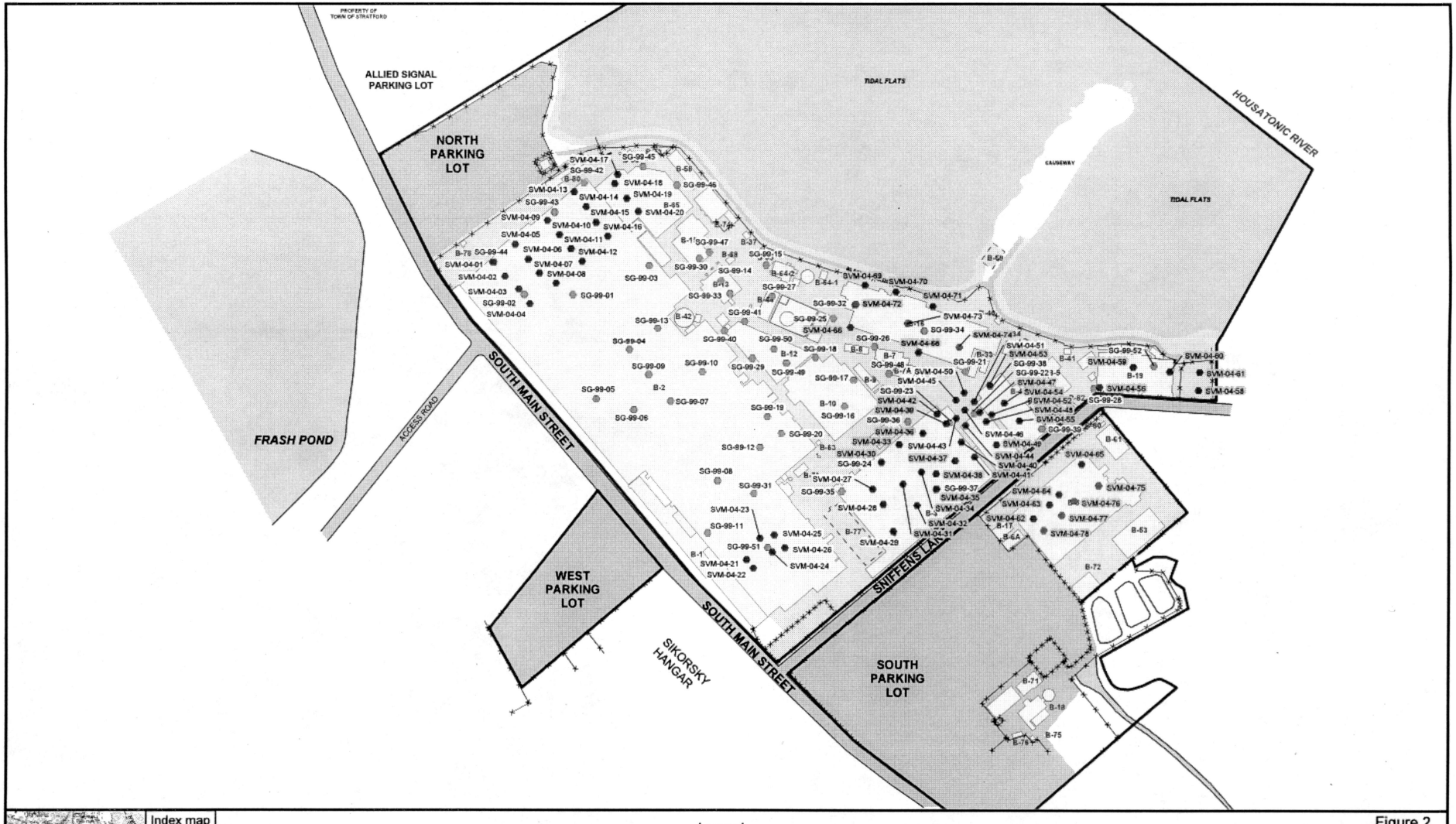

Figure 2
Soil Vapor Monitoring Locations
Sampled June 2005

Stratford Army Engine Plant
Stratford, Connecticut
MACTEC Engineering and Consulting, Inc.

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TABLES

TABLE 1
JUNE 2005 SOIL VAPOR MONITORING DATA

STRATFORD ARMY ENGINE PLANT
Stratford, Connecticut

LOC_ID	LAB SAMPLE ID	SAMPLE DATE	PARAMETER	RESULT	FINAL QUALIFIER	UNITS	CTDEP I/C SV VC*
SVM-04-30	0506032C-33A	01-Jun-05	1,1,1-Trichloroethane	0.0098		PPMV	130
SVM-04-30	0506032C-33A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-30	0506032C-33A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-30	0506032C-33A	01-Jun-05	Tetrachloroethene	0.05		PPMV	1
SVM-04-30	0506032C-33A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-30	0506032C-33A	01-Jun-05	Trichloroethene	0.13		PPMV	0.26
SVM-04-30	0506032C-33A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-31	0506032C-34A	01-Jun-05	1,1,1-Trichloroethane	0.006		PPMV	130
SVM-04-31	0506032C-34A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-31	0506032C-34A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-31	0506032C-34A	01-Jun-05	Tetrachloroethene	0.64		PPMV	1
SVM-04-31	0506032C-34A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-31	0506032C-34A	01-Jun-05	Trichloroethene	0.13		PPMV	0.26
SVM-04-31	0506032C-34A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-32	0506032C-35A	01-Jun-05	1,1,1-Trichloroethane	0.012		PPMV	130
SVM-04-32	0506032C-35A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-32	0506032C-35A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-32	0506032C-35A	01-Jun-05	Tetrachloroethene	0.19		PPMV	1
SVM-04-32	0506032C-35A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-32	0506032C-35A	01-Jun-05	Trichloroethene	0.16		PPMV	0.26
SVM-04-32	0506032C-35A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-33	0506032C-32A	01-Jun-05	1,1,1-Trichloroethane	0.024		PPMV	130
SVM-04-33	0506032C-32A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-33	0506032C-32A	01-Jun-05	Cis-1,2-Dichloroethene	0.0097		PPMV	35
SVM-04-33	0506032C-32A	01-Jun-05	Tetrachloroethene	0.19		PPMV	1
SVM-04-33	0506032C-32A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-33	0506032C-32A	01-Jun-05	Trichloroethene	0.088		PPMV	0.26
SVM-04-33	0506032C-32A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-34	0506032C-38A	01-Jun-05	1,1,1-Trichloroethane	0.2		PPMV	130
SVM-04-34	0506032C-38A	01-Jun-05	1,1-Dichloroethene	0.0061		PPMV	7
SVM-04-34	0506032C-38A	01-Jun-05	Cis-1,2-Dichloroethene	0.0078		PPMV	35
SVM-04-34	0506032C-38A	01-Jun-05	Tetrachloroethene	2		PPMV	1
SVM-04-34	0506032C-38A	01-Jun-05	trans-1,2-Dichloroethene	0.0064		PPMV	70
SVM-04-34	0506032C-38A	01-Jun-05	Trichloroethene	0.49		PPMV	0.26
SVM-04-34	0506032C-38A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-35	0506032C-37A	01-Jun-05	1,1,1-Trichloroethane	0.005	U	PPMV	130
SVM-04-35	0506032C-37A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-35	0506032C-37A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-35	0506032C-37A	01-Jun-05	Tetrachloroethene	0.005	U	PPMV	1
SVM-04-35	0506032C-37A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-35	0506032C-37A	01-Jun-05	Trichloroethene	0.005	U	PPMV	0.26
SVM-04-35	0506032C-37A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-36	0506032C-31A	01-Jun-05	1,1,1-Trichloroethane	0.035		PPMV	130
SVM-04-36	0506032C-31A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-36	0506032C-31A	01-Jun-05	Cis-1,2-Dichloroethene	0.18		PPMV	35
SVM-04-36	0506032C-31A	01-Jun-05	Tetrachloroethene	1.9		PPMV	1
SVM-04-36	0506032C-31A	01-Jun-05	trans-1,2-Dichloroethene	0.0069		PPMV	70
SVM-04-36	0506032C-31A	01-Jun-05	Trichloroethene	0.44		PPMV	0.26
SVM-04-36	0506032C-31A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-37	0506032C-39A	01-Jun-05	1,1,1-Trichloroethane	0.022		PPMV	130
SVM-04-37	0506032C-39A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7

TABLE 1
JUNE 2005 SOIL VAPOR MONITORING DATA

STRATFORD ARMY ENGINE PLANT
Stratford, Connecticut

LOC_ID	LAB SAMPLE ID	SAMPLE DATE	PARAMETER	RESULT	FINAL QUALIFIER	UNITS	CTDEP I/C SV VC*
SVM-04-37	0506032C-39A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-37	0506032C-39A	01-Jun-05	Tetrachloroethene	0.27		PPMV	1
SVM-04-37	0506032C-39A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-37	0506032C-39A	01-Jun-05	Trichloroethene	0.055		PPMV	0.26
SVM-04-37	0506032C-39A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-38	0506032C-43A	01-Jun-05	1,1,1-Trichloroethane	0.032		PPMV	130
SVM-04-38	0506032C-43A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-38	0506032C-43A	01-Jun-05	Cis-1,2-Dichloroethene	0.018		PPMV	35
SVM-04-38	0506032C-43A	01-Jun-05	Tetrachloroethene	0.3		PPMV	1
SVM-04-38	0506032C-43A	01-Jun-05	trans-1,2-Dichloroethene	0.013		PPMV	70
SVM-04-38	0506032C-43A	01-Jun-05	Trichloroethene	1.8		PPMV	0.26
SVM-04-38	0506032C-43A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-39	0506032C-41A	01-Jun-05	1,1,1-Trichloroethane	0.005	U	PPMV	130
SVM-04-39	0506032C-41A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-39	0506032C-41A	01-Jun-05	Cis-1,2-Dichloroethene	0.057		PPMV	35
SVM-04-39	0506032C-41A	01-Jun-05	Tetrachloroethene	0.58		PPMV	1
SVM-04-39	0506032C-41A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-39	0506032C-41A	01-Jun-05	Trichloroethene	0.27		PPMV	0.26
SVM-04-39	0506032C-41A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-40	0506032C-40A	01-Jun-05	1,1,1-Trichloroethane	0.005	U	PPMV	130
SVM-04-40	0506032C-40A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-40	0506032C-40A	01-Jun-05	Cis-1,2-Dichloroethene	0.03		PPMV	35
SVM-04-40	0506032C-40A	01-Jun-05	Tetrachloroethene	0.57		PPMV	1
SVM-04-40	0506032C-40A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-40	0506032C-40A	01-Jun-05	Trichloroethene	0.83		PPMV	0.26
SVM-04-40	0506032C-40A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-41	0506032C-42A	01-Jun-05	1,1,1-Trichloroethane	0.005	U	PPMV	130
SVM-04-41	0506032C-42A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-41	0506032C-42A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-41	0506032C-42A	01-Jun-05	Tetrachloroethene	0.092		PPMV	1
SVM-04-41	0506032C-42A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-41	0506032C-42A	01-Jun-05	Trichloroethene	0.12		PPMV	0.26
SVM-04-41	0506032C-42A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-42	0506032B-29A	01-Jun-05	1,1,1-Trichloroethane	0.005	U	PPMV	130
SVM-04-42	0506032B-29A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-42	0506032B-29A	01-Jun-05	Cis-1,2-Dichloroethene	0.017		PPMV	35
SVM-04-42	0506032B-29A	01-Jun-05	Tetrachloroethene	0.32		PPMV	1
SVM-04-42	0506032B-29A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-42	0506032B-29A	01-Jun-05	Trichloroethene	0.22		PPMV	0.26
SVM-04-42	0506032B-29A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-44	0506032A-19A	01-Jun-05	1,1,1-Trichloroethane	0.005	U	PPMV	130
SVM-04-44	0506032A-19A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-44	0506032A-19A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-44	0506032A-19A	01-Jun-05	Tetrachloroethene	0.0063		PPMV	1
SVM-04-44	0506032A-19A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-44	0506032A-19A	01-Jun-05	Trichloroethene	0.01		PPMV	0.26
SVM-04-44	0506032A-19A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-47	0506032A-18A	01-Jun-05	1,1,1-Trichloroethane	0.85		PPMV	130
SVM-04-47	0506032A-18A	01-Jun-05	1,1-Dichloroethene	0.0074		PPMV	7
SVM-04-47	0506032A-18A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-47	0506032A-18A	01-Jun-05	Tetrachloroethene	0.17		PPMV	1

TABLE 1
JUNE 2005 SOIL VAPOR MONITORING DATA

STRATFORD ARMY ENGINE PLANT
Stratford, Connecticut

LOC_ID	LAB SAMPLE ID	SAMPLE DATE	PARAMETER	RESULT	FINAL QUALIFIER	UNITS	CTDEP I/C SV VC*
SVM-04-47	0506032A-18A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-47	0506032A-18A	01-Jun-05	Trichloroethene	0.081		PPMV	0.26
SVM-04-47	0506032A-18A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-48	0506032A-17A	01-Jun-05	1,1,1-Trichloroethane	0.58		PPMV	130
SVM-04-48	0506032A-17A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-48	0506032A-17A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-48	0506032A-17A	01-Jun-05	Tetrachloroethene	0.62		PPMV	1
SVM-04-48	0506032A-17A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-48	0506032A-17A	01-Jun-05	Trichloroethene	2.9		PPMV	0.26
SVM-04-48	0506032A-17A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-49	0506032A-20A	01-Jun-05	1,1,1-Trichloroethane	0.024		PPMV	130
SVM-04-49	0506032A-20A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-49	0506032A-20A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-49	0506032A-20A	01-Jun-05	Tetrachloroethene	0.034		PPMV	1
SVM-04-49	0506032A-20A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-49	0506032A-20A	01-Jun-05	Trichloroethene	0.62		PPMV	0.26
SVM-04-49	0506032A-20A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-52	0506032A-16A	01-Jun-05	1,1,1-Trichloroethane	0.005	U	PPMV	130
SVM-04-52	0506032A-16A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-52	0506032A-16A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-52	0506032A-16A	01-Jun-05	Tetrachloroethene	0.005	U	PPMV	1
SVM-04-52	0506032A-16A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-52	0506032A-16A	01-Jun-05	Trichloroethene	0.005	U	PPMV	0.26
SVM-04-52	0506032A-16A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-53	0506032A-14A	01-Jun-05	1,1,1-Trichloroethane	0.005	U	PPMV	130
SVM-04-53	0506032A-14A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-53	0506032A-14A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-53	0506032A-14A	01-Jun-05	Tetrachloroethene	0.066		PPMV	1
SVM-04-53	0506032A-14A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-53	0506032A-14A	01-Jun-05	Trichloroethene	0.005	U	PPMV	0.26
SVM-04-53	0506032A-14A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-54	0506032A-15A	01-Jun-05	1,1,1-Trichloroethane	0.035		PPMV	130
SVM-04-54	0506032A-15A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-54	0506032A-15A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-54	0506032A-15A	01-Jun-05	Tetrachloroethene	0.08		PPMV	1
SVM-04-54	0506032A-15A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-54	0506032A-15A	01-Jun-05	Trichloroethene	0.1		PPMV	0.26
SVM-04-54	0506032A-15A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-55	0506032A-13A	01-Jun-05	1,1,1-Trichloroethane	0.02		PPMV	130
SVM-04-55	0506032A-13A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-55	0506032A-13A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-55	0506032A-13A	01-Jun-05	Tetrachloroethene	0.043		PPMV	1
SVM-04-55	0506032A-13A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-55	0506032A-13A	01-Jun-05	Trichloroethene	0.012		PPMV	0.26
SVM-04-55	0506032A-13A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-56	0506032A-12A	01-Jun-05	1,1,1-Trichloroethane	0.047		PPMV	130
SVM-04-56	0506032A-12A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-56	0506032A-12A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-56	0506032A-12A	01-Jun-05	Tetrachloroethene	0.005	U	PPMV	1
SVM-04-56	0506032A-12A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-56	0506032A-12A	01-Jun-05	Trichloroethene	0.005	U	PPMV	0.26

TABLE 1
JUNE 2005 SOIL VAPOR MONITORING DATA

STRATFORD ARMY ENGINE PLANT
Stratford, Connecticut

LOC_ID	LAB SAMPLE ID	SAMPLE DATE	PARAMETER	RESULT	FINAL QUALIFIER	UNITS	CTDEP I/C SV VC*
SVM-04-56	0506032A-12A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-58	0506032A-09A	01-Jun-05	1,1,1-Trichloroethane	0.005	U	PPMV	130
SVM-04-58	0506032A-09A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-58	0506032A-09A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-58	0506032A-09A	01-Jun-05	Tetrachloroethene	0.005	U	PPMV	1
SVM-04-58	0506032A-09A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-58	0506032A-09A	01-Jun-05	Trichloroethene	0.005	U	PPMV	0.26
SVM-04-58	0506032A-09A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-59	0506032A-11A	01-Jun-05	1,1,1-Trichloroethane	1.3		PPMV	130
SVM-04-59	0506032A-11A	01-Jun-05	1,1-Dichloroethene	0.015		PPMV	7
SVM-04-59	0506032A-11A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-59	0506032A-11A	01-Jun-05	Tetrachloroethene	0.0074		PPMV	1
SVM-04-59	0506032A-11A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-59	0506032A-11A	01-Jun-05	Trichloroethene	0.0062		PPMV	0.26
SVM-04-59	0506032A-11A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-60	0506032A-10A	01-Jun-05	1,1,1-Trichloroethane	0.011		PPMV	130
SVM-04-60	0506032A-10A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-60	0506032A-10A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-60	0506032A-10A	01-Jun-05	Tetrachloroethene	0.005	U	PPMV	1
SVM-04-60	0506032A-10A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-60	0506032A-10A	01-Jun-05	Trichloroethene	0.005	U	PPMV	0.26
SVM-04-60	0506032A-10A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-61	0506032A-08A	01-Jun-05	1,1,1-Trichloroethane	0.005	U	PPMV	130
SVM-04-61	0506032A-08A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-61	0506032A-08A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-61	0506032A-08A	01-Jun-05	Tetrachloroethene	0.0096		PPMV	1
SVM-04-61	0506032A-08A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-61	0506032A-08A	01-Jun-05	Trichloroethene	0.005	U	PPMV	0.26
SVM-04-61	0506032A-08A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-62	0506032B-21A	01-Jun-05	1,1,1-Trichloroethane	0.005	U	PPMV	130
SVM-04-62	0506032B-21A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-62	0506032B-21A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-62	0506032B-21A	01-Jun-05	Tetrachloroethene	0.005	U	PPMV	1
SVM-04-62	0506032B-21A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-62	0506032B-21A	01-Jun-05	Trichloroethene	0.005	U	PPMV	0.26
SVM-04-62	0506032B-21A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-63	0506032B-24A	01-Jun-05	1,1,1-Trichloroethane	0.36		PPMV	130
SVM-04-63	0506032B-24A	01-Jun-05	1,1-Dichloroethene	0.022		PPMV	7
SVM-04-63	0506032B-24A	01-Jun-05	Cis-1,2-Dichloroethene	0.019		PPMV	35
SVM-04-63	0506032B-24A	01-Jun-05	Tetrachloroethene	0.046		PPMV	1
SVM-04-63	0506032B-24A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-63	0506032B-24A	01-Jun-05	Trichloroethene	0.14		PPMV	0.26
SVM-04-63	0506032B-24A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-64	0506032B-25A	01-Jun-05	1,1,1-Trichloroethane	0.019		PPMV	130
SVM-04-64	0506032B-25A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-64	0506032B-25A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-64	0506032B-25A	01-Jun-05	Tetrachloroethene	0.005	U	PPMV	1
SVM-04-64	0506032B-25A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-64	0506032B-25A	01-Jun-05	Trichloroethene	0.0061		PPMV	0.26
SVM-04-64	0506032B-25A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-65	0506032B-28A	01-Jun-05	1,1,1-Trichloroethane	0.014		PPMV	130

TABLE 1
JUNE 2005 SOIL VAPOR MONITORING DATA

STRATFORD ARMY ENGINE PLANT
Stratford, Connecticut

LOC_ID	LAB SAMPLE ID	SAMPLE DATE	PARAMETER	RESULT	FINAL QUALIFIER	UNITS	CTDEP I/C SV VC*
SVM-04-65	0506032B-28A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-65	0506032B-28A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-65	0506032B-28A	01-Jun-05	Tetrachloroethene	0.0067		PPMV	1
SVM-04-65	0506032B-28A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-65	0506032B-28A	01-Jun-05	Trichloroethene	0.018		PPMV	0.26
SVM-04-65	0506032B-28A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-66	0506032A-02A	01-Jun-05	1,1,1-Trichloroethane	0.2		PPMV	130
SVM-04-66	0506032A-02A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-66	0506032A-02A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-66	0506032A-02A	01-Jun-05	Tetrachloroethene	0.38		PPMV	1
SVM-04-66	0506032A-02A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-66	0506032A-02A	01-Jun-05	Trichloroethene	0.25		PPMV	0.26
SVM-04-66	0506032A-02A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-68	0506032A-01A	01-Jun-05	1,1,1-Trichloroethane	0.026		PPMV	130
SVM-04-68	0506032A-01A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-68	0506032A-01A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-68	0506032A-01A	01-Jun-05	Tetrachloroethene	0.005	U	PPMV	1
SVM-04-68	0506032A-01A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-68	0506032A-01A	01-Jun-05	Trichloroethene	0.053		PPMV	0.26
SVM-04-68	0506032A-01A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-69	0506032A-03A	01-Jun-05	1,1,1-Trichloroethane	0.096		PPMV	130
SVM-04-69	0506032A-03A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-69	0506032A-03A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-69	0506032A-03A	01-Jun-05	Tetrachloroethene	0.01		PPMV	1
SVM-04-69	0506032A-03A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-69	0506032A-03A	01-Jun-05	Trichloroethene	0.061		PPMV	0.26
SVM-04-69	0506032A-03A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-70	0506032A-05A	01-Jun-05	1,1,1-Trichloroethane	2		PPMV	130
SVM-04-70	0506032A-05A	01-Jun-05	1,1-Dichloroethene	0.011		PPMV	7
SVM-04-70	0506032A-05A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-70	0506032A-05A	01-Jun-05	Tetrachloroethene	0.007		PPMV	1
SVM-04-70	0506032A-05A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-70	0506032A-05A	01-Jun-05	Trichloroethene	0.0094		PPMV	0.26
SVM-04-70	0506032A-05A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-71	0506032A-04A	01-Jun-05	1,1,1-Trichloroethane	0.46		PPMV	130
SVM-04-71	0506032A-04A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-71	0506032A-04A	01-Jun-05	Cis-1,2-Dichloroethene	0.096		PPMV	35
SVM-04-71	0506032A-04A	01-Jun-05	Tetrachloroethene	0.51		PPMV	1
SVM-04-71	0506032A-04A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-71	0506032A-04A	01-Jun-05	Trichloroethene	0.1		PPMV	0.26
SVM-04-71	0506032A-04A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-72	0506032A-06A	01-Jun-05	1,1,1-Trichloroethane	0.19		PPMV	130
SVM-04-72	0506032A-06A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-72	0506032A-06A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-72	0506032A-06A	01-Jun-05	Tetrachloroethene	0.019		PPMV	1
SVM-04-72	0506032A-06A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-72	0506032A-06A	01-Jun-05	Trichloroethene	0.13		PPMV	0.26
SVM-04-72	0506032A-06A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-74	0506032A-07A	01-Jun-05	1,1,1-Trichloroethane	0.083		PPMV	130
SVM-04-74	0506032A-07A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-74	0506032A-07A	01-Jun-05	Cis-1,2-Dichloroethene	0.05		PPMV	35

TABLE 1
JUNE 2005 SOIL VAPOR MONITORING DATA

STRATFORD ARMY ENGINE PLANT
Stratford, Connecticut

LOC_ID	LAB SAMPLE ID	SAMPLE DATE	PARAMETER	RESULT	FINAL QUALIFIER	UNITS	CTDEP I/C SV VC*
SVM-04-74	0506032A-07A	01-Jun-05	Tetrachloroethene	0.037		PPMV	1
SVM-04-74	0506032A-07A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-74	0506032A-07A	01-Jun-05	Trichloroethene	1.3		PPMV	0.26
SVM-04-74	0506032A-07A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-75	0506032B-27A	01-Jun-05	1,1,1-Trichloroethane	0.029		PPMV	130
SVM-04-75	0506032B-27A	01-Jun-05	1,1-Dichloroethene	0.0052		PPMV	7
SVM-04-75	0506032B-27A	01-Jun-05	Cis-1,2-Dichloroethene	0.77		PPMV	35
SVM-04-75	0506032B-27A	01-Jun-05	Tetrachloroethene	0.005	U	PPMV	1
SVM-04-75	0506032B-27A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-75	0506032B-27A	01-Jun-05	Trichloroethene	0.046		PPMV	0.26
SVM-04-75	0506032B-27A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-76	0506032B-26A	01-Jun-05	1,1,1-Trichloroethane	0.32		PPMV	130
SVM-04-76	0506032B-26A	01-Jun-05	1,1-Dichloroethene	0.047		PPMV	7
SVM-04-76	0506032B-26A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-76	0506032B-26A	01-Jun-05	Tetrachloroethene	0.005	U	PPMV	1
SVM-04-76	0506032B-26A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-76	0506032B-26A	01-Jun-05	Trichloroethene	0.041		PPMV	0.26
SVM-04-76	0506032B-26A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-77	0506032B-23A	01-Jun-05	1,1,1-Trichloroethane	0.25		PPMV	130
SVM-04-77	0506032B-23A	01-Jun-05	1,1-Dichloroethene	0.075		PPMV	7
SVM-04-77	0506032B-23A	01-Jun-05	Cis-1,2-Dichloroethene	0.042		PPMV	35
SVM-04-77	0506032B-23A	01-Jun-05	Tetrachloroethene	0.058		PPMV	1
SVM-04-77	0506032B-23A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-77	0506032B-23A	01-Jun-05	Trichloroethene	0.044		PPMV	0.26
SVM-04-77	0506032B-23A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1
SVM-04-78	0506032B-22A	01-Jun-05	1,1,1-Trichloroethane	0.014		PPMV	130
SVM-04-78	0506032B-22A	01-Jun-05	1,1-Dichloroethene	0.005	U	PPMV	7
SVM-04-78	0506032B-22A	01-Jun-05	Cis-1,2-Dichloroethene	0.005	U	PPMV	35
SVM-04-78	0506032B-22A	01-Jun-05	Tetrachloroethene	0.005	U	PPMV	1
SVM-04-78	0506032B-22A	01-Jun-05	trans-1,2-Dichloroethene	0.005	U	PPMV	70
SVM-04-78	0506032B-22A	01-Jun-05	Trichloroethene	0.006		PPMV	0.26
SVM-04-78	0506032B-22A	01-Jun-05	Vinyl chloride	0.005	U	PPMV	1

Notes: Shading indicates analyte concentration exceeds CTDEP I/C SV VC
* Proposed March 2003 CTDEP Industrial/Commercial Soil Vapor Volatilization Criteria
PPMV - parts per million by volume

ATTACHMENT 1

CHAIN OF CUSTODY RECORDS

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Contact Person: Rod Pendleton
Company: MACTEC Email:
Address: 511 Congress Str. City: Portland State: ME Zip: 04112
Phone: 207.828.3605 Fax: 207.772.4762
Collected by: (Signature)

Project Info:
P.O. #:
Project #: 361B058008, LM04.4
Project Name: SAEP Vapor

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Date	Time	Analyses Requested	Canister Pressure/Vacuum: Initial	Final	Receipt	Final (psig)
01A	SVM-04-68	05/01/05	0835	TO-15 (Direct Inject+ Chlorinated VOC)	NA	NA		
02A	SVM-04-66	05/01/05	0845					
03A	SVM-04-69	05/01/05	0855					
04A	SVM-04-71	05/01/05	0909					
05A	SVM-04-70	05/01/05	0920					
06A	SVM-04-72	05/01/05	0933					
07A	SVM-04-74	05/01/05	1000					
08A	SVM-04-61	05/01/05	1023					
09A	SVM-04-58	05/01/05	1029					
10A	SVM-04-60	05/01/05	1036					

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time	Notes:
	6/6/05 1630		6/2/05 1030	
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time	
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time	

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx	8516 1124 2421	—	Good	(Yes) No None	0506032

Form 128G rev 10

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CHAIN-OF-CUSTODY RECORD

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Contact Person: Ron Pendleton
Company: MACTEC Email:
Address: 511 Congress St. City: Portland State: ME Zip: 04112
Phone: 207.828.3605 Fax: 207.772.4762
Collected by: (Signature) Joan W. Rattlet

Project Info:
P.O. #:
Project #: 364805800B.04.04.4
Project Name: SMEP Vapor

Turn Around Time:
☑ Normal
☐ Rush
(specify)

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Date	Time	Analyses Requested	Canister Pressure/Vacuum: Initial	Final	Receipt	Final (psi)
11A	SVM-04-59	6/01/05	1044	TO-15 (Direct Inject - Chloroethene)	NA	NA		
12A	SVM-04-56	6/01/05	1052					
13A	SVM-04-55	6/01/05	1102					
14A	SVM-04-53	6/01/05	1109					
15A	SVM-04-54	6/01/05	1115					
16A	SVM-04-52		1121					
17A	SVM-04-48		1247					
18A	SVM-04-47		1255					
19A	SVM-04-44		1302					
20A	SVM-04-49		1310					

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time	Notes:
	6/1/05 1630		6/2/05 0811 1030	
Relinquished by: (signature)	Date/Time	Received by (signature)	Date/Time	
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time	

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx	8516 1124 2421	—	Good	Yes / No / None	0506032

Form 1293 rev 10

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
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180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Contact Person: ROD PENDLETON
Company: MACTEC Email:
Address: 511 Congress St City: Portland State: ME Zip: 04112
Phone: 207.828.3605 Fax: 207.772.4762
Collected by: (Signature) Adam W. Bathke

Project Info:
P.O. #:
Project #: 3618058008.04.04.4
Project Name: SAEP VAPOR

Turn Around Time:
☒ Normal
☐ Rush
(specify)

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
21A	SVM-04-62	6/01/05	1335	TO15 (Direct Inject - Chlorinated VOC)	NA	NA		
22A	SVM-04-78		1341					
23A	SVM-04-77		1348					
24A	SVM-04-63		1356					
25A	SVM-04-64		1403					
26A	SVM-04-76		1411					
27A	SVM-04-75		1419					
28A	SVM-04-65		1429					
29A	SVM-04-42		1446					
30A	SVM-04-42 DUP		1448					

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time	Notes:
[signature]	6/6/05 1630	Edward Thomas ATL	6/7/05 1030	
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time	
Relinquished by (signature)	Date/Time	Received by (signature)	Date/Time	

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx	8516 1124 2421	—	Good	(Yes) No None	0506032

Form 1255 rev 10

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CHAIN-OF-CUSTODY RECORD

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160 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Contact Person: Rod Pendleton

Company: Maltet Email:

Address: 811 Commercial St. City: Redmond State: WA Zip: 04112

Phone: 207-828-3605 Fax: 207.772.4762

Collected by: (Signature) Thomas W. Robitaille

Project Info:

P.O. #:

Project #: 3640SPOOP.04.04.4

Project Name: SAEP Vapor

Turn Around Time:

☑ Normal

☐ Rush

_____ (specify)

Lab Use Only

Pressurized by:

Date:

Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psig)
31A	SVM-04-36	6/1/05	1456	TO-15 (Direct Inject Chlorinated)	NA	NA		
32A	SVM-04-33		1502					
33A	SVM-04-30		1511					
34A	SVM-04-31		1527					
35A	SVM-04-32		1532					
36A	SVM-04-32 DUP		1534					
37A	SVM-04-35		1539					
38A	SVM-04-34		1545					
39A	SVM-04-37		1550					
40A	SVM-04-40		1557					

Relinquished by: (signature) Date/Time: 6/1/05 1630

Received by: (signature) Date/Time: 6/2/05 1030

Notes:

Relinquished by: (signature) Date/Time

Received by: (signature) Date/Time

Relinquished by: (signature) Date/Time

Received by: (signature) Date/Time

Lab Use Only

Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
FedEx	8516 1124 8421	—	Good	(Yes) No None	0506032

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice

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180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Contact Person Rob Pendleton

Company MACTEC Email

Address 511 Congress St. City Portland State ME Zip 04112

Phone 207.828 3605 Fax 207.772 4762

Collected by: (Signature)

Project Info:

P.O #

Project # 361205.0010.04.044

Project Name SAEP VAAR

Turn Around Time:

☑ Normal

☐ Rush

specify

Lab Use Only

Pressurized by:

Date:

Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (ref)
41A	SVM-04-39	6/1/05	1603	TO-15 (Direct Injed-Chlorinated)	NA	NA		
42A	SVM-04-41		1610					
43A	SVM-04-38		1616					
44A	TBK060105	6/1/05	1622					

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time	Notes:
	6/1/05 1630		6/2/05 1030	
Relinquished by: (signature)	Date/Time	Received by (signature)	Date/Time	
Relinquished by: (signature)	Date/Time	Received by (signature)	Date/Time	

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx	8916 1124 2421	—	Good	Yes No None	0506032

Form 1293 rev 10

ATTACHMENT 2

DATA VALIDATION REPORT

Supplemental RI Soil Vapor Monitoring
Data Validation Report
28 June 2005
Stratford Army Engine Plant

I. INTRODUCTION

A Tier II and ten percent Tier III data validation in accordance with USEPA Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses (USEPA, 1996) was performed on the analytical data for soil vapor samples collected by MACTEC Engineering and Consulting, Inc. (MACTEC) at the Stratford Army Engine Plant (SAEP) Site. Soil vapor samples were collected on June 1, 2005. All samples were analyzed by Air Toxics Ltd., located in Folsom, CA. Air Toxics performed VOC air analysis on one-liter Tedlar Bags via EPA method modified TO-15 using GC/MS in the SIM acquisition mode.

Field Sample ID	Lab Sample ID	Sample Date	QC Type
SVM-04-30	0506032C-33A	6/1/2005	
SVM-04-31	0506032C-34A	6/1/2005	
SVM-04-32	0506032C-35A	6/1/2005	
SVM-04-32 Dup	0506032C-36A	6/1/2005	Field Duplicate
SVM-04-33	0506032C-32A	6/1/2005	
SVM-04-34	0506032C-38A	6/1/2005	
SVM-04-35	0506032C-37A	6/1/2005	
SVM-04-36	0506032C-31A	6/1/2005	
SVM-04-37	0506032C-39A	6/1/2005	
SVM-04-38	0506032C-43A	6/1/2005	
SVM-04-39	0506032C-41A	6/1/2005	
SVM-04-40	0506032C-40A	6/1/2005	
SVM-04-41	0506032C-42A	6/1/2005	
SVM-04-42	0506032B-29A	6/1/2005	
SVM-04-42 Dup	0506032B-30A	6/1/2005	Field Duplicate
SVM-04-44	0506032A-19A	6/1/2005	
SVM-04-47	0506032A-18A	6/1/2005	
SVM-04-48	0506032A-17A	6/1/2005	
SVM-04-49	0506032A-20A	6/1/2005	
SVM-04-52	0506032A-16A	6/1/2005	
SVM-04-53	0506032A-14A	6/1/2005	
SVM-04-54	0506032A-15A	6/1/2005	
SVM-04-55	0506032A-13A	6/1/2005	
SVM-04-56	0506032A-12A	6/1/2005	
SVM-04-58	0506032A-09A	6/1/2005	
SVM-04-59	0506032A-11A	6/1/2005	
SVM-04-60	0506032A-10A	6/1/2005	
SVM-04-61	0506032A-08A	6/1/2005	
SVM-04-62	0506032B-21A	6/1/2005	
SVM-04-63	0506032B-24A	6/1/2005	

SVM-04-64	0506032B-25A	6/1/2005	
SVM-04-65	0506032B-28A	6/1/2005	
SVM-04-66	0506032A-02A	6/1/2005	
SVM-04-68	0506032A-01A	6/1/2005	
SVM-04-69	0506032A-03A	6/1/2005	
SVM-04-70	0506032A-05A	6/1/2005	
SVM-04-71	0506032A-04A	6/1/2005	
SVM-04-72	0506032A-06A	6/1/2005	
SVM-04-74	0506032A-07A	6/1/2005	
SVM-04-75	0506032B-27A	6/1/2005	
SVM-04-76	0506032B-26A	6/1/2005	
SVM-04-77	0506032B-23A	6/1/2005	
SVM-04-78	0506032B-22A	6/1/2005	
TBK060105	0506032C-44A	6/1/2005	Trip Blank

The samples were analyzed for the following seven volatile organic compounds:

- vinyl chloride
- 1,1-dichloroethene (1,1-DCE)
- 1,1,1-trichloroethane (1,1,1-TCA)
- trichloroethene (TCE)
- tetrachloroethene (PCE)
- cis-1,2-dichloroethene (cis-1,2-DCE)
- trans-1,2-dichloroethene (trans-1,2-DCE)

The following information was reviewed:

* Sample Collection Documentation and Data Completeness
* EDD verification vs. Summary Forms
* Preservation and Holding times
* GC/MS Performance Check (tuning)
* Initial Calibration
* Continuing Calibration
* QC Blanks
* Internal Standard Response
* Surrogate Recovery
* Spike Accuracy and Precision
* Field Duplicates
* Laboratory Duplicates

* - All criteria were met for this parameter.

II. VALIDATION RESULTS AND ACTIONS

Holding Times

All samples were analyzed within the holding times (3 days from collection).

Instrument Tunes

The GC/MS instrument tunes were completed using the tuning compound bromofluorobenzene (BFB). All instrument tune results met USEPA Region I validation criteria.

Initial Calibration

For the initial calibration curves applying to all volatile organics samples target analytes, the average Relative Response Factors (RRFs) for all target compounds were greater than the USEPA Region I minimum criterion of 0.05, indicating good response on the instrument was obtained for all compounds. The percent Relative Standard Deviations (%RSDs) of the RRFs over the five point calibration were less than the Region I goals of 30 percent for all initial calibrations.

Continuing Calibration

For the continuing calibration standards applying to all volatile organics samples target analytes, the RRFs for all seven target compounds were greater than the Region I minimum criterion of 0.05, indicating good response on the instrument was obtained for all compounds. The percent Differences (%Ds) between the RRFs and the initial calibration average RRFs were less than 25 percent for all continuing calibrations.

Method Blanks

For each analytical batch, a method blank was analyzed prior to sample analysis. All target analytes were non-detect.

Internal Standard Response

All internal standard areas and retention times were within USEPA Region I control limits as specified in the CLP Statement of Work (OLM03.1) and were within the laboratory's control limits.

Surrogate Recoveries

Surrogate recoveries were within the 70-130 percent control limits specified by the laboratory indicating good accuracy was observed for each sample.

Spike Recoveries

Laboratory control samples (LCS) had recoveries between 98 and 126 percent indicating good accuracy.

Duplicates

Field duplicates were collected and analyzed for sample locations SVM-04-32 and SVM-04-42. Laboratory duplicates were analyzed for samples SVM-04-34, SVM-04-36, SVM-04-42DUP, SVM-04-48, SVM-04-71 and SVM-04-74. Results of the field duplicate and laboratory duplicate analyzed are summarized in Table 1. A goal for relative percent difference (RPD) of 50 percent or less was used when evaluating the duplicate data.

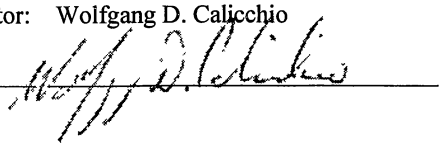
Table 1

Sample ID	Analyte	Original Result (ppb/v)	Qual	Duplicate Result (ppb/v)	Qual	RPD (%)
SVM-04-34	1,1,1-Trichloroethane	0.2		0.2		0
SVM-04-34	1,1-Dichloroethene	0.0061		0.0059		3
SVM-04-34	cis-1,2-Dichloroethene	0.0078		0.0078		0
SVM-04-34	Tetrachloroethene	2		2		0
SVM-04-34	trans-1,2-Dichloroethene	0.0064		0.0066		3
SVM-04-34	Trichloroethene	0.49		0.49		0
SVM-04-36	1,1,1-Trichloroethane	0.035		0.038		8
SVM-04-36	Trichloroethene	0.44		0.48		9
SVM-04-36	Tetrachloroethene	1.9		2		5
SVM-04-36	trans-1,2-Dichloroethene	0.0069		0.0075		8
SVM-04-36	cis-1,2-Dichloroethene	0.18		0.2		11
SVM-04-42 DUP	Trichloroethene	0.22		0.22		0
SVM-04-42 DUP	Tetrachloroethene	0.31		0.31		0
SVM-04-42 DUP	cis-1,2-Dichloroethene	0.017		0.017		0
SVM-04-48	1,1,1-Trichloroethane	0.58		0.55		5
SVM-04-48	Trichloroethene	2.9		2.9		0
SVM-04-48	Tetrachloroethene	0.62		0.60		3
SVM-04-71	1,1,1-Trichloroethane	0.46		0.44		4
SVM-04-71	Trichloroethene	0.10		0.098		2
SVM-04-71	Tetrachloroethene	0 51		0.47		8
SVM-04-71	cis-1,2-Dichloroethene	0.096		0.089		8
SVM-04-74	1,1,1-Trichloroethane	0.083		0.090		8
SVM-04-74	Trichloroethene	1.3		1.3		0
SVM-04-74	Tetrachloroethene	0.037		0.039		5
SVM-04-74	cis-1,2-Dichloroethene	0.050		0.053		6
SVM-04-32 DUP	1,1,1-Trichloroethene	0.012		0.012		0
SVM-04-32 DUP	Trichloroethene	0.16		0.16		0
SVM-04-32 DUP	Tetrachloroethene	0.19		0.18		5
SVM-04-42 DUP	Trichloroethene	0.22		0.22		0
SVM-04-42 DUP	Tetrachloroethene	0.32		0.31		3
SVM-04-42 DUP	cis-1,2-Dichloroethene	0.017		0.017		0

References:

U.S. Environmental Protection Agency (USEPA), 1996. "Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses;" QA Unit - Office of Environmental Measurement and Evaluation; USEPA Region I, New England; July 1996, Revised December 1996.

Data Validator: Wolfgang D. Calicchio

Signature: 

Date: 28 June 2005