

**Building 133 Area of Concern
Former Griffiss Air Force Base
Rome, New York**

**SOIL VAPOR INTRUSION
EVALUATION**



**Contract No. F41624-03-D-8601
Delivery Order No. 0045**

**Revision 0.0
March 2010**



DEPARTMENT OF THE AIR FORCE
AIR FORCE REAL PROPERTY AGENCY

16 MAR 2010

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FROM: AFRPA-Griffiss
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SUBJECT: Soil Vapor Intrusion Evaluation
Building 133 AOC
Former Griffiss Air Force Base, Rome, New York
Contract No. F41624-03-D-8601-0045
Revision 0.0
March 2010

1. Enclosed please find the Soil Vapor Intrusion Evaluation for the Building 133 AOC, dated March 2010.
2. Please submit written comments to the undersigned by 12 April 2010.
3. If you have any questions, please contact Mark Rabe at (315) 356-0810 ext. 203.

A handwritten signature in black ink, appearing to read "Michael F. Mc Dermott".

MICHAEL F. MCDERMOTT
BRAC Environmental Coordinator

Enc.: As Noted

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SOIL VAPOR INTRUSION EVALUATION

Prepared for:

**Building 133 AOC
Former Griffiss Air Force Base
Rome, New York**

through

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Project No. 40-07-45

**Revision 0.0
March 2010**

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- A Daily Chemical Quality Control Reports
- B Photographs
- C Validated Data (electronic copy only)
- D Raw Lab Data (electronic copy only)
- E FPM document on calculating screening values

LIST OF ACRONYMS AND ABBREVIATIONS

AFB	Air Force Base
AFCEE	Air Force Center for Engineering and the Environment
AOC	Area of Concern
bgs	below ground surface
CQCR	Chemical Quality Control Report
E&E	Ecology and Environment, Inc.
EPA	Environmental Protection Agency
FPM	FPM Group Ltd.
ft	feet
LAW	LAW engineering and environmental services, Inc.
LTM	Long Term Monitoring
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OWS	Oil water separator
PEER	PEER Consultants, P.C.
PID	Photoionization detector
PP	Proposed Plan
QAPP	Quality Assurance Project Plan
RI	Remedial Investigation
RSCO	Recommended Soil Cleanup Objectives
STARS	Spills Technology and Remediation Series
SVI	Soil Vapor Intrusion
SVOC	Semi-Volatile Organic Compound
TAGM	Technical and Administrative Guidance Memorandum
TCE	trichloroethylene

USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WP	Work Plan

1.0 INTRODUCTION

FPM Group, Ltd. (FPM) has been contracted by the Air Force Center for Environmental Excellence (AFCEE) to assist the Air Force in evaluating the potential for soil vapor intrusion (SVI) at the former Griffiss Air Force Base (AFB). The SVI evaluation was performed to confirm the results from a previous SVI evaluation performed in 2007. It should be noted that the site evaluated in this investigation is an industrial/commercial site and that the site is not intended for future residential use.

The investigation was performed at the following Area of Concern (AOC):

- Building 133 AOC (ST053).

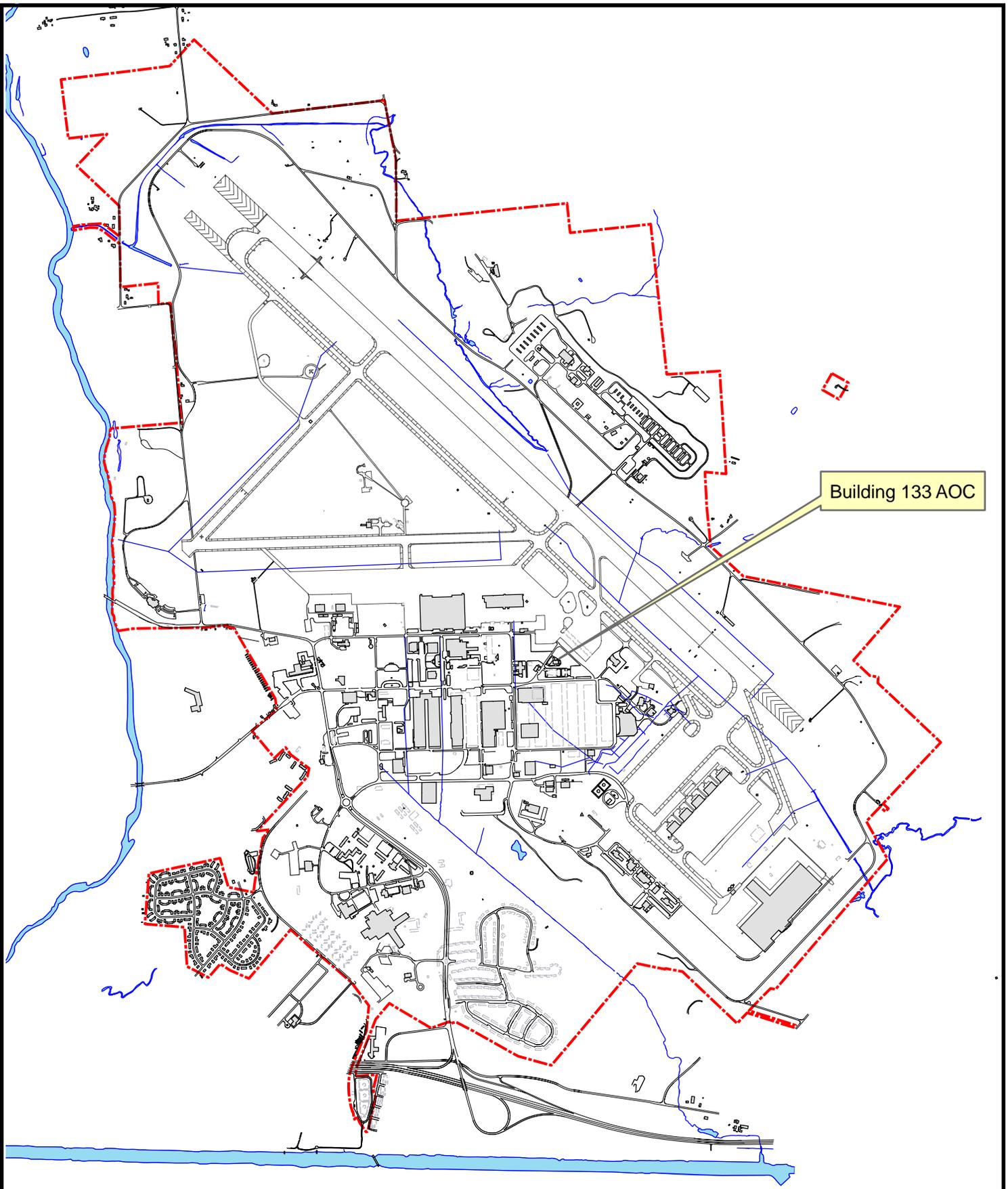
An aerial view of Griffiss AFB showing all Building 133 site is provided in Figure 1-1.

Since this investigation was a confirmatory sampling event, the investigation was performed in accordance with the original Draft Work Plan (WP) for SVI Sampling (FPM, January 2007). The first sampling event at the Building 133 AOC occurred on March 16, 2007. The data collected from this event, and an additional event on April 11, 2007 was evaluated and summarized in the Draft Soil Vapor Intrusion Evaluation (FPM, October 2007). The report recommended no further action or evaluation required at the Building 133 AOC site. However, FPM was asked to conduct this follow-up SVI evaluation.

The fieldwork was performed on December 4th, 2009 as detailed in the daily Chemical Quality Control Report (CQCR), attached in Appendix A. Three types of samples were collected during this evaluation: indoor air, outdoor air, and sub-slab vapor. Indoor air samples are air samples collected from within the building envelope in the normal breathing zone of humans, generally 5 feet (ft) above ground level. Outdoor air samples are samples collected outside of the building envelope, typically at 5 ft above ground level to characterize site-specific background conditions. Sub-slab vapor samples are soil gas samples collected under the slab of a building from two inches in the sub-base material through a hole drilled in the slab.

In contrast to the 2007 SVI evaluation, no soil vapor samples were collected during this SVI sampling event. This 2009 SVI sampling event specifically targeted the Building 133 footprint, and not the entire Building 133 AOC. Therefore, exterior soil vapor sampling was deemed not necessary, considering soil vapor sampling evaluates the preferential pathways of vapors not beneath the foundation or slab of a building.

The Building 133 site is described below. A summary of past investigations, details of the work plan and site maps are provided to illustrate the sampling locations.



- Legend**
- | | |
|----------------|--------------|
| — Airfield | Facilities |
| - - - Boundary | □ Demolished |
| — Road | ■ Existing |
| | ■ Hydro |

FIGURE 1-1
SRA SVI Site Map

3



UNITED STATES AIR FORCE
FORMER GRIFFISS AIR FORCE BASE
ROME, NEW YORK



03/15/2010

2.0 BUILDING 133 AOC (ST053)

2.1 Building Setting

The Building 133 AOC (ST053) included Building 133 (5,520 sq ft) which was a former armament and electronics shop used for gun cleaning and surrounding grounds. One 4,000-gallon underground storage tank [(UST) (UST 133, installed in 1972)], which is located south of the building, collected waste oils and wastewater from Building 133 (Figure 2-1). UST 133 was removed in 1997. Oil water separator (OWS) 133 (a below-floor, 30-gallons per minute unit) was located beneath the concrete floor in the south central section of the building. OWS 133 was removed in January 1999.

Records indicate that liquid found in UST 133 exhibited petroleum odors (Tetra Tech, September 1994). In 1997, due to the documented release of petroleum products and cracks observed in the side of UST 133, Spill number 9702171 was opened with the New York State Department of Environmental Conservation (NYSDEC).

2.2 Hydrogeological Setting

The Building 133 AOC site is generally flat with little or no elevation change. The site is partly covered with asphalt and concrete and partly with grassy fields. The groundwater flow direction was identified during June and September 2003 sampling rounds and is in the southwest direction. Groundwater is located at approximately 13 ft bgs.

2.3 Summary of Previous Investigations

LAW Engineering and Environmental Service, Inc. (LAW) performed a remedial investigation (RI) at the Building 133 AOC in 1996. Four soil borings were installed on the southern and western sides of the building (not shown on figure). Three of the soil borings were located within 15 feet of UST 133. The results from this soil sampling indicated semi-volatile organic compound (SVOC) detections exceeding Spill Technology and Remediation Series (STARS) Guidance Values. The exceedances were found from 0 to 8 ft bgs. Volatile organic compound (VOC) exceedances were found at two soil borings. Groundwater was encountered between 8.5 to 10 ft bgs and groundwater grab samples were collected from the top of the water table. The results showed VOC detections exceeding New York State (NYS) Class GA Groundwater Standards (LAW, December 1996).

In 1997, PEER Consultants, P.C. (PEER) cleaned the area around OWS 133 and removed UST 133. The contaminated soil was overexcavated from the UST pit and disposed of off-site (PEER, December 1999). Soil samples were collected during the remediation process. The results showed VOC and SVOC contamination 5 ft below the concrete floor. The pit from the first excavation was overexcavated but VOC and SVOC contamination was still reported at the site. At this time, due to the existing contamination, spill number 9702171 was issued to the site.

In August 1997, a supplemental investigation of the site's groundwater was conducted by Ecology and Environment, Inc. (E&E). Fifty-two Geoprobe[®] points were installed for this investigation along with three monitoring wells (133MW-1,-2, and -3) as shown on Figure 2-1. Results of the Geoprobe[®] investigation identified a low level (i.e. below NYS Groundwater Standards) trichloroethylene (TCE) plume. Results also showed total xylenes concentration exceeding the NYS Groundwater Standards at 133MW-1.

PEER performed a subsurface soil investigation in October 1998. Twenty-eight borings were installed. Saturated soil was encountered at 8 to 12 ft bgs. VOC and SVOC contamination was found in the saturated zone. Two hundred-forty SVOC exceedances of STARS Guidance Values were reported in the shallow vadose soil zone, but no VOC exceedances of STARS Guidance Values were reported in the shallow soil zone. In December 1998, 133MW-3R was installed to replace 133MW-3. During the installation, PEER collected two soil samples from 0 to 4 ft bgs and one sample from 8 to 12 ft bgs. No VOC contamination was detected during this sampling event; however, seven SVOCs exceedances of the STARS Guidance Values were reported for the two shallow soil samples.

PEER removed OWS 133 in January 1999. Six soil samples were collected from the excavation. Only one VOC (toluene) exceeded its STARS Guidance Value at one sample location. Five sample locations showed SVOCs detected at levels exceeding STARS Guidance Values. No further remediation was performed at the OWS 133 excavation and the site was backfilled. In December 1999, PEER installed monitoring well 133MW-4 in order to sample groundwater downgradient of monitoring well 133MW-1 and the UST 133 excavation area. Groundwater samples were collected from the four existing wells; results indicated no VOC or SVOC detections above NYS Groundwater Standards (the groundwater was sampled from the three original wells [133MW-1, -2, and -3] four times before the sampling round of December 1999. No VOC or SVOC exceedances were reported in each of the previous sampling rounds).

In December 2000, a memorandum from the NYSDEC was published, which directed the determination of soil cleanup objectives. Technical and Administrative Guidance Memorandum (TAGM) 4046 was to be used at all in-situ soil cleanup objectives, while STARS Memo #1 was to be used for excavated soils and their handling and disposal. The memorandum was effective immediately.

From October to December 2001, PEER conducted remedial activities to delineate SVOC contamination in the unsaturated soil zone. Excavation was conducted down to 4 ft bgs (Figure 2-1). A total of 1,050 cubic yards of excavated soil was transported to the Apron 1 Landfarm for bioremediation. Photoionization detector (PID) readings taken during the soil excavation indicated the highest concentrations of VOC gases at the bottom of the excavation pit. Thirteen soil samples were collected and results reported 21 SVOC detections exceeding Technical and Administrative Guidance Memorandum (TAGM) 4046 Recommended Soil Cleanup Objectives

Key to Features

Wells		Storage Tank	
	Monitoring		Former Oil/Water Separator
	Decommissioned		Former Underground Storage Tank
	Road	Facilities	
	Airfield		Demolished
	2001 excavation		Existing
	2001 overexcavation		

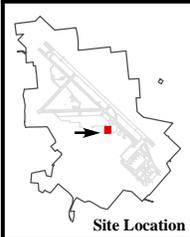
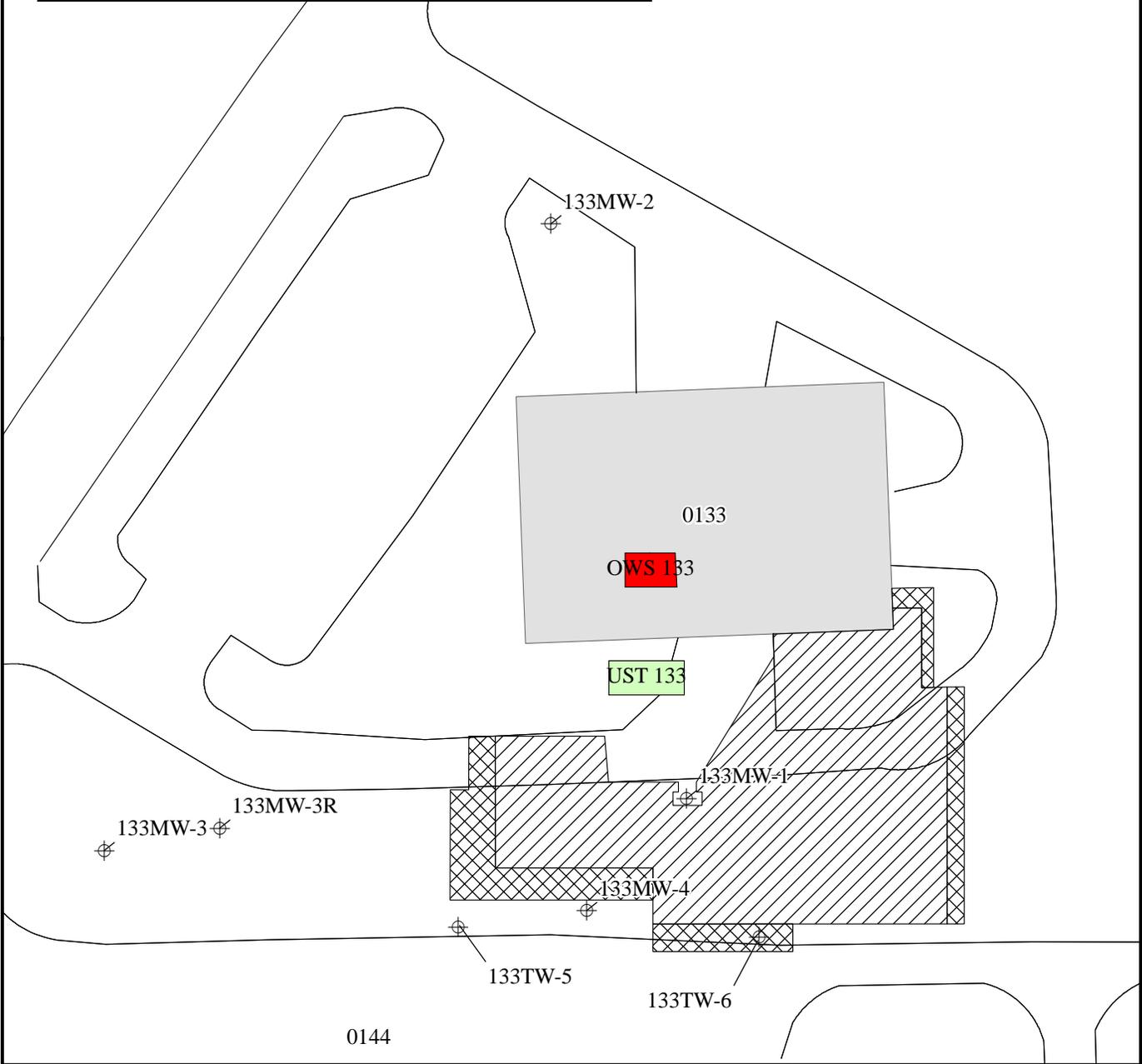


FIGURE 2-1
Building 133 AOC
Site Location and Features

25 12.5 0 25 50

 Feet

United States Air Force
 Former Griffiss Air Force Base
 Rome, New York

03/15/2010

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(RSCOs) at the north, south, east, and west sidewalls of the excavation. No VOCs were detected during this sampling exceeding TAGM 4046 RSCOs.

The site was over-excavated by 5 feet in November 2001. During the overexcavation, four soil samples were collected and submitted for SVOC analysis. Three SVOCs exceeded TAGM 4046 RSCOs in the north, south and west sidewalls.

A second round of overexcavation was performed to remove the remaining contaminated soil. Three soil samples were collected from the excavation pit. Four SVOCs exceeded TAGM 4046 RSCOs in the west sidewall of the excavation pit.

Round three of overexcavation was performed at the west sidewall. Two soil samples were collected from the west sidewall. Results showed five SVOCs exceeding TAGM 4046 RSCOs in one sample.

The final overexcavation was conducted on December 3, 2001. Two soil composite samples were collected from the west sidewall. Results showed no SVOC exceedances.

The Building 133 AOC site was restored in mid-December 2001. 1,046 cubic yards of clean fill, along with 65 tons of crushed stone and 738 tons of sand were backfilled into the excavation pit.

During July 2001, FPM characterized the vertical extent of the TCE plume by means of vertical profiling/Hydropunch[®] sampling. At two groundwater sampling locations, 133TW-5 and 133TW-6 (see Figure 2-1), samples were collected using a disposable bailer through a 2-inch PVC screen at the top of the water table (approximately 10 ft bgs), followed by a Hydropunch[®] II sampler at 5-foot intervals, down to the top of bedrock (approximately 35 ft bgs at 133TW-5, and 30 ft bgs at 133TW-6). All samples were collected at discrete intervals; the Hydropunch[®] sampler was advanced to the depth provided and pulled back no greater than approximately 6 inches (FPM, January 2003).

Samples collected at 133TW-5 and 133TW-6 were analyzed for VOCs using Environmental Protection Agency (EPA) method SW8260B and, when sufficient volume was available, for SVOCs using EPA method 8270. The only VOC reported at levels exceeding NYSDEC Groundwater Standards was 1,2,3-trichloropropane (reported at 0.29 µg/L with data validation flag "F," indicating the detection was below the reporting limit); however, it was detected only at the 25.5 ft interval (at 133TW-5), and is therefore considered an anomaly. The SVOC bis(2-ethylhexyl) phthalate, reported at 10 µg/L and 91 µg/L in the uppermost interval at 133TW-5 and 133TW-6, respectively, is known to commonly leach from plastics and PVC products. Since the groundwater samples at the top of the groundwater table were collected through a PVC well screen, and bis(2-ethylhexyl) phthalate was not reported in any of the deeper intervals nor during previous investigations at the Building 133 AOC, it is not considered a contaminant of concern (FPM, July 2004).

FPM performed two additional groundwater sampling rounds to confirm the absence of groundwater contamination at the site. The groundwater sampling was conducted in June and September 2003 at monitoring wells 133MW-1, -2, -3R and -4. No exceedances were identified during groundwater sampling rounds at the Building 133 AOC.

In the draft long term monitoring (LTM) report, the Building 133 AOC site was recommended for closure (FPM, July 2004). The NYSDEC Spill #9702171, associated with the Building 133 AOC, will be recommended for closure once the soil from the site has been successfully bioremediated. Presently, the soil is still in a biopile undergoing bioremediation and therefore the spill number has not been recommended for closure yet. The Building 133 AOC proposed plans, proposing no further action was submitted to the regulators in November 2005. NYSDEC responded with a letter dated March 8th, 2006, stating that a satisfactory SVI study should be performed or a site management plan (SMP) addressing SVI potential should be developed.

The initial SVI study was performed on March 16, 2007 for soil vapor and sub-slab sampling and on April 11, 2007 for outdoor air and indoor air sampling. The results from the sampling event are summarized in Table 2-3 and Table 2-4. Results indicated acceptable risk for sub-slab vapor, soil vapor, indoor air and outdoor air quality. Acceptable risk is based on that all sample detected results were below the screening levels. This 2009 SVI sampling event was performed to confirm the 2007 SVI evaluation for sub-slab and indoor/outdoor sample analytical results.

2.4 SVI Sampling Activity

The objective of the SVI sampling was to confirm previous results. SVI sampling at Building 133 was performed on December 4, 2009. Samples were collected in accordance with the Draft WP (FPM, January 2007). The field activity summary is provided in Table 2-1, while the sample analysis summary is provided in Table 2-2. Sample locations are shown in Figure 2-2.

Building 133 was originally used as an armament and electronics shop. Currently, Building 133 is used as a machine shop. Because the building is only occupied during regular business hours, indoor and outdoor samples were collected over an 8-hour period. The sub-slab samples were collected from three locations within the footprint of the building; one from the original location of the OWS and two at appropriate locations away from the OWS. The indoor air sample was collected from the large work area within Building 133, which occupies the majority of the floor surface of the building.

An interview was performed with the current building occupants. The New York State Department of Health (NYSDOH) Indoor Air Quality Questionnaire and Building Inventory form was completed during the interview. Photographs were taken of the potential VOC sources (spray cans, etc) present on the work bench. Other sources were observed in locked cabinets, but

Table 2-1
Building 133 AOC Field Activity Summary

Activity	Rationale	Analytical Parameters
Collection of three sub-slab vapor samples from the lowest floor in Building 133.	Sub-slab vapor samples shall be collected to determine the soil gas buildup under Building 133 for current human exposures. The results will indicate the SVI potential.	VOCs - EPA TO-15
Collection of one indoor air sample from the lowest floor within Building 133.	Indoor air samples shall be collected to evaluate potential human exposures. Indoor air samples will be compared to soil vapor samples to identify any similarities or discrepancies, which could have resulted from other sources (i.e., from within the building).	
Collection of one outdoor air sample outside the Building 133 AOC. It shall be collected simultaneously with the indoor air sample.	Outdoor air samples shall be collected to characterize the site-specific background air conditions, and to specifically evaluate the extent to which outdoor sources may be influencing indoor air quality. Outdoor air samples shall serve as background samples for this investigation.	

Table 2-2
Building 133 AOC Sample Analysis Summary

Sample ID	Sample Type	No. of Samples	No. of Field Dups./Reps.	No. of Trip Blanks
133SS0101BB, 133SS0201BB, 133SS0301BB	Sub-slab Vapor	3	-	1
133IA0105BB	Indoor Air	1	-	
133OA0105BB	Outdoor Air	1	-	

Key to Features

SVI Sample Locations		 2001 excavation
 Indoor	 2001 overexcavation	
 Outdoor	Storage Tank	
 Subslab	 Former Oil/Water Separator	
 Wells	 Former Underground Storage Tank	
 Road	Facilities	
 Airfield	 Demolished	
	 Existing	

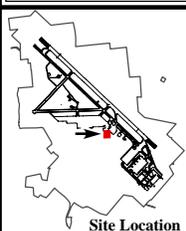
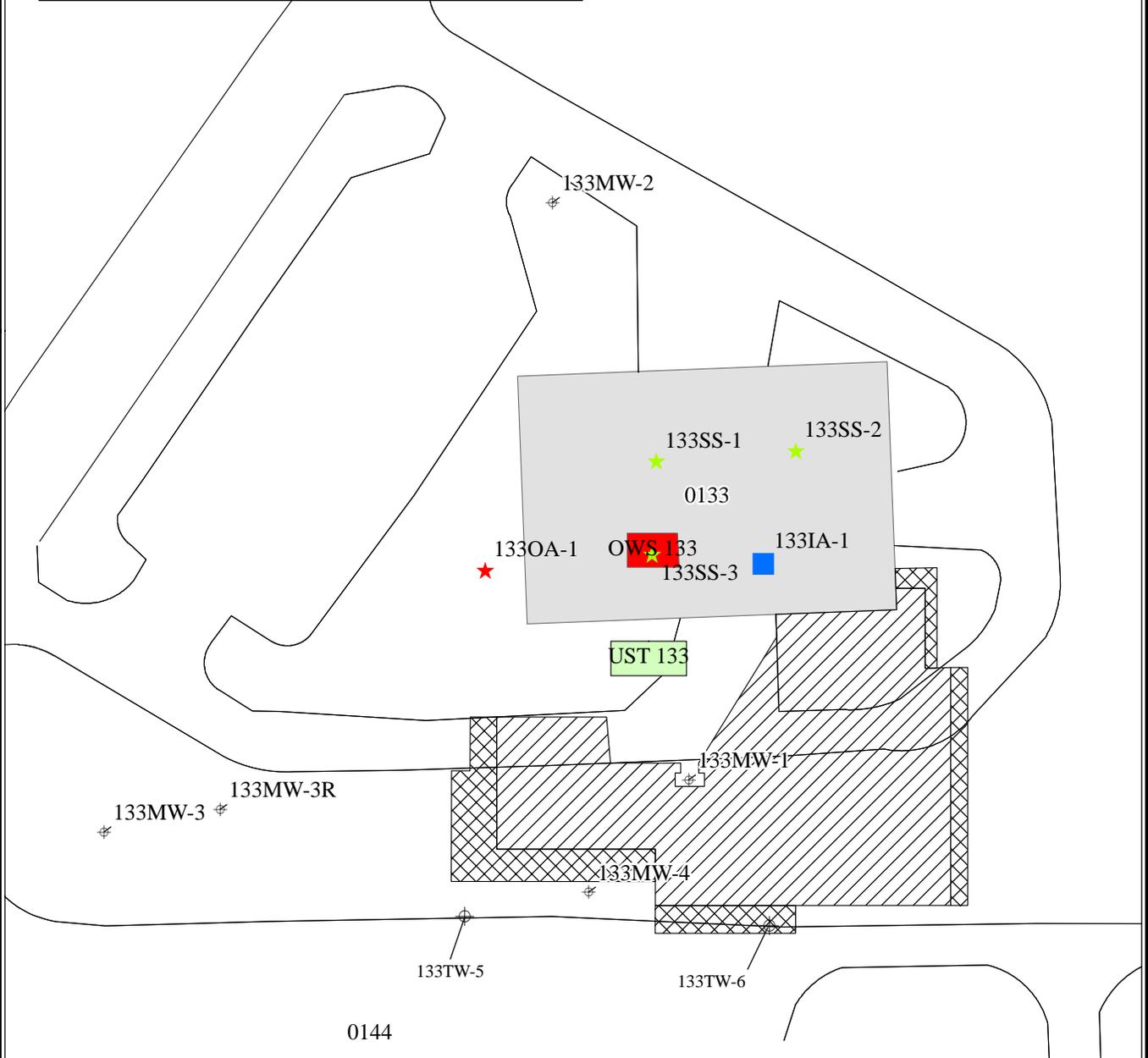


FIGURE 2-2
Building 133 AOC
December 2009 SVI Sampling Locations

25 12.5 0 25 50
 Feet

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the building occupant explained that no spray paints, cleaning agents, degreasers, etc, have been used for over 6 months and the cabinet had not been opened.

All field sampling forms, including the NYSDOH form are attached in the daily CQCR in Appendix A. Detailed photographs of the sampling locations and the building volatile chemical inventory are included in Appendix B. The validated data are attached in Appendix C and the raw lab data are provided in Appendix D.

2.5 Results and Conclusions

Sub-slab vapor: The detected analytical results for the Building 133 AOC sub-slab samples are provided in Table 2-3. Screening levels were developed as documented in Appendix E. Sub-slab vapor samples are below the screening levels.

Indoor and outdoor sampling: The detected analytical results for the Building 133 AOC indoor and outdoor samples are provided in Table 2-4. Indoor and outdoor air samples are below the screening levels.

Conclusions: Since all detections in the samples collected at the Building 133 AOC are below the screening levels, no further action or evaluation of SVI is required at the Building 133 AOC site.

The outdoor air sample was a background sample with generally similar COCs reported as the indoor air sample but at similar or lower concentrations. In the sub-slab samples, similar COCs were reported as in the indoor air sample, but with concentrations up to one order of magnitude higher. However, no COCs exceeded any screening levels. The high acetone detection reported in the indoor and sub-slab sample (133SS-2) in the March 2007 sampling round, was not reported in the December 2009 sampling round.

Table 2-3
B133 AOC Detected Soil Vapor and Sub-slab Vapor Analytical Results

Sample Location	Sub-slab Screening Level ($\mu\text{g}/\text{m}^3$) ¹	133SS-1		133SS-2		133SS-3		Soil Vapor Screening Level ($\mu\text{g}/\text{m}^3$) ¹	133SV-1	133SV-2
		133SS0101AA	133SS0101BB	133SS0201AA	133SS0201BB	133SS0301AA	133SS0301BB		133SV0105AA	133SV0205AA
Sample ID		Sub Slab		Soil Vapor	Soil Vapor					
Sample Type										
Sample Date		16-Mar-2007	4-Dec-2009	16-Mar-2007	4-Dec-2009	16-Mar-2007	4-Dec-2009		16-Mar-2007	16-Mar-2007
Sample Depth (ft bgs)		1	1	1	1	1	1		5	5
Sample Collection Duration (hr)	12	1	1	1	1	1	1	12	1	1
Volatiles (TO-15) in $\mu\text{g}/\text{m}^3$										
1,1,1-trichloroethane	146,000	1.2	24	1.4	4.2 M	3.1	19	1,460,000	U	62 M
1,2,4-trimethylbenzene	175	10 F	9.5 M	7.9 M	4.6 M	7.9	16	1,750	3.0	2.6 M
1,3,5-trimethylbenzene	175	4.1	3.3 M	1.7	1.3 M	1.6	5.8 M	1,750	0.60 F	0.9 M
1,4-dichlorobenzene	23,360	U	U	U	U	U	U	233,600	U	4.6 M
2,2,4-trimethylpentane	NA	5.0	2.2 M	1.7 M	U	0.62 F	1.6 M	NA	U	U
4-ethyltoluene	NA	6.9	2.2 M	2.5 M	1.5 M	1.0	4.3 M	NA	0.60 F	2 M
acetone	NA	190	120	2700	56	21	150	NA	8.9	150
allyl chloride (3-chloropropene)	29	U	U	U	U	4.2	U	290	U	U
benzene	105	4.7	24	6.6	20	U	12	1,050	0.68	6.4 M
carbon disulfide	20,440	0.98	16	2.0	4.3	0.57	6.3	204,400	U	0.54 M
carbon tetrachloride	55	U	3.2 M	0.77 F	1.6 M	0.77 F	1.2 M	550	U	U
chloroform	36	U	0.79	U	0.74	U	U	360	U	1.8 M
chloromethane	818	U	U	U	U	U	U	8,180	1.1	0.23 F
cis-1,2-dichloroethene	NA	U	U	U	U	U	0.85	NA	U	U
cyclohexane	175,200	7.7 F	120	15	77	3.8 F	56	1,752,000	U	4.4 M
ethylbenzene	743	17	9.5 M	80	3.3 M	1.1	16	7,430	0.44 F	5.0 M
freon 11	20,440	3.7	8.2	1.4	2.9	1.9	2.9	204,400	0.80 F	0.97 M
freon 113	876,000	U	0.86 F	U	3.5	0.93 F	1.6	8,760,000	U	U
freon 12	20,440	2.8	4.8	1.7	3.7	1.8	4.9	204,400	1.7	1.5 M
heptane	NA	71	130	69	49	1.6	22	NA	U	5.6 M
hexane	20,440	13	200	47	110	11	51	204,400	0.57	16 M
m,p-xylene (sum of isomers)	2,920	49	31 M	310	11 M	3.3	37	29,200	1.2 F	7.9 F
methyl ethyl ketone	146,000	U	U	U	U	13	U	1,460,000	1.7	U
methyl isobutyl ketone	87,600	U	0.50 F	U	U	U	U	876,000	U	0.96 F
methylene chloride	1,740	26	210	23	66	13	47	17,400	0.53	0.53 M
o-xylene	2,920	11 F	7.2 M	48	2.9 M	1.3	5.6 M	29,200	0.62 F	3.1 M
tetrachloroethylene (pce)	139	2.3	3.7 M	3.4 M	4.1 M	1.0	2.6 M	1,390	U	5.9 M
tetrahydrofuran	NA	5.7	U	U	U	68	U	NA	1.1	U
toluene	146,000	28	36	34	28	13	38	1,460,000	1.6	41 M
trichloroethylene (tce)	409	U	1.8 M	U	U	U	1.4 M	4,090	U	2.7 M

Notes:

- F - The analyte is detected and the quantitation is between the MDL and RL.
- J - The analyte is positively identified, the quantitation is an approximation.
- M - A matrix effect was present.
- NA - Not available.
- U - The analyte was not detected above the MDL.
- 1. See Appendix E for sub-slab vapor and soil vapor screening level calculations.

Table 2-4
 B133 AOC Detected Indoor and Outdoor Analytical Results

Sample Location	Indoor Air Screening Level	133IA-1		133OA-1	
		133IA0105AB	133IA0105BB	133OA0105AB	133OA0105BB
Sample ID	(ug/m ³) ¹	Indoor	Indoor	Outdoor	Outdoor
Sample Type		11-Apr-2007	4-Dec-2009	11-Apr-2007	4-Dec-2009
Sample Date					
Sample Depth (ft above ground)		5	5	5	5
Sample Collection Duration (hr)	12	8	8	8	8
Volatiles (TO-15) in ug/m ³					
1,2,4-trimethylbenzene	18	10.4	14.0	U	1.75
1,3,5-trimethylbenzene	18	2.80	9.34 M	U	0.550 F
1,4-dichlorobenzene	2,336	1.71 J	U	2.51	U
2,2,4-trimethylpentane	NA	9.50 M	3.13	U	U
4-ethyltoluene	NA	4.85	8.34 M	U	U
acetone	NA	2490	22.5	5.00	17.4
benzene	88	12.7 M	5.78	U	0.390 F
carbon tetrachloride	55	0.256	0.384	U	U
chloromethane	263	0.420	0.609	0.378	0.609
cis-1,2-dichloroethene	102	U	0.484 F	U	U
cyclohexane	17,520	5.95	14	U	U
ethyl acetate	9,344	226	U	U	U
ethylbenzene	743	11.5	9.27	U	0.750
freon 11	2,044	0.800 F	0.914	U	0.971
freon 12	584	1.46	2.31	0.804	2.21
heptane	NA	9.16 M	7.5	U	U
hexane	2,044	31.5	10.7	U	U
m,p-xylene (sum of isomers)	292	36.2	19.4	U	1.72
methyl ethyl ketone	14,600	0.958 F	U	U	U
methyl isobutyl ketone	NA	U	1.42	U	U
methyl tert-butyl ether	8,760	1.25	U	U	U
methylene chloride	1,740	4.20	U	0.847	0.353 F
o-xylene	292	9.27	8.83 M	U	U
styrene	2,920	U	U	U	U
tetrachloroethylene (pce)	102	10.4	13.4 M	U	U
toluene	14,600	221	24.5	0.728	1.72
trichloroethylene (tce)	41	0.765	0.546	U	U

Notes:

F - The analyte is detected and the quantitation is between the MDL and RL.

J - The analyte is positively identified, the quantitation is an approximation.

M - A matrix effect was present.

NA - Not available.

U - The analyte was not detected above the MDL.

- - No indoor or outdoor initial benchmark is available.

1. See Appendix E for indoor air screening level calculations.

3.0 REFERENCES

FPM Group, Ltd., Draft Work Plan, Soil Vapor Intrusion Sampling, Buildings 43, 100, 110, 133, 771, Tank Farms 1 and 3, and Fire Protection Training Area, Former Griffiss Air Force Base, Rome, New York, Revision 0.0, January 2007.

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