**DEPARTMENT OF THE AIR FORCE**
**AIR FORCE CIVIL ENGINEER CENTER**

July 20, 2016

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SUBJECT: Final Quarterly Operations and Maintenance Report (1st Quarter / Calendar Year 2016) SD-052-02 Building 775 Site (Buildings 774 and 776) and SD-052-01 Apron 2 Chlorinated Plume Site (Buildings 785 and 786) Sub-Slab Vapor Mitigation Systems Former Griffiss Air Force Base (AFB) Rome, New York Contract Number FA8903-10-D-8595 / Delivery Order 0014 July 2016

Accompanying this letter please find the "Final Quarterly Operations and Maintenance Report (1st Quarter / Calendar Year 2016) for SD-052-02 Building 775 Site (Buildings 774 and 776) and SD-052-01 Apron 2 Chlorinated Plume Site (Buildings 785 and 786)" in relation to work conducted at the Former Griffiss AFB in Rome, New York under the referenced Performance Based Remediation (PBR) contract.

This Report has been prepared by the Air Force Civil Engineer Center (AFCEC) to present the operations and maintenance of the respective sub-slab vapor mitigation systems at the Former Griffiss AFB in Rome, New York. This version of the report incorporates data through March 2016.

Should you have any questions or concerns please contact me at 518-563-2871.

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# FINAL

# QUARTERLY OPERATIONS AND MAINTENANCE REPORT

# SD-052-02 BUILDING 775 SITE (BUILDINGS 774 AND 776) AND

# SD-052-01 APRON 2 CHLORINATED PLUME SITE (BUILDINGS 785 AND 786)

# SUB-SLAB VAPOR MITIGATION SYSTEMS

# (1ST QUARTER / CALENDAR YEAR 2016 / JANUARY - MARCH)

**FORMER GRIFFISS AIR FORCE BASE**
**ROME, NEW YORK**

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**Contract Number FA8903-10-D-8595/Delivery Order 0014**

**July 2016**

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## LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| **acfm** | actual cubic feet per minute |
| **AF** | Air Force |
| **AFB** | Air Force Base |
| **AFCEC** | Air Force Civil Engineer Center |
| **AFRPA** | Air Force Real Property Agency |
| **bgs** | below ground surface |
| **COC** | Contaminant of Concern |
| **CQCRs** | Chemical Quality Controls Reports |
| **CY** | calendar year |
| **DCE** | dichloroethylene/dichloroethene |
| **EEEPC** | Ecology & Environment Engineering, P.C |
| **FPM** | FPM Remediations, Inc. |
| **ft** | feet |
| **GAC** | granular activated carbon |
| **inch w.g.** | inch of water gauge |
| **J** | The analyte was positively identified, but the quantitation is an estimation. |
| **µg/L** | micrograms per liter |
| **µg/m$^3$** | micrograms per cubic meter |
| **NYSDEC** | New York State Department of Environmental Conservation |
| **NYSDOH** | New York State Department of Health |
| **O&M** | Operation and Maintenance |
| **PCE** | tetrachloroethylene/perchloroethylene/tetrachloroethene/perchloroethene |
| **PDI** | pre-design investigation |
| **PVC** | polyvinyl chloride |
| **ROD** | Record of Decision |
| **RWPCF** | Rome Water Pollution Control Facility |
| **sq ft** | square feet |
| **SSVM** | Sub-Slab Vapor Mitigation |
| **SVE** | Soil Vapor Extraction |
| **SVI** | Soil Vapor Intrusion |

## LIST OF ACRONYMS AND ABBREVIATIONS (continued)

| | |
|---|---|
| **TCA** | trichloroethane |
| **TCE** | trichloroethylene/trichloroethene |
| **TCLP** | Toxicity Characteristic Leaching Procedure |
| **USEPA** | United States Environmental Protection Agency |
| **VC** | Vinyl Chloride |
| **VMP** | Vapor Monitoring Point |
| **VOC** | **V**olatile Organic Compound |

# 1 INTRODUCTION

FPM Remediations, Inc. (FPM), in association with CAPE Environmental Management, Inc., under contract with the Air Force Civil Engineer Center (AFCEC), is conducting Operation and Maintenance (O&M) on Sub-Slab Vapor Mitigation (SSVM) systems associated with SD-052-02 Building 775 Site [Buildings 774 and 776] and SD-052-01 Apron 2 Chlorinated Plume Site [Buildings 785 and 786] at the former Griffiss Air Force Base (AFB) in Rome, New York. The O&M at the sites is conducted in accordance with provisions of the Basic Contract # FA8903-10-D-8595 and Delivery Order # 0014. Figure 1-1 depicts the SSVM site locations of Buildings 774, 776, 785 and 786.

This quarterly report has been prepared to document the SSVM systems O&M activities from the 1st quarter of the calendar year (CY) 2016 including the months of January through March. Additionally, the report contains (as applicable) analytical results and discussion of soil vapor intrusion (SVI) sampling which is performed to evaluate SSVM. O&M was conducted in accordance with the Final Completion Report Sub-Slab Vapor Mitigation Systems (FPM, February 2013).

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# 2 SITE INFORMATION

## 2.1 SD-052-02 BUILDING 775 (BUILDINGS 774 AND 776)

Buildings 774 and 776 are located between Phoenix Drive and Patrol Road on Strategic Air Command Hill at the former Griffiss AFB in Rome, NY and are associated with the SD-052-02 Building 775 Site (Figure 2-1). Building 774 is a one-story, 18,990 square feet (sq. ft.) office building, currently occupied by a computer/security firm. The building is occupied on work days from 8 AM to 5 PM by approximately 45 people. Building 774 was built in 1959, but underwent major renovations in 2000. New windows and doors were installed, 36 new air handlers were installed, including new air ducts in ceilings and new cooling towers. The building is built on an 8-inch thick concrete slab, with no basement and most floors are covered with carpeting. Several floor drains exist in bathrooms, janitor closets and the boiler room.

Building 776 is a one-story, 27,410 sq. ft. office building, currently occupied by a software development firm. The building is occupied on work days from 7 AM to 6 PM by approximately 80 people. Building 776 was built in 1959, but underwent major renovations in 2002. New windows, which do not open, and doors were installed, the interior was refinished and most floors were covered with new carpeting. Heat and outdoor air are provided through 43 heat pumps. The building is built on a 3.5 to 6-inch thick concrete slab, with no basement. Several floor drains exist in bathrooms and one crack was observed in the concrete floor near the southeastern entrance door.

The Building 775 Site plume is located downgradient and south of former maintenance facilities in Buildings 774 and 776 and former fuel pump house Building 775. Solvent use in the degreasing room of Building 774 is the suspected source of groundwater trichloroethylene (TCE) contamination (Air Force Real Property Agency [AFRPA], December 2008). Solvent use was widespread in these facilities in the 1950s, 1960s, and early 1970s. The contaminated aquifer is comprised of silty sands with an average thickness extending from 60 feet (ft) below ground surface (bgs) to 120 ft bgs, where shale bedrock is encountered.

### 2.1.1 Groundwater Investigation

The primary contaminant exceeding New York State Department of Environmental Conservation (NYSDEC) Class GA Groundwater Standards is TCE, with minor detections of 1,1,1-trichloroethane (TCA) and perchloroethylene (PCE). Figure 2-1 shows Building 774 and 776 along with the location of monitoring wells. Monitoring well 775VMW-5, located near the corner of Building 776, is the only well in the maintenance area that contains elevated levels of TCE (99.2 micrograms per liter [µg/L] in September 2004). Most of the Building 775 plume appears to have migrated south toward Landfill 6. In September 2004, the maximum groundwater TCE concentration was 134 µg/L (detected at well 775MW-20, located near the leading edge of the plume near Perimeter Road). TCE was detected at 132 µg/L (in well 775VMW-10), which is also located near the leading edge of the plume near Perimeter Road. TCE in both of these wells was detected in the bottom half of the sandy aquifer in screened intervals from 88 to 120 ft bgs. Nearby well LF6MW-1 is screened in the upper 10 ft of the aquifer and does not have detectable TCE concentrations (FPM, February 2005).

Additional sampling was performed by Ecology & Environment, Inc., and FPM in 2006 as part of the feasibility study for the Building 775 Site. Ecology & Environment Engineering, P.C., (EEEPC) performed pre-design investigation (PDI) activities at the Building 775 Site starting in September 2006. First, two monitoring wells were installed (775MW-27 and -28). The wells were developed and sampled at the end of October into the beginning of November 2006. Results showed that the primary contaminant exceeding NYSDEC Class GA Groundwater Standards was TCE, with minor detections of 1,1,1-TCA and PCE. FPM performed sampling at several other monitoring wells at the Building 775 Site in order to create a complete understanding of current site conditions. The results and conclusions were reported in the Final PDI Report (EEEPC, February 2007).

A remedial action was selected through the On-base Groundwater Record of Decision (ROD) [Air Force Real Property Agency (AFRPA), December 2008] and described in the Remedial Action Work Plan [Parsons, July 2008]. The SVI in Buildings 774 and 776 is being managed as a separate operable unit and therefore is not included in the On-base Groundwater ROD. The remedial action is a groundwater extraction system with a discharge to an off-site treatment facility. The groundwater extraction system is designed to contain the contaminated plume and extract the contaminants from the aquifer which is located surrounding monitoring well 775VMW-5 and presented in Figure 2-1. The start-up date of the groundwater extraction system was January 5, 2009. At this time, FPM also started sampling at Building 775 Site to monitor the performance of the installed remedy. The most recent performance monitoring sampling results have shown TCE detections up to 68 µg/L occurring in 775VMW-5 (FPM, December, 2011). This is a decrease from the September 2004 sampling event, where monitoring results from 775VMW-5 showed a TCE detection of 99 µg/L.

### 2.1.2 2006 Soil Vapor Intrusion Evaluation

EEEPC also performed an SVI evaluation during the 2006 PDI activities (at Building 775 Site - SD052-02). Sub-slab sampling at the Building 775 Site indicated that chloroform and TCE were present in the sub-slab vapor at Buildings 774 and 776 at concentrations above the Air Force (AF) screening levels (FPM, October 2007). Indoor air sampling at both buildings indicated that these contaminants were present, but at concentrations below the AF screening levels. Sub-slab vapor TCE concentrations ranged from 810 micrograms per cubic meter (µg/m$^3$) to 1,700 µg/m$^3$ at Building 774. Sub-slab vapor TCE concentrations ranged from 700 µg/m$^3$ to 3,000 µg/m$^3$ at Building 776. The TCE and chloroform detections were likely associated with the groundwater contamination plume located in the area. TCE has been detected in groundwater at concentrations above screening levels, while chloroform has been detected in groundwater at concentrations below screening levels. The SVI evaluation sample locations are shown on Figure 2-1 and corresponding results are provided in Table 2-1.

This SVI survey was reviewed by the AF, NYSDEC, New York State Department of Health (NYSDOH) and United States Environmental Protection Agency (USEPA) and during discussions among these parties, a plan for additional sampling was established, which was then implemented by FPM in April and May 2008 (FPM, April 2008).

### 2.1.3 Building 774 Soil Vapor Intrusion Results 2008

The indoor air TCE concentrations, reported for Building 774 during the April 2008 sampling round, were two orders of magnitude higher than those reported in the 2006 sampling round. The Building 774 point of contact (Dave Perella, Senior Facilities Engineer) confirmed that renovations, performed in Building 774 between December 2007 and May 2008, included carpet glue removal through solvent use. Indoor and outdoor air samples were recollected in May 2008 in Building 774. The recollected results show that indoor air TCE concentrations were similar to levels reported in 2006 (Table 2-3). Sub-slab vapor results for Building 774 slightly decreased in comparison to 2006 results. The highest result reported in 2008 was 590 µg/m$^3$ at location 774SSV-2.

In Building 774, the 2008 indoor air concentrations were within an acceptable range and did not pose any unacceptable risk to building occupants. The 2008 sub-slab vapor concentrations in Building 774 exceeded AF screening levels.

### 2.1.4 Building 776 Soil Vapor Intrusion Results 2008

The indoor air TCE concentrations reported for Building 776 during the April 2008 sampling round were comparable to levels reported in 2006. Sub-slab vapor results for Building 776 were lower compared to 2006 results. The highest result reported in 2008 was 110 µg/m$^3$ at location 776SSV-2.

In Building 776, the 2008 indoor air concentrations were within an acceptable range and did not pose any unacceptable risk to building occupants. The 2006 sub-slab vapor concentrations in Building 776 exceeded AF screening levels. Concentrations in 2008 were below screening levels.

## 2.2 SD-052-01 APRON 2 CHLORINATED PLUME (BUILDINGS 785 AND 786)

Buildings 785 and 786 are located on the SD-052-01 Apron 2 Chlorinated Plume Site at the former Griffiss AFB in Rome, NY (Figure 2-2). Buildings 785 and 786 are 28,251 sq. ft., unheated airplane hangars. The buildings are used for storage by the Griffiss International Airport. The buildings are largely open with several first and second floor offices in the southwest corners of the buildings. Buildings 785 and 786 were built in 1959 and were taken out of service in 1995 after the former Griffiss AFB was closed. The buildings are built on a 13.5 to 14-inch thick unsealed concrete slab, comprised of numerous concrete pads installed together with areas of caulked expansion gaps. Large visible cracks in the concrete floors were repaired. Two large trenches exist in the buildings; one along the large aircraft bay doors on the southeast side of the building, and a smaller trench along the overhead door on the northwest side of the buildings. These trenches contain several cracks that may act as conduits. All heating and air handling equipment is in a state of disrepair and assumed inoperable. The buildings are poorly sealed due to broken windows, doors left ajar and holes observed in the sheet metal outer covering of the building. According to drilling logs from the site, silty sand and gravelly sands are the predominant lithology encountered. Groundwater monitoring wells are currently present in Building 785 and outside in the vicinity of both buildings.

### 2.2.1 Groundwater Investigation

An extensive groundwater investigation has occurred surrounding Buildings 785 and 786, which is now in the performance monitoring phase. There are three primary contaminants in the plumes that exceed NYSDEC Class GA Groundwater Standards: TCE and its breakdown products cis-1,2-dichloroethylene (DCE) and vinyl chloride (VC). The southern plume is commingled with several petroleum fuel plumes originating from the Apron 2 fueling system. At locations where chlorinated solvents and fuel contaminants are commingled, significant reductive dechlorination is occurring. Therefore, the selected remedy is monitored natural attenuation, as stated in the On-base Groundwater ROD (AFRPA, December 2008). The SVI in Buildings 785 and 786 is being managed as a separate operable unit and therefore is not included in the On-base Groundwater ROD. Monitored natural attenuation was initiated on September 24, 2008. The most recent groundwater sampling results have shown TCE detections up to 25.5 μg/L at monitoring well 782VMW-105B, cis-1-2-DCE detections up to 45.7 μg/L at monitoring well 782VMW-78 and VC detections up to 63.7 μg/L at monitoring well 782VMW-96 (FPM, November 2013).

### 2.2.2 2006 Soil Vapor Intrusion Evaluation

EEEPC performed an SVI Evaluation in 2006 at the Apron 2 Chlorinated Plume Site. Buildings 782, 783, 784, 785, and 786 were evaluated. No exceedances of the screening levels were reported for Buildings 782, 783, and 784. The Nosedocks 1 and 2 ROD (AFRPA, July 2011) included the selected remedy of No Further SVI action or evaluation for these buildings. Sub-slab sampling at the Apron 2 Chlorinated Plume Site indicated that PCE, TCE and chloroform were present in the sub-slab vapor beneath Buildings 785 and 786 at concentrations above the AF screening levels. Sub-slab vapor sampling results for the 2006 sampling event showed TCE concentrations ranging from 2,300 μg/m$^3$ to 11,000 μg/m$^3$ at Building 785. TCE was detected beneath Building 786 at concentrations ranging from 4,700 μg/m$^3$ to 81,000 μg/m$^3$ in 2006 and PCE was detected at 2,200 μg/m$^3$at location 786SSV-1. Indoor air sampling indicated that PCE and TCE were present, but at concentrations below the AF screening levels. No chloroform was reported in the indoor air. TCE was detected consistently in groundwater samples from wells within the groundwater contamination plume. PCE was never detected in groundwater. Chloroform exceedances of the NYSDEC Class GA Groundwater Standards were reported in the March 2009 sampling round in virtually all monitoring wells at Building 786. These exceedances were attributed to a reported water line break which discharged drinking water for an extended period of time at the site. The chloroform exceedances have shown a decreasing trend after the leak was repaired. SVI evaluation sample locations are shown on Figure 2-2 and corresponding results are provided in Table 2-1.

This SVI survey was reviewed by the AF, NYSDEC, NYSDOH, and USEPA and during discussions among these parties, a plan for additional sampling was established, which was then implemented by FPM in April and May 2008 (FPM, April 2008).

### 2.2.3 Building 785 Soil Vapor Intrusion Results 2008

Sub-slab sampling in 2008 at the Apron 2 Chlorinated Plume Site indicated that chloroform and TCE exceeded screening levels in the sub-slab vapor beneath Building 785. Indoor air sampling indicated that these contaminants were present, but at concentrations below the screening levels. The April 2008 sampling round data were lower at 785SSV-1 (identical to two orders of magnitude lower) than those reported for the 2006 sampling round data. TCE detections ranged from 11 μg/$m^3$ to 2,200 μg/$m^3$.

### 2.2.4 Building 786 Soil Vapor Intrusion Results 2008

Sub-slab sampling in 2008 at the Apron 2 Chlorinated Plume Site indicated that PCE and TCE exceeded screening levels in the sub-slab vapor beneath Building 786. Indoor air sampling indicated that these contaminants were present, but at concentrations below the screening levels. Sub-slab vapor sampling results for the April 2008 sampling round were lower but within the same order of magnitude as those reported for the 2006 sampling round. Sub-slab vapor TCE concentrations ranged from 69 μg/$m^3$ to 19,000 μg/$m^3$. Generally, small petroleum detections were reported in all samples, but none exceeded the sub-slab screening levels.

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# 3 SUB-SLAB VAPOR MITIGATION SYSTEM OPERATION AND MAINTENANCE

## 3.1 BUILDINGS 774 AND 776 SUB-SLAB VAPOR MITIGATION SYSTEM

FPM performed SSVM at Buildings 774 and 776 with continuous system operation starting on June 6, 2011. The Buildings 774 and 776 system is composed of four horizontal wells with a total combined screen length of 430 ft performing under a flow rate of 1 actual cubic feet per minute (acfm) per foot of screen. Building 774 has three horizontal wells with a total combined screen length of 250 ft and Building 776 has one horizontal well with a screen length of 180 ft. The SSVM system is shown in Figure 3-1.

Table 3-1 illustrates the SSVM Systems O&M schedule. O&M includes weekly system component readings (system temperature, flow, vacuum and motor status), semi-annual vapor monitoring point (VMP) vacuum measurements, and granular activated carbon (GAC) disposal and replacement every four months. Indoor and outdoor air sampling, sub-slab vapor sampling, and influent sampling are conducted semi-annually during the heating and cooling months. Table 3-2 presents the sub-slab vapor, indoor and outdoor air results and Table 3-3 presents the influent air results for all of the SSVM System performance monitoring events. The indoor and outdoor air sampling results are now compared to the EPA Regional Industrial Screening Levels (RSLs)[1] (EPA, November 2015). The Sub-slab RSLs used for comparison are calculated using the EPA Vapor Intrusion Screening Level Calculator[2] (VISL, May 2014). These levels are now used based on USEPA comments provided for the pending SVI decision document (EPA, April 2016).

### 3.1.1 Previous Buildings 774 and 776 Sub-Slab Vapor Mitigation Operations and Maintenance Results

#### 3.1.1.1 Buildings 774 and 776 Sub-Slab Vapor Mitigation Operations and Maintenance 2011

The installation, start-up and initial operation of the SSVM system at Buildings 774 and 776 occurred under a separate contract (FA8903-04-D-8687). This mitigation action is documented in the Final Completion Report Sub-Slab Vapor Mitigation Systems (FPM, February 2013). The performance evaluation section of this referenced report documents sub-slab vapor sampling results indicating a decreasing trend in TCE levels in Buildings 774 and 776. The highest reported result in Building 774 was during the baseline sampling event (May 4, 2011) at 2,900 µg/m$^3$ at location 774VMP-2. After five months of system operation, the reported result for this location was 11 µg/m$^3$. The highest reported result in Building 776 during the baseline sampling event (May 4, 2011) was 830 µg/m$^3$ at location 776VMP-3. After five months of system operation, the reported result for this location was 7.3 µg/m$^3$.

[1] http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm

[2] http://www.epa.gov/oswer/vaporintrusion/guidance.html

All indoor and outdoor air concentrations were within an acceptable range and did not pose an unacceptable risk to building occupants. All sub-slab vapor concentrations fell below screening levels after five months of system operation.

**<u>4th Quarter / Calendar Year 2011 (November - December)</u>**

It was documented in the Quarterly Operations and Maintenance Report, (4th Quarter / Calendar Year 2011), (FPM, May 2012), that the Buildings 774 and 776 SSVM system extracted approximately 30 gallons per week of water which was collected in a vapor-liquid separator. An application to discharge extracted water into the sanitary sewer was submitted to the Rome Water Pollution Control Facility (RWPCF). Discharge approval was received on January 5, 2012.

A vapor effluent sample was collected on December 19, 2011 from the Buildings 774 and 776 SSVM system. The effluent sampling location was installed on the SSVM system's exhaust stack, following carbon filtration, in the treatment chain. TCE was not detected in the effluent samples of Buildings 774 and 776.

GAC replacement was conducted in December 2011 following the effluent sampling event. GAC replacement is based on the carbon life span which is a factor of adsorption of the effluent contaminant of concern (COC) concentrations. This replacement schedule for GAC was initially determined through calculations outlined in the Work Plan for SSVM Design (FPM, February 2011). These calculations were then checked empirically using the December 2011 effluent sampling results and it was determined that a GAC replacement every four months (FPM, May 2012) was adequate. Effluent sampling was eliminated from the O&M schedule once the carbon life span was calculated and subsequent GAC replacements scheduled.

#### 3.1.1.2 Buildings 774 and 776 Sub-Slab Vapor Mitigation Operations and Maintenance 2012

**<u>1st Quarter / Calendar Year 2012 (January - March)</u>**

GAC was replaced on February 23, 2012, in accordance with the O&M schedule for carbon replacement.

Sampling occurred at Buildings 774 and 776 on January 25 and 26, 2012. The highest TCE concentration for sub-slab sampling results in Building 774 was at location 774VMP-1, with a concentration of 4.8 $\mu g/m^3$. The indoor air sampling result for TCE at Building 774 was 1.5 J $\mu g/m^3$ (The J data qualifier indicates that the analyte was positively identified, but the quantitation is an estimation). TCE was not detected in the outdoor air sample collected between Buildings 774 and 776. For Building 776, the highest sub-slab TCE concentration was in location 776VMP-3, at 13 $\mu g/m^3$. The indoor air TCE concentration was 0.41 J $\mu g/m^3$. All indoor and outdoor air concentrations were within an acceptable range and did not pose any unacceptable risk to building occupants. All of the sub-slab results were below vapor screening levels.

Semi-annual influent sampling occurred on January 24, 2012, prior to sub-slab vapor sampling to determine effective soil vapor extraction (SVE). The influent sampling location was installed on the SSVM system's exhaust stack before carbon treatment. Influent results at Buildings 774 and 776 for TCE were 300 µg/m**³**.

**2nd Quarter / Calendar Year 2012 (April - June)**

GAC was replaced on April 23, 2012, in accordance with the O&M schedule for carbon replacement. Sampling did not occur at Buildings 774 and 776 during the 2nd quarter / CY 2012.

Weekly system component readings from this quarter showed that the system vacuum had a decreasing trend. This is attributed to the system initially extracting water from the sub-surface up until April 2012. The vapor liquid separator did not collect any water past April 2012. Therefore, the approved permit (FPM-001), through RWPCF, for Buildings 774 and 776, to discharge extracted water into the sanitary sewer, was reviewed and closed.

**3rd Quarter / Calendar Year 2012 (July - September)**

GAC was replaced on July 17 and September 5, 2012 at the site. Additional O&M activities that occurred at the Buildings 774 and 776 SSVM system included the replacement of the inline air filter.

Sub-slab vapor, indoor and outdoor air sampling occurred at Buildings 774 and 776 on August 6, 2012. Only one outdoor air sample was collected between Buildings 774 and 776 due to the close proximity of the buildings. The highest sub-slab TCE concentrations were 20 µg/m³ at Building 774 and 12 µg/m³ at Building 776. At Building 774, TCE was reported at 0.35 F µg/m³ in the indoor air and was non detect at Building 776. TCE was also not detected in the outdoor air between Buildings 774 and 776. All of the sub-slab results were below vapor screening levels. All indoor and outdoor air concentrations were within an acceptable range and did not pose any unacceptable risk to building occupants.

Semi-annual influent sampling occurred on August 3, 2012, prior to sub-slab vapor sampling to determine effective SVE. The influent sampling location is on the SSVM system's exhaust stack, before carbon treatment. Influent results at Buildings 774 and 776 for TCE were 190 µg/m**³**.

**4th Quarter / Calendar Year 2012 (October - December)**

GAC was replaced on December 4, 2012 at the site. Sampling did not occur for the Buildings 774 and 776 SSVM system during this quarter.

#### 3.1.1.3 Buildings 774 and 776 Sub-Slab Vapor Mitigation Operations and Maintenance 2013

**1st Quarter / Calendar Year 2013 (January - March)**

The GAC was not replaced during this quarter. Additional O&M activities conducted during this quarter included troubleshooting system shutdown in January. The system was not running upon arrival for the weekly inspection on January 25, 2013. It was assumed that the system had been off for up to one week since the system was operating during the previous week's readings. Troubleshooting occurred and it was determined that the contactor switch in the control panel failed most likely due to condensation. After troubleshooting, the contactor switch was replaced and the system was turned on. There were no additional shut downs reported during this quarter.

Vacuum readings were collected at all VMPs associated with the system on February 14, 2013. Results showed all VMPs were under vacuum except for 774VMP-1 and -3. The lack of vacuum is attributed to the structural foundation and/ or preferential paths. Also, 774VMP-3 is located at the point designed to capture data from the worst case scenario, and is installed at the end of the 774SSVM-1 well screen with the greatest distance off axis.

Sub-slab vapor, indoor and outdoor air sampling occurred at Buildings 774 and 776 on February 21, 2013. The highest sub-slab TCE concentration in Building 774 was reported for location 774VMP-3 at 1.3 F $\mu g/m^3$ and the highest sub-slab TCE concentration in Building 776 was reported for location 776VMP-3 at 2.4 $\mu g/m^3$. TCE was not detected in the indoor air sample from Building 776 or the outdoor air sample. TCE was detected with a concentration of 0.22 F $\mu g/m^3$ in the indoor air at Building 774. All indoor and outdoor air concentrations were within an acceptable range and did not pose any unacceptable risk to building occupants. All of the sub-slab vapor results were below vapor screening levels.

Semi-annual influent sampling occurred on February 15, 2013, prior to sub-slab vapor sampling to determine effective extraction. The influent sampling location is on the SSVM system's exhaust stack before carbon treatment. Influent results at Buildings 774 and 776 for TCE were 20 $\mu g/m^3$. An effluent sample was also collected. TCE was non detect.

**2nd Quarter / Calendar Year 2013 (April - June)**

GAC was replaced on April 24, 2013. Additional O&M activities conducted during this quarter included water removal from the knock-out tank. The system was not running upon arrival for the weekly inspection on April 4, 2013. The system is programmed to automatically shut down when the knock-out tank contains more than half of its capacity of water. It was assumed that the system was shut down as a result of the water level in the knockout tank and that it had been off for up to one week since the system was operating during the previous week's readings. Approximately 27 gallons of water was pumped out of the knock-out tank into a 55-gallon drum awaiting sampling and proper disposal. After the water was removed, the system was turned on. There were no additional shut downs reported during this quarter.

## 3rd Quarter / Calendar Year 2013 (July - September)

The GAC was replaced on September 13, 2013 and no system shutdowns were reported during this quarter. Additional water (approximately 25 gallons) was pumped out of the knock-out during this quarter.

As a result of the collection of water from the knock-out tank in April 2013, the discharge permit through the City of Rome was re-opened. Prior to the re-opening of the discharge permit, the water was sampled on August 8, 2013 and analyzed for volatile organic compounds (VOCs). Only acetone was detected. The detected concentration was 3.9 J µg/L. The NYS Groundwater Standard is 50 µg/L. The J data qualifier indicates that the analyte was positively identified, but the quantitation is an estimation. The water was discharged to the City of Rome sewer system on September 13, 2013. Additional preventative measures have been implemented as a result of the water collection in the knockout tank. The preventative measures include inspections of the knock-out tank during the weekly system inspections and removal of any water. All collected water will be stored in 55-gallon drums and sampled prior to discharge to the City of Rome sewer system. No additional water was removed through the remainder of the quarter.

A composite sample of the spent GAC from the SSVM system at Buildings 774 and 776 was collected on August 8, 2013 then analyzed for Toxicity Characteristic Leaching Procedure (TCLP) VOCs and ignitibility. There were no detections and disposal of the spent carbon is pending.

Sub-slab vapor, indoor and outdoor air sampling occurred at Buildings 774 and 776 on August 8, 2013. The highest sub-slab TCE concentration in Building 774 was reported for location 774VMP-3 at 0.33 F µg/m$^3$ and the highest sub-slab TCE concentration in Building 776 was reported for location 776VMP-2 at 0.20 F µg/m$^3$. All of the sub-slab results were below vapor screening levels. TCE was not detected in the indoor air or outdoor air samples from Buildings 774 and 776.

Semi-annual influent sampling occurred on February 15, 2013, prior to sub-slab vapor sampling to determine effective extraction. The influent sampling location was installed on the SSVM system's exhaust stack before carbon treatment. Influent results at Buildings 774 and 776 for TCE were 120 µg/m$^3$.

## 4th Quarter / Calendar Year 2013 (October - December)

The GAC was not replaced and no system shutdowns were reported during this quarter. Also, no water was observed in the knock-out tank requiring removal. Vacuum readings were collected at all VMPs associated with the system on November 1, 2013. Vacuum readings at Building 774 VMPs were 0.01 inch of water gauge (inch w.g.) (774VMP-1), 0.11 inch w.g. (774VMP-2), and 0.015 inch w.g. (774VMP-3). Vacuum readings at Building 776 VMPs were 0.095 inch w.g. (776VMP-1), 0.015 inch w.g. (776VMP-2), and 0.01 inch w.g. (776VMP-3).

#### 3.1.1.4 Buildings 774 and 776 Sub-Slab Vapor Mitigation Operations and Maintenance 2014

**<u>1st Quarter / Calendar Year 2014 (January - March)</u>**

The GAC was replaced January 13, 2014 and no system shutdowns were reported during this quarter.

Sub-slab vapor, indoor and outdoor air sampling occurred at Buildings 774 and 776 on January 30, 2014. The highest sub-slab TCE concentration in Building 774 was reported for location 774VMP-1 at 6.8 µg/m$^3$, and the highest sub-slab TCE concentration in Building 776 was reported for location 776VMP-3 at 2.6 µg/m$^3$. All of the sub-slab vapor results were below vapor screening levels. TCE was detected with a concentration of 0.34 J µg/m$^3$ in the indoor air at Building 774 and 0.26 J µg/m$^3$ in the indoor air at Building 776. The TCE concentration detected in the outdoor air sample was 1.2 µg/m$^3$. All indoor and outdoor air concentrations were within an acceptable range and did not pose any unacceptable risk to building occupants.

Semi-annual influent sampling occurred on January 28, 2014, prior to sub-slab vapor sampling to determine effective SVE. The influent sampling location was installed on the SSVM system's exhaust stack before carbon treatment. Influent results at Buildings 774 and 776 for TCE were 32 µg/m$^3$. An effluent sample was not collected.

**<u>2nd Quarter / Calendar Year 2013 (April - June)</u>**

The GAC was replaced on May 20, 2014 and no system shutdowns were reported during this quarter. In addition, no water removal from the knockout tank was required during this quarter.

**<u>3rd Quarter / Calendar Year 2014 (July - September)</u>**

The GAC was not replaced this quarter and no system shutdowns were reported during this quarter. In addition, no water removal from the knockout tank was required during this quarter.

Sub-slab vapor, indoor and outdoor air sampling occurred at Buildings 774 and 776 on July 17, 2014. The highest sub-slab TCE concentration in Building 774 was 9.2 J µg/m$^3$ at location 774VMP-3 and the highest sub-slab TCE concentration in Building 776 was 3.5 µg/m$^3$ at location 776VMP-3. All of the sub-slab vapor results were below vapor screening levels. TCE was not detected in the indoor air at Building 774 but was detected at 0.95 J µg/m$^3$ in the indoor air at Building 776. The TCE concentration detected in the outdoor air sample was 0.53 J µg/m$^3$. All indoor and outdoor air concentrations were within an acceptable range and did not pose any unacceptable risk to building occupants.

Semi-annual influent sampling occurred on July 16, 2014, prior to sub-slab vapor sampling to determine effective SVE. The influent sampling location was installed on the SSVM system's exhaust stack before carbon treatment. Influent results at Buildings 774 and 776 for TCE were 97 µg/m$^3$. An effluent sample was not collected.

**4th Quarter / Calendar Year 2014 (October - December)**

The GAC was replaced on October 14, 2014 and no system shutdowns were reported during this quarter. In addition, no water removal from the knockout tank was required during this quarter.

#### 3.1.1.5 Buildings 774 and 776 Sub-Slab Vapor Mitigation Operations and Maintenance 2015

**1st Quarter / Calendar Year 2015 (January - March)**

The GAC was replaced on February 26, 2015 and no system shutdowns were reported during this quarter. In addition, no water removal from the knockout tank was required during this quarter.

Sub-slab vapor, indoor and outdoor air sampling occurred at Buildings 774 and 776 on January 22, 2015. The highest sub-slab TCE concentration in Building 774 was 0.71 $\mu g/m^3$ at location 774VMP-1 and the highest sub-slab TCE concentration in Building 776 was 2.1 $\mu g/m^3$ at location 776VMP-3. All of the sub-slab vapor results were below vapor screening levels. TCE was not detected in the indoor air at Building 774 but was detected at 0.35 $\mu g/m^3$ in the indoor air at Building 776. TCE was not detected in the outdoor air sample. All indoor and outdoor air concentrations were within an acceptable range and did not pose any unacceptable risk to building occupants.

Semi-annual influent sampling occurred on January 22, 2015, prior to sub-slab vapor sampling to determine effective SVE. The influent sampling location was installed on the SSVM system's exhaust stack before carbon treatment. Influent results at Buildings 774 and 776 for TCE were 100 $\mu g/m^3$. An effluent sample was not collected.

**2nd Quarter / Calendar Year 2015 (April - June)**

The GAC was not replaced and there were no system shutdowns reported during this quarter. In addition, no water removal from the knockout tank was required during this quarter.

**3rd Quarter / Calendar Year 2015 (July - September)**

The GAC was not replaced and no system shutdowns were reported during this quarter. In addition, no water removal from the knockout tank was required during this quarter.

Sub-slab vapor, indoor and outdoor air sampling occurred at Buildings 774 and 776 on August 31, 2015. All sampling results are presented in Table 3-2. Only one outdoor air sample was collected between Buildings 774 and 776 due to the close proximity of the buildings. The highest sub-slab TCE concentration in Buildings 774 and 776 were reported as follows:

- Building 774 - TCE concentration: 1.9 $\mu g/m^3$ at location 774VMP-2, and
- Building 776 - TCE concentration: 5.1 $\mu g/m^3$ at location 776VMP-3.

The indoor and outdoor air TCE concentrations were detected as follows:

- Building 774 - TCE concentration was non detect in the indoor air
- Building 776 - TCE concentration: 0.52 J µg/$m^3$ in the indoor air
- TCE concentration: non-detect in the outdoor air between Buildings 774 and 776

All of the sub-slab results were below vapor screening levels. All indoor and outdoor air concentrations were within an acceptable range and did not pose any unacceptable risk to building occupants. Figures 3-2 and 3-3 show the sub-slab TCE vapor trend chart in both Buildings 774 and 776. The trend lines calculated are exponential trend lines based on the coefficient determination best fit regression line. The data fits an exponential trend the best because of the significant decrease in TCE vapor after the initial start-up of the system. As shown in Figure 3-2, there has been some fluctuation in the Building 774 sub-slab TCE vapor results. During the past five rounds the results have varied an order of magnitude from non-detect to 9.2 J µg/$m^3$. This could be attributed to non-uniform system operation and inconsistent vacuum radius of influences in the sub-slab.

Semi-annual influent sampling occurred on August 28, 2015, prior to sub-slab vapor sampling to determine effective SVE. The influent sampling location was installed on the SSVM system's exhaust stack before carbon treatment. Influent results at Buildings 774 and 776 for TCE were 82 µg/m3. An effluent sample was not collected. Table 3-3 summarizes influent results since the start-up of the SSVM system.

**<u>4th Quarter / Calendar Year 2015 (October-December)</u>**

O&M activities conducted during this quarter included weekly system component readings (system temperature, flow, vacuum and motor status) and GAC replacement. The GAC was replaced on September 30, 2015. System flow rate and vacuum readings were similar to previous quarters and no water removal from the knockout tank was required during this quarter.

The system was not running upon arrival for the weekly inspection on November 12, 2015. Since the system was operational on the previous inspection conducted on November 5, 2015, it is assumed that the system was off for less than a week. The system was also not running upon arrival for the weekly inspection on December 3, 2015. Since the system was operational on the previous inspection conducted on November 20, 2015, it is assumed that the system was off for almost two weeks. The shutdowns were due to a knock out tank alarm; however, no water was in the tank. The system was turned back on each time. No other shutdowns have been reported.

### 3.1.2 1st Quarter / Calendar Year 2016 (January - March) Buildings 774 and 776 Sub-Slab Vapor Mitigation System Operations and Maintenance Results

The SSVM system at Buildings 774 and 776 has been in operation since June 2011. O&M activities conducted during this quarter included weekly system component readings (system temperature, flow, vacuum and motor status). Semi-annual indoor and outdoor air, sub-slab vapor, and influent sampling was also conducted. The GAC was not replaced during this quarter. The system flow rate and vacuum readings collected in previous quarters and this quarter are illustrated on Figure 3-2 and Figure 3-3, respectively. The readings are collected prior to the regenerative blower on each individual well head. However, it should be noted that an additional horizontal well, 774SSVM-3, was installed under Building 774 as shown in Figure 3-1. This well ties into 774SSVM-2 underground and therefore is part of the flow rate and vacuum reading collected for 774SSVM-2. No system shutdowns were reported during this quarter. In addition, no water removal from the knockout tank was required during this quarter. The O&M field forms are presented in Appendix A. The waste inventory tracking form for the spent carbon is provided in Appendix B.

#### 3.1.2.1 Buildings 774 and 776 Sub-Slab Vapor Mitigation System Soil Vapor Monitoring

Sub-slab vapor, indoor and outdoor air sampling occurred at Buildings 774 and 776 on February 3, 2016. All sampling results are presented in Table 3-2. Only one outdoor air sample was collected between Buildings 774 and 776 due to the close proximity of the buildings. All Daily Chemical Quality Controls Reports (CQCRs) completed during this event are provided in Appendix C. The highest sub-slab TCE concentration in Buildings 774 and 776 were reported as follows:

- Building 774 - TCE concentration: 1.9 µg/m$^3$ at location 774VMP-1
- Building 776 - TCE concentration: 2.9 µg/m$^3$ at location 776VMP-3

The indoor and outdoor air TCE concentrations were detected as follows:

- Building 774 - TCE concentration was non detect in the indoor air
- Building 776 - TCE concentration: 0.28 µg/m$^3$ in the indoor air
- TCE concentration: non-detect in the outdoor air between Buildings 774 and 776

All of the sub-slab results were below vapor screening levels. All indoor and outdoor air concentrations were within an acceptable range and did not pose any unacceptable risk to building occupants. Figures 3-4 and 3-5 show the sub-slab TCE vapor trend chart in both Buildings 774 and 776. The trend lines calculated are exponential trend lines based on the coefficient determination best fit regression line. The data fits an exponential trend the best because of the significant decrease in TCE vapor after the initial start-up of the system. As shown in Figure 3-4, there has been some fluctuation in the Building 774 sub-slab TCE vapor results. During the past five rounds the results have varied an order of magnitude from non-detect to 9.2 J µg/m$^3$. This could be attributed to non-uniform system operation and inconsistent vacuum radius of influences in the sub-slab. All raw lab data and validated lab data are provided in Appendix D and Appendix E, respectively.

Semi-annual influent sampling occurred on February 1, 2016, prior to sub-slab vapor sampling to determine effective SVE. The influent sampling location was installed on the SSVM system's exhaust stack before carbon treatment. The influent concentration for TCE at Buildings 774 and 776 was 60 µg/m$^3$. An effluent sample was not collected. Table 3-3 summarizes influent results since the start-up of the SSVM system.

## 3.2 BUILDINGS 785 AND 786 SUB-SLAB VAPOR MITIGATION SYSTEM

FPM performed SSVM at Buildings 785 and 786 starting on May 19, 2011. The Buildings 785 and 786 system is composed of two horizontal wells with a total combined screen length of 300 ft performing under a flow rate of 1 acfm per foot of screen. Building 785 has one horizontal well with a screen length of 140 ft and Building 786 has one horizontal well with a screen length of 160 ft. The SSVM system is shown in Figure 3-6.

Table 3-1 illustrates the SSVM Systems O&M schedule. O&M includes weekly system component readings (system temperature, flow, vacuum and motor status), weekly VMP vacuum measurements, and GAC disposal and replacement every four months. Indoor and outdoor air sampling, sub-slab vapor sampling, and influent sampling are conducted semi-annually during the heating and cooling months. Table 3-4 presents the sub-slab vapor, indoor and outdoor air results and Table 3-5 presents the influent air results for all of the SSVM System performance monitoring events. The indoor and outdoor air sampling results are now compared to the EPA Industrial Regional Screening Level (RSLs)[3] (EPA, November 2015). The Sub-slab RSLs used for comparison are calculated using the EPA Vapor Intrusion Screening Level Calculator[4] (VISL, May 2014). These levels are now used based on USEPA comments provided for the pending SVI decision document.

### 3.2.1 Previous Buildings 785 and 786 Sub-Slab Vapor Mitigation Operations and Maintenance Results

#### 3.2.1.1 Buildings 785 and 786 Sub-Slab Vapor Mitigation Operations and Maintenance 2011

The installation, start-up and initial operation of the SSVM system at Buildings 785 and 786 occurred under a separate contract (FA8903-04-D-8687). This mitigation action is documented in the Final Completion Report Sub-Slab Vapor Mitigation Systems (FPM, February 2013). The performance evaluation section of this report documents sub-slab vapor sampling results indicated a decreasing trend in TCE levels in Buildings 785 and 786 (Figure 3-7 and 3-8). The highest reported result in Building 785 was during the baseline sampling event (March 18, 2011) at 720 $\mu g/m^3$ at location 785VMP-4. After five months of system operation, the reported result for this location was 33 $\mu g/m^3$. The highest reported result in Building 786 was during the baseline sampling event (January 18, 2011) at 4,900 $\mu g/m^3$ at location 786VMP-1. After five months of system operation, the reported result for this location was 49 $\mu g/m^3$.

Location 785VMP-5 was not sampled during the baseline sampling event due to retained water observed in the VMP. A new location was installed north of the horizontal well. The new location, also called 785VMP-5, was sampled during the three-month sampling event and TCE was reported at 610 $\mu g/m^3$. After five months of system operation, the reported result for this location was 140 $\mu g/m^3$.

[3] http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm

[4] http://www.epa.gov/oswer/vaporintrusion/guidance.html

All indoor and outdoor air concentrations were within an acceptable range and did not pose any unacceptable risk to building occupants. All sub-slab vapor concentrations fell below screening levels after five months of system operation.

**4th Quarter / Calendar Year 2011 (November - December)**

A vapor effluent sample was collected on December 19, 2011 from the Buildings 785 and 786 SSVM system. The effluent sampling location was installed on the SSVM system's exhaust stack following carbon filtration in the treatment chain. Results showed a TCE concentration of 4.1 µg/m$^3$.

GAC replacement was conducted in December 2011 following the effluent sampling event. GAC replacement is based on the carbon life span which is a factor of adsorption of the effluent COC concentrations. This replacement schedule for GAC was initially determined through calculations outlined in the Work Plan for SSVM Design (FPM, February 2011). These calculations were then checked empirically using the December 2011 effluent sampling results. It was determined that a bimonthly schedule for GAC replacement (FPM, May 2012) was adequate and effluent sampling was eliminated from the O&M schedule once the carbon life span was calculated and subsequent GAC replacement scheduled.

#### 3.2.1.2 Buildings 785 and 786 Sub-Slab Vapor Mitigation Operations and Maintenance 2012

**1st Quarter / Calendar Year 2012 (January - March)**

GAC was replaced on February 23, 2012, in accordance with the O&M schedule for carbon replacement.

Sampling occurred at Buildings 785 and 786 on January 27, January 31 and February 7. At the Building 785 Site, the highest sub-slab TCE concentration resulted in 18 µg/m$^3$ at location 785VMP-5. TCE was not detected in the indoor air of Building 785. TCE was not detected in the outdoor air sample collected between Buildings 785 and 786. The highest sub-slab TCE concentration in Building 786 was at location 786VMP-2 at a level of 22 µg/m$^3$. Chloroform was also detected at 786VMP-2 at a concentration of 12 µg/m$^3$. The concentration for chloroform was above sub-slab screening levels up until this sampling event. TCE was not detected in the indoor air of Building 786. All indoor and outdoor air concentrations were within an acceptable range and did not pose any unacceptable risk to building occupants. All of the sub-slab results were below vapor screening levels.

Semi-annual influent sampling occurred on January 24, 2012, prior to sub-slab vapor sampling to determine effective SVE. The influent sampling location was installed on the SSVM system's exhaust stack before carbon treatment. Influent results for TCE were 140 µg/m$^3$.

## 2nd Quarter / Calendar Year 2012 (April - June)

GAC was replaced on April 23, 2012, in accordance with the O&M schedule for carbon replacement. Sampling did not occur at Buildings 785 and 786 during the 2nd quarter / CY 2012.

## 3rd Quarter / Calendar Year 2012 (July - September)

GAC was replaced on July 5 and September 5, 2012 at the site. Additional O&M activities occurred at the Buildings 785 and 786 SSVM system during the 3rd Quarter / CY 2012 besides the weekly system component readings. During system readings on August 24, 2012, it was observed that system vacuum had decreased and the flow rate in horizontal well 786SSVM-1 had significantly increased. The cause was investigated and the dead end of the horizontal well 786SSVM-1 was damaged. Therefore, the system was shut down and the cap was repaired. The system was turned back on the next day following the repairs.

On August 31, 2012, the system was found to not be operating upon arrival. Troubleshooting procedures were followed, including checking the power source, and checking for dirt build up in the regenerative blower. It was observed that the regenerative blower was clean, but the power source was not adequate. Griffiss Utility Service Corporation was contacted and they determined that a transformer used by the Buildings 785 and 786 SSVM system was not working properly. The transformer was replaced. Also during the down time the electrical motor of the regenerative blower was brought to an electrical motor service shop and the bearings were replaced. Following the electrical motor servicing, the system was turned back on and began operation on October 25, 2012.

Sub-slab vapor, indoor and outdoor air sampling occurred at Buildings 785 and 786 on August 8, 2012. One outdoor air sample was collected between Buildings 785 and 786 due to the close proximity of the buildings. The highest sub-slab TCE concentrations were 39 $\mu g/m^3$ at Building 785 and 110 $\mu g/m^3$ at Building 786. TCE was not detected in the indoor air or outdoor air samples for both buildings. All of the sub-slab results were below vapor screening levels. All indoor and outdoor air concentrations were within an acceptable range and did not pose any unacceptable risk to building occupants.

Semi-annual influent sampling occurred on August 3, 2012, prior to sub-slab vapor sampling to determine effective SVE. The influent sampling location is on the SSVM system's exhaust stack before carbon treatment. Influent results for TCE were 250 $\mu g/m^3$.

## 4th Quarter / Calendar Year 2012 (October - December)

The system was not in operation from October 1 through October 25, 2012 as described in the 3rd Quarter / CY 2012 O&M text. GAC was replaced on December 4, 2012 at the site. Sampling did not occur for the Buildings 785 and 786 SSVM system during this quarter.

### 3.2.1.3 Buildings 785 and 786 Sub-Slab Vapor Mitigation Operations and Maintenance 2013

**1st Quarter / Calendar Year 2013 (January - March)**

The GAC was not replaced during this quarter. Vacuum readings collected at all VMPs associated with the system on February 14, 2013. Results showed all VMPs were under vacuum except for 786VMP-2. The lack of vacuum is attributed to the structural foundation and/ or preferential paths. As part of the Building 786 interim removal action (FPM, March 2002), a 12 feet by 16 feet area was excavated down to 10 feet bgs. The excavated area was backfilled with crushed stone. The location of the excavation was on the northwest corner of Building 786. The excavation was relatively close (30 feet away) to 786VMP-2 and may create short circuiting under the building footprint.

Sub-slab vapor, indoor and outdoor air sampling occurred at Buildings 785 and 786 on March 6, 2013. The highest sub-slab TCE concentration in Building 785 was reported for 785VMP-4 at 3 µg/$m^{3.}$ The highest sub-slab TCE concentration in Building 786 was reported for 786VMP-1 at 9.1 F µg/$m^3$. All of the sub-slab results were below vapor screening levels. TCE was not detected in any of the indoor and outdoor air samples.

Semi-annual influent sampling occurred on February 14, 2013, prior to sub-slab vapor sampling to determine effective SVE. Influent results for TCE were 93 µg/$m^3$. An effluent sample was also collected and TCE was 4.4 µg/$m^3$.

**2nd Quarter / Calendar Year 2013 (April - June)**

GAC was replaced on April 24, 2013. No additional O&M activities besides the weekly system component readings were performed during this quarter.

**3rd Quarter / Calendar Year 2013 (July - September)**

Additional O&M activities occurred at the Buildings 785 and 786 SSVM system during the 3rd Quarter / CY 2013 besides the weekly system component readings. Approximately 50 gallons of water was pumped out of the knock-out tank into a 55-gallon drum on July 19, 2013. The water was sampled on August 8, 2013 and analyzed for VOCs. Only TCE was detected at 0.37 J µg/L. The NYS Groundwater Standard is 5 µg/L and the J qualifier indicates the analyte was positively identified but the quantitation is an estimation. The water was discharged under permit to the City of Rome sewer system on September 13, 2013. A composite sample of the spent GAC from the SSVM system at Buildings 785 and 786 was collected on August 8, 2013 and analyzed for TCLP, VOCs, and ignitibility. There were no detections and disposal of the spent carbon is pending.

The electrical supply for the Building 786 system was damaged during airport grass mowing activities in August 2013. Therefore, the system was not in operation from August 29, 2013 through the remainder of the quarter.

Sub-slab vapor, indoor and outdoor air sampling occurred at Buildings 785 and 786 on August 9, 2013. The highest sub-slab TCE concentration was at 786VMP-1 at 150 $\mu g/m^3$ in Building 786 and at 785VMP-4 at 17 $\mu g/m^3$ in Building 785. All of the sub-slab results were below vapor screening levels. TCE was not detected in any of the indoor and outdoor air samples. Semi-annual influent sampling occurred on August 7, 2013, prior to sub-slab vapor sampling to determine effective SVE. Influent results for TCE were 130 $\mu g/m^3$.

**4$^{th}$ Quarter / Calendar Year 2013 (October - December)**

The system was shut down due to the electrical supply being damaged during mowing activities in August 2013.

**Rebound Evaluation – Round 1 (October 2013)**

Given that the system was shut down, a rebound evaluation was conducted in October 2013 to assess the ambient sub-slab conditions. Sub-slab vapor, indoor and outdoor air sampling occurred at Buildings 785 and 786 on August 9, 2013. Sampling results showed an increase in TCE concentrations at all VMPs except for 786VMP-2. The highest sub-slab TCE concentration was at 785VMP-5 at 73 $\mu g/m^3$ at Building 785 and at 786VMP-1 at 140 $\mu g/m^3$ at Building 786. All of the sub-slab results were below vapor screening levels. TCE was not detected in any of the indoor and outdoor air samples.

#### 3.2.1.4 Buildings 785 and 786 Sub-Slab Vapor Mitigation Operations and Maintenance 2014

**1$^{st}$ Quarter / Calendar Year 2014 (January - March)**

The system was still shut down this quarter. The shutdown was triggered by the damaged electrical supply. However, now renovations are being performed to Building 786 and the transformer tub that supplied power to the system has been removed. The new transformer was installed on August 2014.

**Rebound Evaluation – Round 2 – (January/February 2014)**

An additional rebound evaluation round was conducted in January and February 2014 to assess the sub-slab conditions. The rebound evaluation consisted of sub-slab vapor, indoor air and outdoor air sampling. Sampling was conducted on January 30, 2014. As a result of the low temperatures and equipment placement within the buildings, the sampling ports at VMPs 785VMP-4 and 786VMP-1 were frozen and could not be sampled on January 30, 2014. These points were sampled on February 28, 2014 (785VMP-4) and February 29, 2014 (786VMP-1). The indoor and outdoor air TCE concentrations were non-detect. The highest sub-slab TCE concentration in Buildings 785 and 786 were as follows:

- Building 785 TCE at 27 $\mu g/m^3$ at location 785VMP-4
- Building 786 TCE at 26 $\mu g/m^3$ at location 786VMP-1

All of the sub-slab results were below vapor screening levels. All indoor and outdoor air concentrations were within an acceptable range and did not pose any unacceptable risk to building occupants.

**<u>2nd Quarter / Calendar Year 2014 (April - June)</u>**

The system was still shut down this quarter awaiting renovations to be completed.

**<u>3rd Quarter / Calendar Year 2014 (July - September)</u>**

The system was turned back online on September 25, 2014. Prior to the system being turned back online, round 3 of rebound evaluation occurred.

Since the system came back online, O&M activities resumed in the following quarter including weekly system component readings (system temperature, flow, vacuum and motor status), periodic GAC replacement, and semi-annual indoor and outdoor air, sub-slab vapor, and influent sampling. The GAC was replaced on September 24, 2014 prior to system startup.

**<u>4th Quarter / Calendar Year 2014 (October – December)</u>**

GAC was replaced in the previous quarter prior to system start-up (Appendix A). No system shutdowns were reported during this quarter. In addition, no water removal from the knockout tank was required during this quarter.

#### 3.2.1.5 Buildings 785 and 786 Sub-Slab Vapor Mitigation Operations and Maintenance 2015

**<u>1st Quarter / Calendar Year 2015 (January - March)</u>**

The GAC was replaced on February 26, 2015. No system shutdowns were reported during this quarter and no water removal from the knockout tank was required.

Sub-slab vapor, indoor and outdoor air sampling occurred at Buildings 785 and 786 on January 26, 2015. The highest sub-slab TCE concentration in Building 785 was 41 µg/m$^3$ at location 785VMP-5 and the highest sub-slab TCE concentration in Building 786 was 6.3 µg/m$^3$ at location 786VMP-2. All of the sub-slab vapor results were below vapor screening levels. The indoor and outdoor air TCE concentrations were all non-detect.

Semi-annual influent sampling occurred on January 26, 2015, prior to sub-slab vapor sampling to determine effective SVE. The influent sampling location was installed on the SSVM system's exhaust stack before carbon treatment. Influent results at Buildings 785 and 786 for TCE were 72 µg/m$^3$. An effluent sample was not collected.

## 2nd Quarter / Calendar Year 2015 (April - June)

The GAC was not replaced during this quarter. The system was shut down from June 17, 2015 to June 25, 2015 due to floor renovations within Building 785. No other shut downs occurred during this quarter. In addition, no water removal from the knockout tank was required during this quarter.

## 3rd Quarter / Calendar Year 2015 (July - September)

The GAC was not replaced and no system shutdowns were reported during this quarter. No water removal from the knockout tank was required.

Sub-slab vapor, indoor and outdoor air sampling occurred at Buildings 785 and 786 on September 1, 2015. All sampling results are presented in Table 3-4. Only one outdoor air sample was collected between Buildings 785 and 786 due to the close proximity of the buildings. The indoor and outdoor air TCE concentrations were all non-detect.

The highest sub-slab TCE concentration in Buildings 785 and 786 were detected as follows:

- Building 785 - TCE concentration: 150 $\mu g/m^3$ at location 785VMP-5
- Building 786 - TCE concentration: 160 $\mu g/m^3$ at location 786VMP-1

All indoor and outdoor air concentrations were within an acceptable range and did not pose any unacceptable risk to building occupants. Figures 3-7 and 3-8 show the sub-slab TCE vapor trend chart in both Buildings 785 and 786. The trend lines calculated are exponential trend lines based on the coefficient determination best fit regression line. The data fits an exponential trend the best because of the significant decrease in TCE vapor after the initial start-up of the system. All raw lab data and validated lab data are provided in Appendix D and Appendix E, respectively.

Semi-annual influent sampling occurred on August 28, 2015, prior to sub-slab vapor sampling to determine effective SVE. The influent sampling location was installed on the SSVM system's exhaust stack before carbon treatment. Influent results at Buildings 785 and 786 for TCE were 140 $\mu g/m^3$. An effluent sample was not collected. Table 3-5 summarizes influent results since the start-up of the SSVM system.

## 4th Quarter / Calendar Year 2015 (October-December)

O&M activities conducted during this quarter included weekly system component readings (system temperature, flow, vacuum and motor status) and GAC replacement. The GAC was replaced on September 30, 2015. Compared to previous quarters, the system flow rate and vacuum decreased at 786SSVM-1 and slightly increased at 785SSVM-1.

No system shutdowns were reported during this quarter. In addition, no water removal from the knockout tank was required during this quarter.

### 3.2.2 1st Quarter / Calendar Year 2016 (January - March) Buildings 785 and 786 Sub-Slab Vapor Mitigation System Operations and Maintenance Results

The SSVM system at Buildings 785 and 786 was in operation from May 2011 to August 2013 and then from September 2014 to present.

O&M activities included weekly system component readings (system temperature, flow, vacuum and motor status). Semi-annual indoor and outdoor air, sub-slab vapor, and influent sampling was also conducted. The GAC was not replaced during this quarter. The system flow rate and vacuum readings collected in previous quarters and this quarter are illustrated on Figure 3-7 and Figure 3-8, respectively. The waste inventory tracking form for the spent carbon is provided in Appendix B. The system was not running on arrival on January 22, 2016 but, since the system was operational on January 15, 2016, the system was down for less than a week. The system was also not running on arrival the following week on February 1, 2016 and was periodically shut down during the month of February due to large amounts of water filling the knockout tank. It was discovered that during the previous year a lawn mower had possibly struck the exposed PVC piping of 786SSVM-1, opening it at the ground surface and allowing large amounts of snowmelt to enter the system and fill the knockout tank. Based on recorded changes in vacuum at 786SSVM-1 shown on Figure 3-8, the incident with the lawn mower likely occurred in early September 2015. The system was repaired on February 25, 2016 and the vacuum readings returned to a level indicating normal system operation. Approximately 85 gallons of water was removed from the knockout tank during this quarter and containerized in 55 gallon drums on-site for sampling and ultimate disposal. Sampling was collected on March 31, 2016 and results and disposal are pending.

The O&M field forms are presented in Appendix A. The waste inventory tracking form for the spent carbon is provided in Appendix B.

#### 3.2.2.1 Buildings 785 and 786 Sub-Slab Vapor Mitigation System Soil Vapor Monitoring

Sub-slab vapor, indoor and outdoor air sampling occurred at Buildings 785 and 786 on February 2, 2016. All sampling results are presented in Table 3-4. Only one outdoor air sample was collected between Buildings 785 and 786 due to the close proximity of the buildings. All Daily CQCRs completed during this event are provided in Appendix C. The indoor and outdoor air TCE concentrations were all non-detect.

The highest sub-slab TCE concentration in Buildings 785 and 786 were detected as follows:

- Building 785 - TCE concentration: 7.3 $\mu g/m^3$ at location 785VMP-5
- Building 786 - TCE concentration: 41 $\mu g/m^3$ at location 786VMP-1

All of the sub-slab results were below vapor screening levels with the exception of 786VMP-1 mentioned above which exceeded the sub-slab vapor screening level of 30 $\mu g/m^3$. All indoor and outdoor air concentrations were within an acceptable range and did not pose any unacceptable risk to building occupants. Figures 3-9 and 3-10 show the sub-slab TCE vapor trend chart in both Buildings 785 and 786. The trend lines calculated are exponential trend lines based on the coefficient determination best fit regression line. The data fits an exponential trend the best because of the significant decrease in TCE vapor after the initial start-up of the system. All raw lab data and validated lab data are provided in Appendix D and Appendix E, respectively.

Semi-annual influent sampling occurred on February 1, 2016, prior to sub-slab vapor sampling to determine effective SVE. The influent sampling location was installed on the SSVM system's exhaust stack before carbon treatment. The influent concentration for TCE at Buildings 785 and 786 was 80 µg/m$^3$. An effluent sample was not collected. Table 3-5 summarizes influent results since the start-up of the SSVM system.

# 4 DISCUSSION

## 4.1 BUILDINGS 774 AND 776

O&M activities conducted during this period of performance for the Buildings 774 and 776 SSVM system included weekly system component readings (system temperature, flow, vacuum, motor status, and knock-out tank inspection) and semi-annual sub-slab vapor, indoor air, and outdoor air sampling. The sub-slab vapor sampling results showed that the TCE concentrations were similar to results from previous rounds and all sub-slab vapor concentrations were below screening levels. All indoor and outdoor air concentrations were also below screening levels and did not pose any unacceptable risk to building occupants.

Based on the results of influent sampling of the system at Buildings 774 and 776 it is estimated that 192 grams of TCE have been removed since the influent sampling occurred in August 2015. The TCE mass removal calculations are provided in Appendix F.

## 4.2 BUILDINGS 785 AND 786

O&M activities conducted during this period of performance, for the Buildings 785 and 786's SSVM system, included weekly system component readings (system temperature, flow, vacuum, motor status, and knock-out tank inspection) and semi-annual sub-slab vapor, indoor air, and outdoor air sampling. The sub-slab vapor sampling concentrations of TCE are primarily lower compared to previous rounds, and all sub-slab vapor concentrations were below screening levels. All indoor and outdoor air concentrations were also below screening levels and did not pose any unacceptable risk to building occupants.

Based on the results of influent sampling of the system at Buildings 774 and 776 it is estimated that 143 grams have been removed since the influent sampling occurred in August 2015. The TCE mass removal calculations are provided in Appendix F.

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# 5 RECOMMENDATIONS

Performance monitoring for groundwater, conducted under a separate contract, showed chlorinated VOC concentrations were still above NYS Groundwater Standards at both the SD-052-02 Building 775 Site and the SD-052-01 Apron 2 Chlorinated Plume Site. Therefore, continued operation of the SSVM systems at Buildings 774, 776, 785, and 786 is recommended. SSVM soil vapor monitoring data shows TCE concentrations in the sub-slab are decreasing at all sites as a result of the mitigation system operation.

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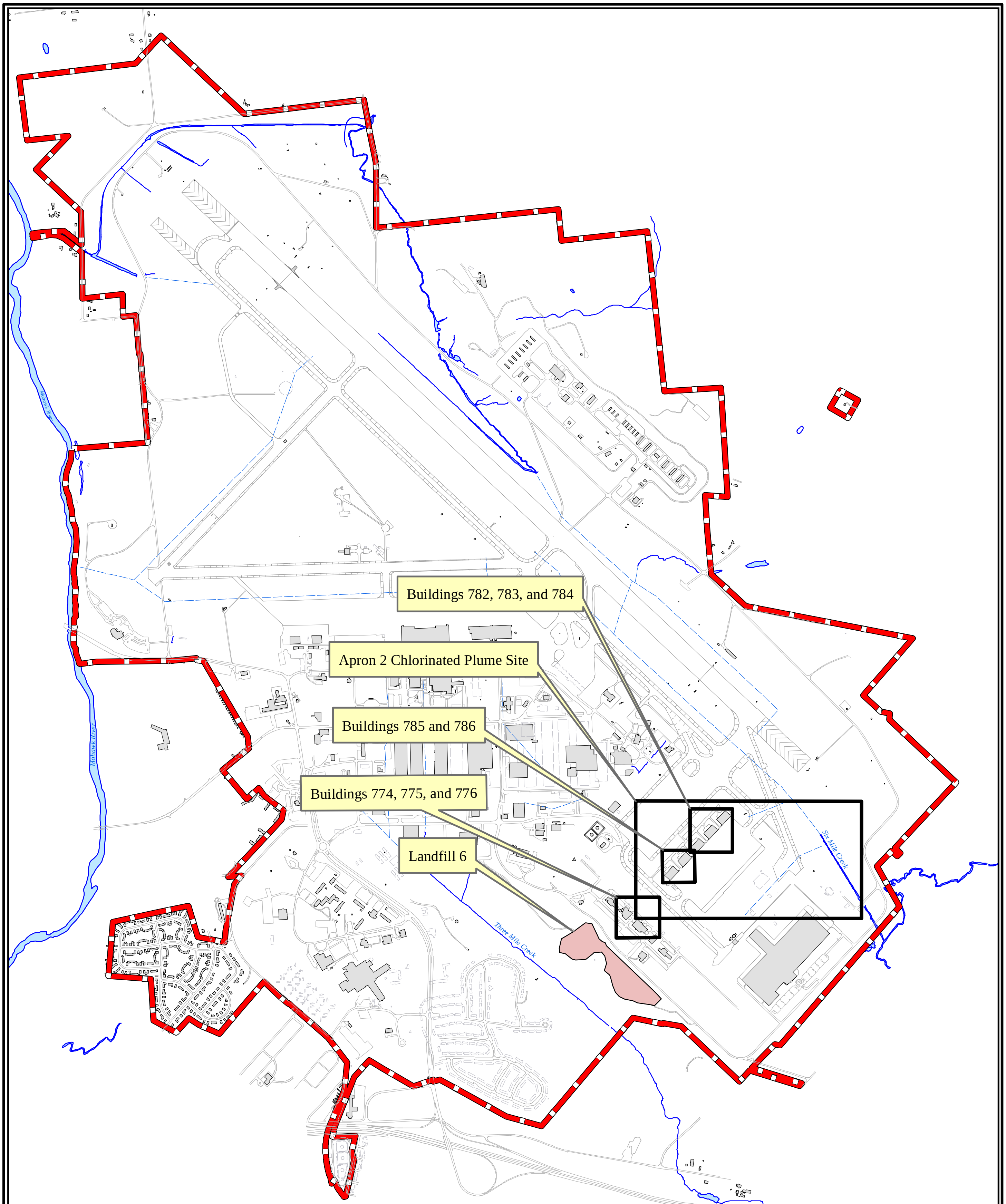
## Figures




Base Location

**Key to Features**

- Road/Airfield
- Storm Drain
- Surface Water
- Base Boundary
- Landfill 6
- Demolished Facility
- Existing Facility
- Site Location

# Figure 1-1
# SSVM Site Locations

1,200 600 0 1,200 2,400
Feet

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**ROME, NEW YORK**

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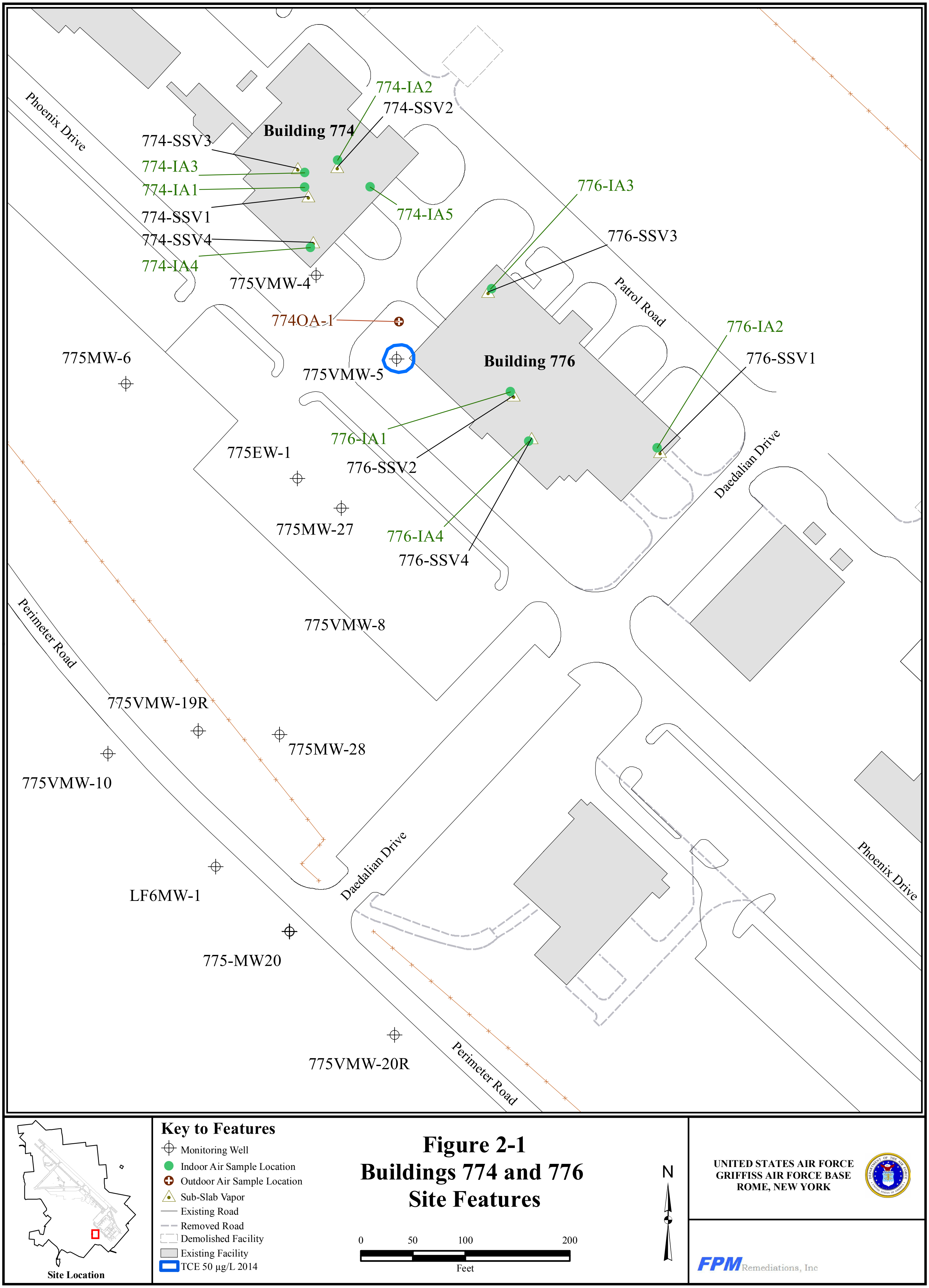


# Figure 2-1
# Buildings 774 and 776 Site Features

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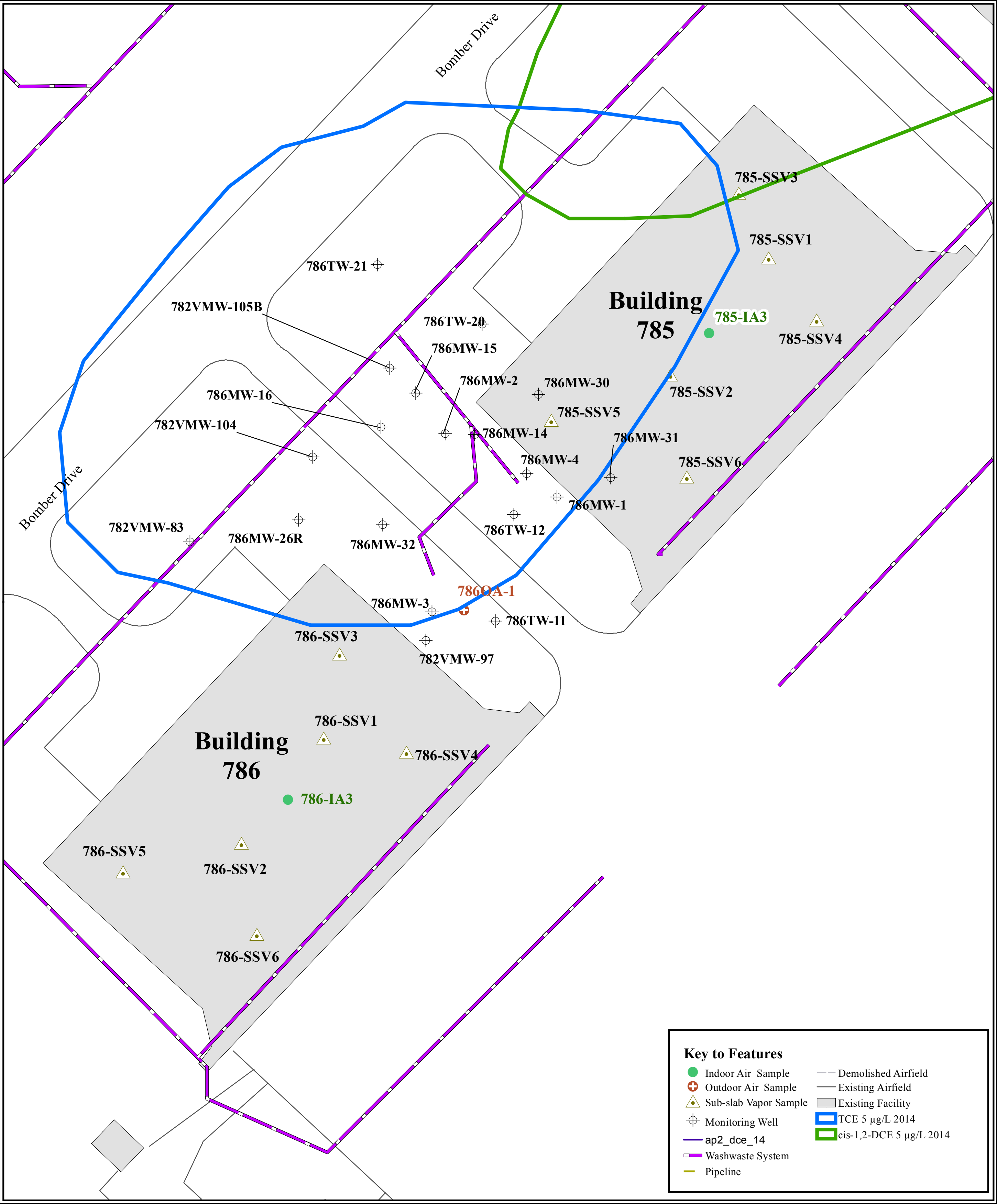


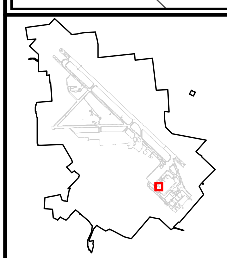


# Figure 2-2
# Building 785 & 786
# Site Features

0 25 50 100
Feet

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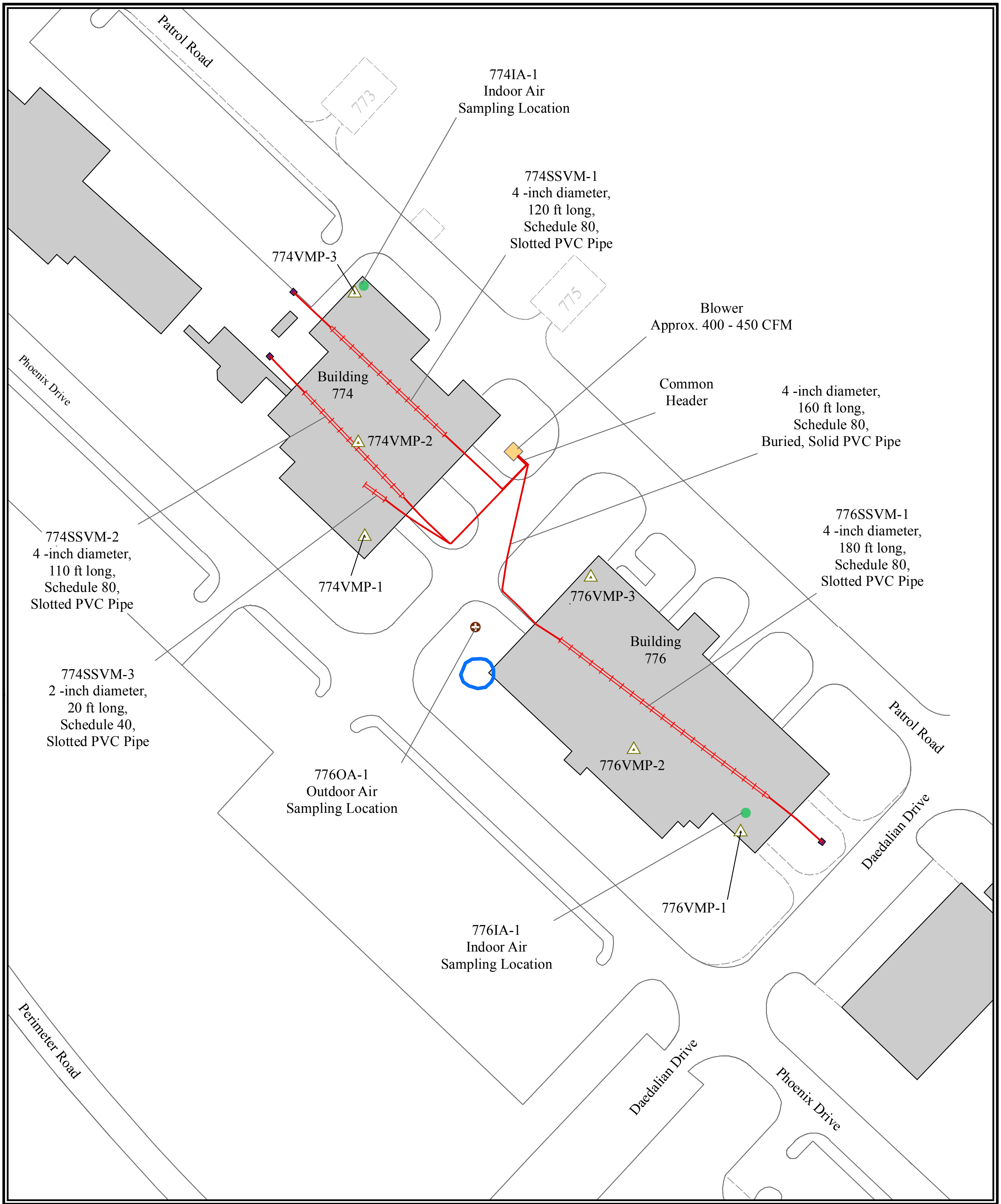


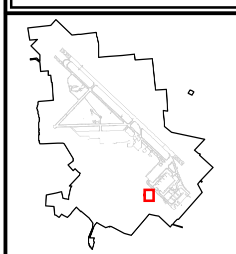


**Key to Features**

- Indoor
- Outdoor
- SubSlab Vapor
- Horizontal Well Screen
- Horizontal Well Riser
- Existing Road
- Removed Road
- TCE 50 µg/L 2014
- SVE System
- Entrance/Exit Pit
- Demolished Facility
- Existing Facility

# Figure 3-1
# Buildings 774 and 776
# SSVM System

N

0 50 100 200

Feet

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**Figure 3-2**
**774SSVM-1, -2 and 776SSVM-1**
**Long Term Operation Flow Rate**
**(June 2011 through March 2016)**

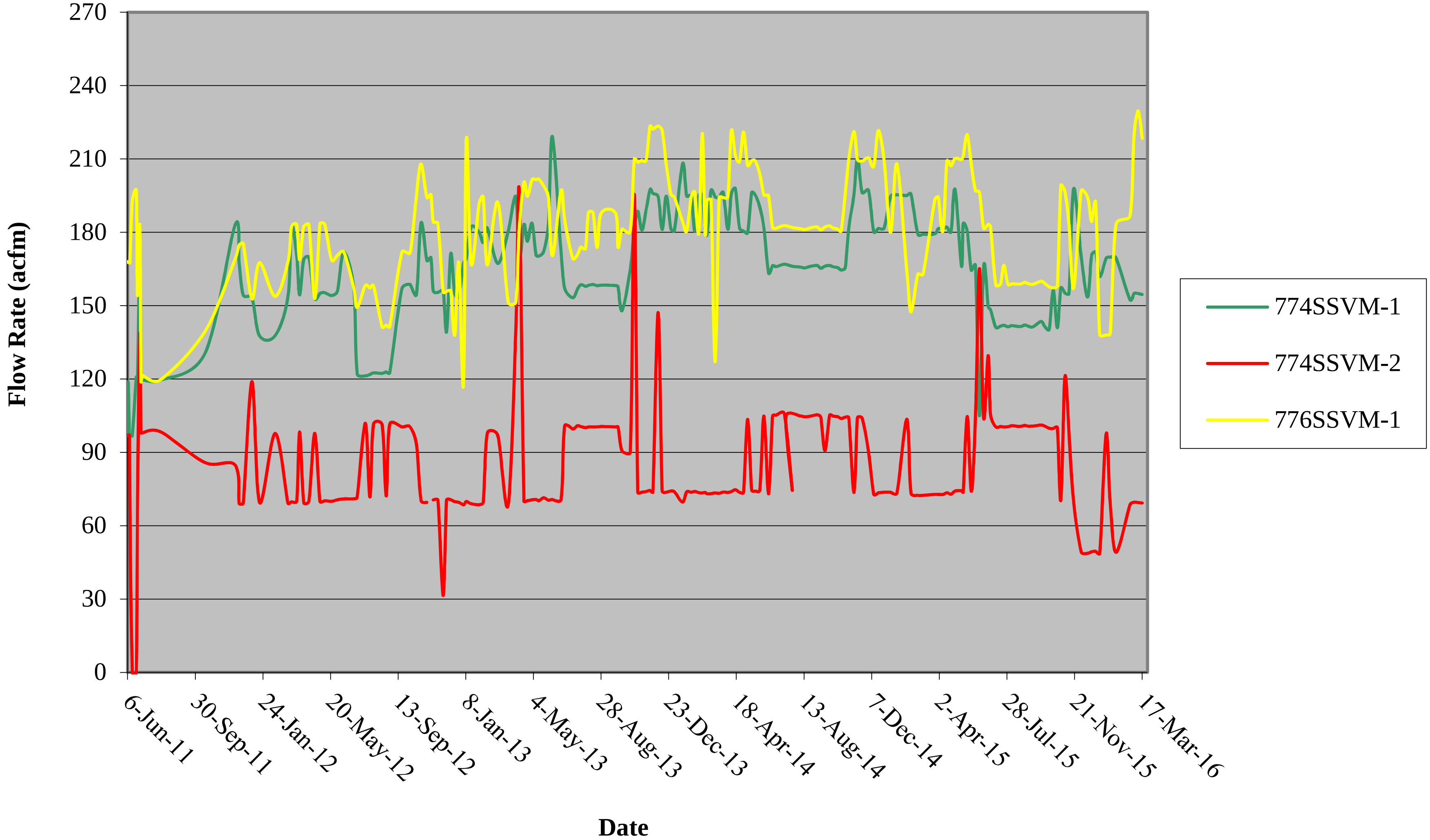


**Figure 3-3**
**774SSVM-1, -2 and 776SSVM-1**
**Long Term Operation Vacuum**
**(June 2011 through March 2016)**

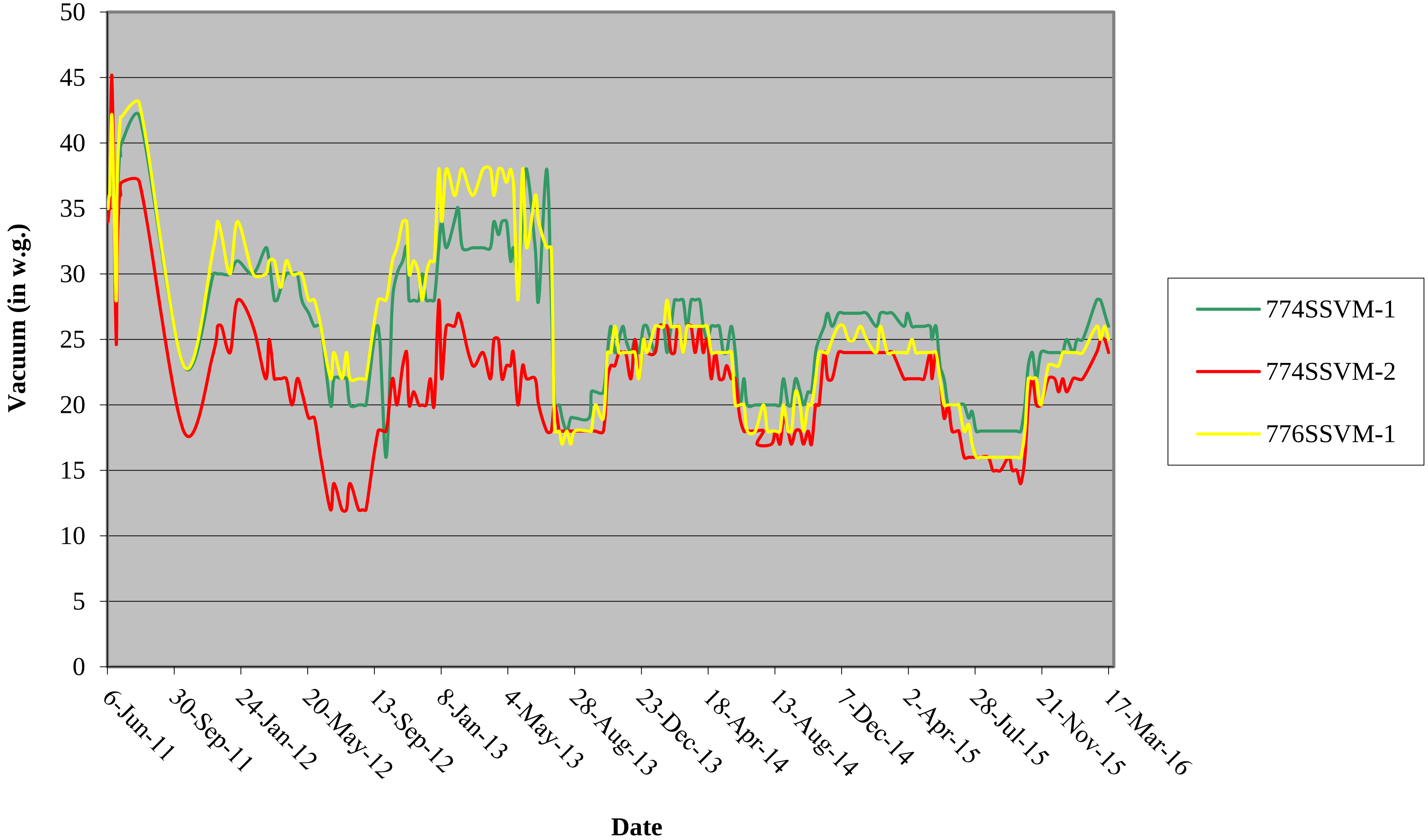
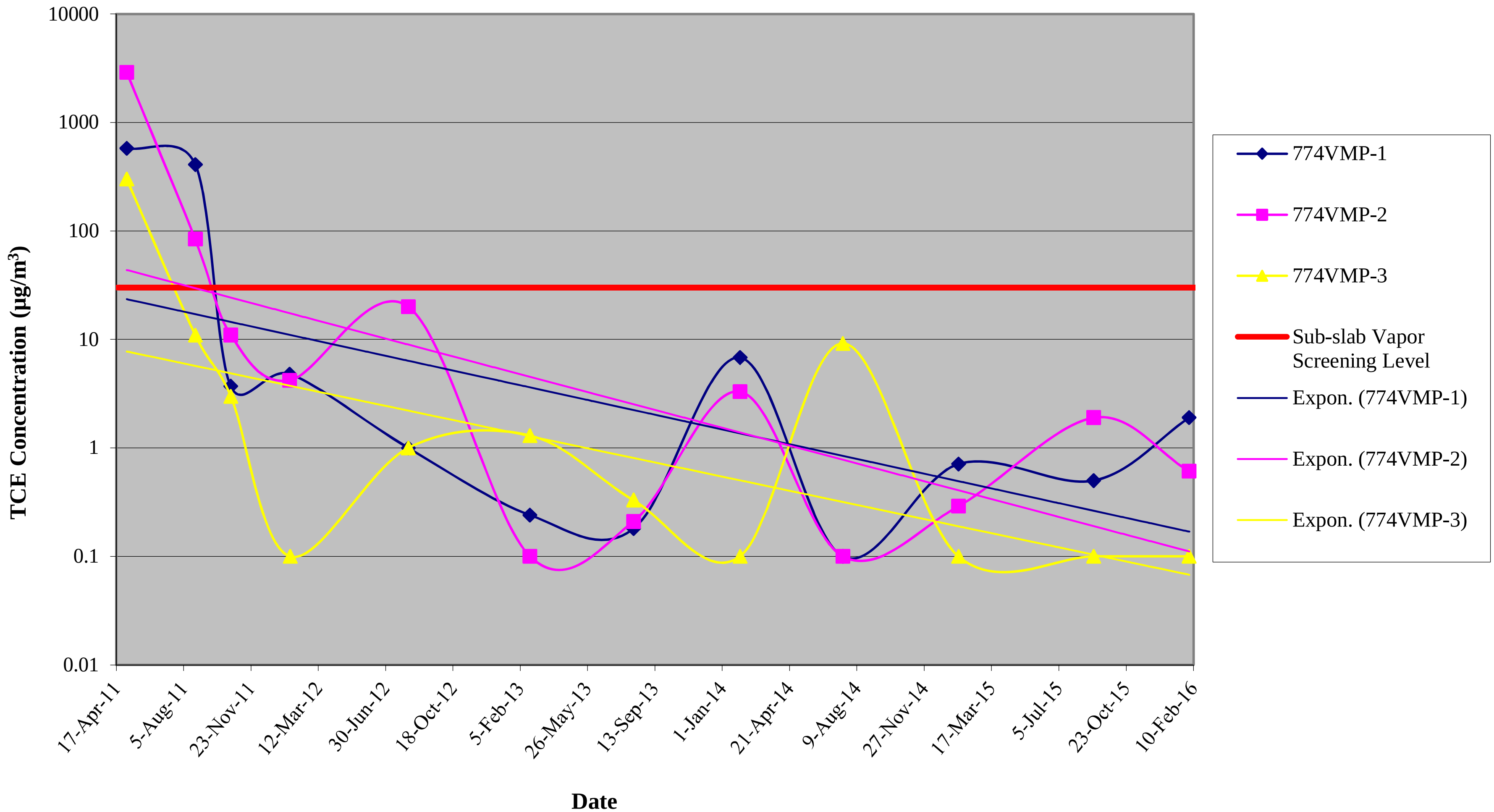
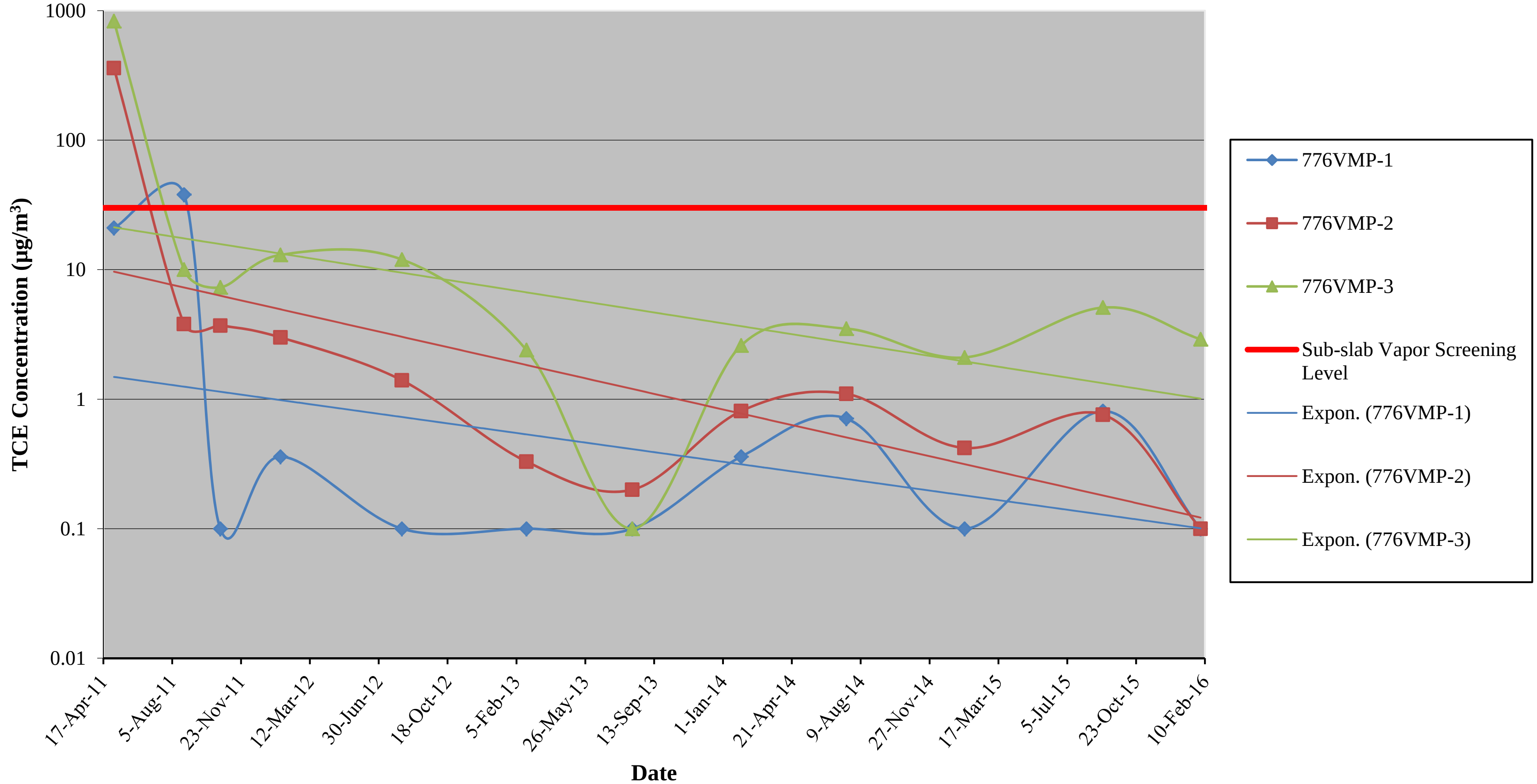


**Figure 3-4**
**Sub-Slab TCE Trend Chart Building 774**
**(May 2011 through February 2016)**

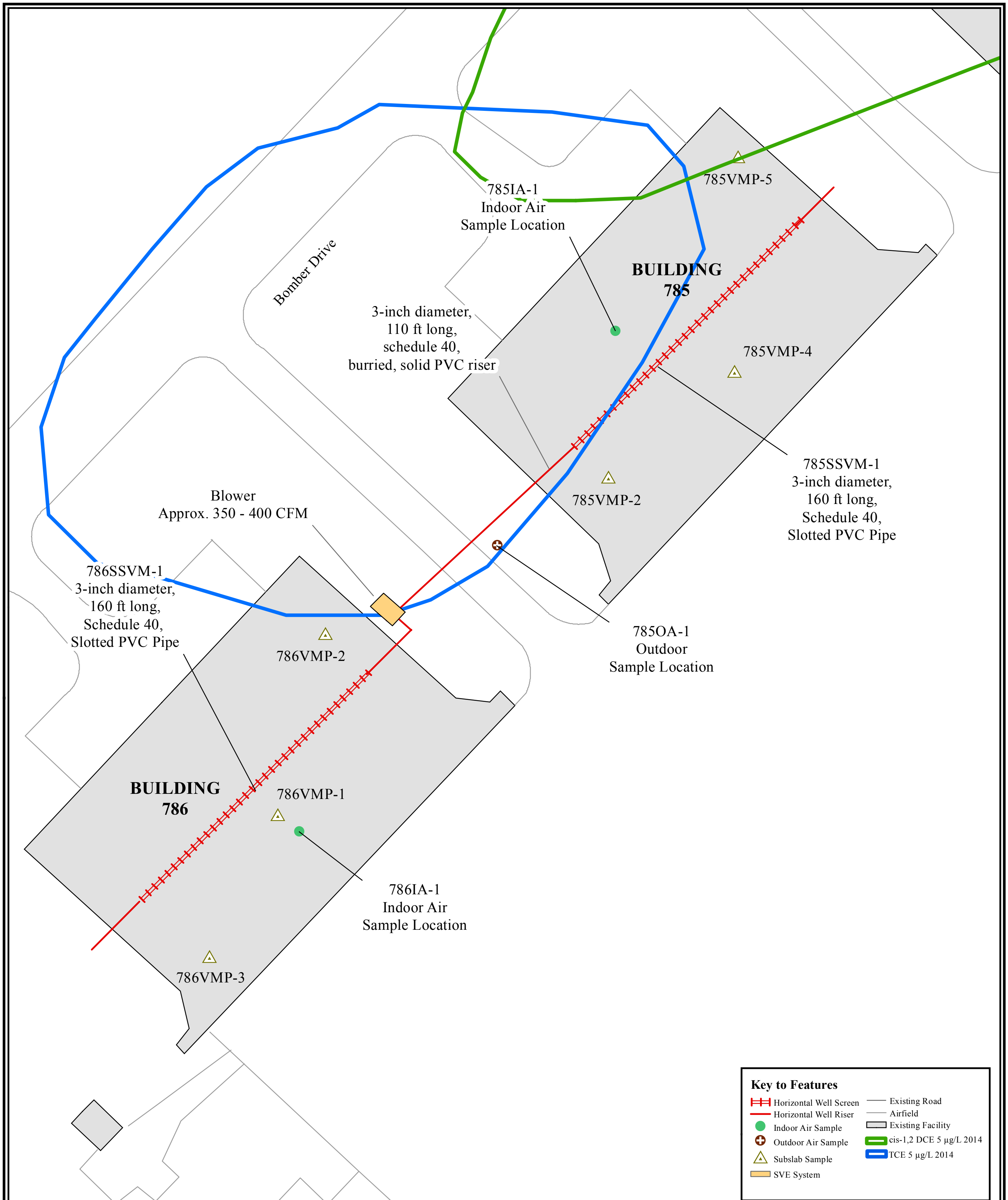



Note: Not detected results are plotted as 0.10 µg/m³.

**Figure 3-5**
**Sub-Slab TCE Trend Chart Building 776**
**(May 2011 through February 2016)**




Note: Not detected results are plotted as 0.10 µg/m³.



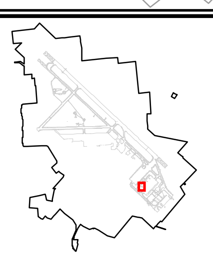




**Figure 3-6**
**Buildings 785 and 786**
**SSVM System**

0 25 50 100
Feet

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# Figure 3-7
# 785SSVM-1 and 786SSVM-1
# Long Term Operation Flow Rate
# (May 2011 through March 2016)

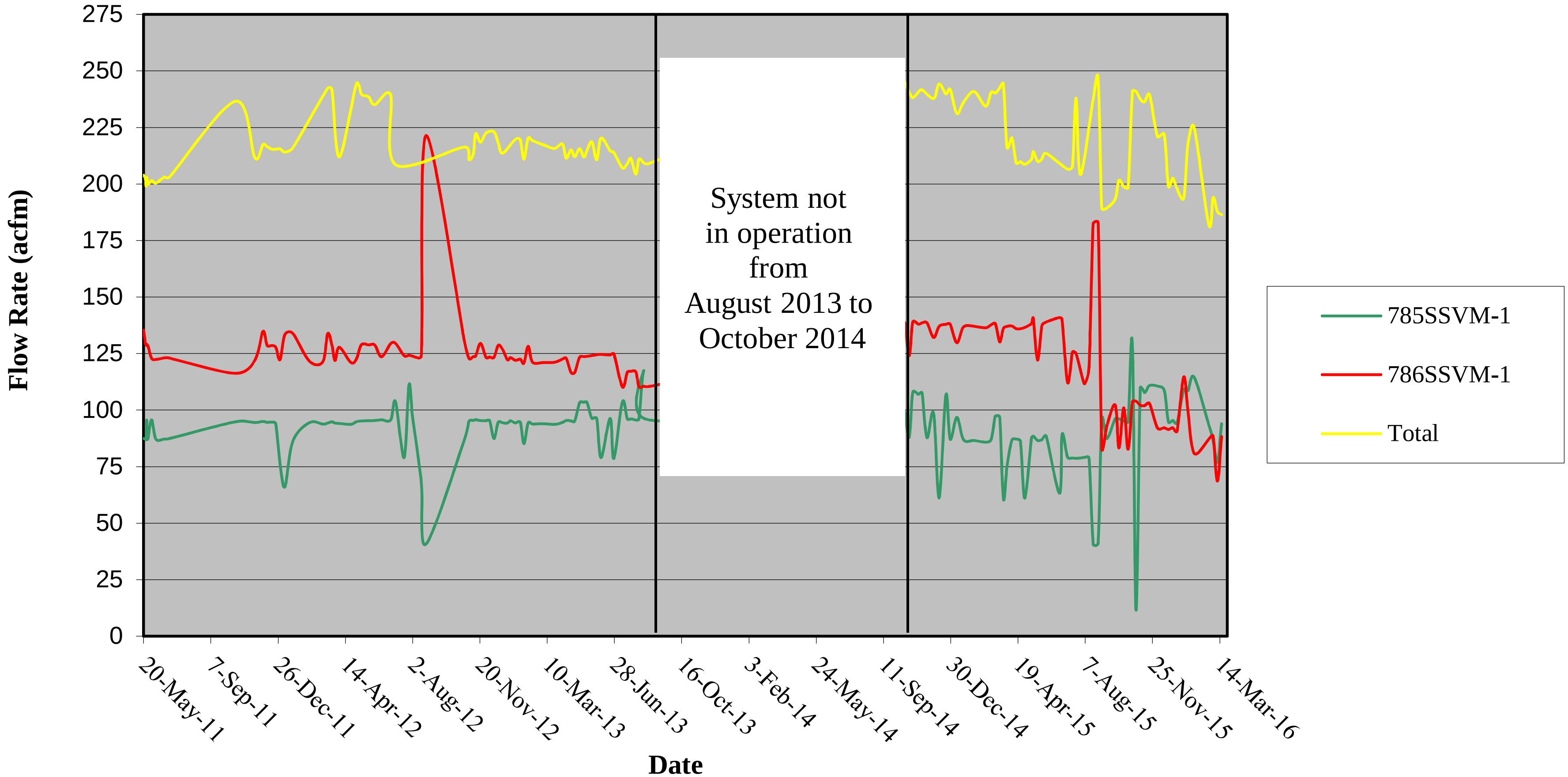


**Figure 3-8**
**785SSVM-1 and 786SSVM-1**
**Long Term Operation Vacuum**
**(May 2011 through March 2016)**

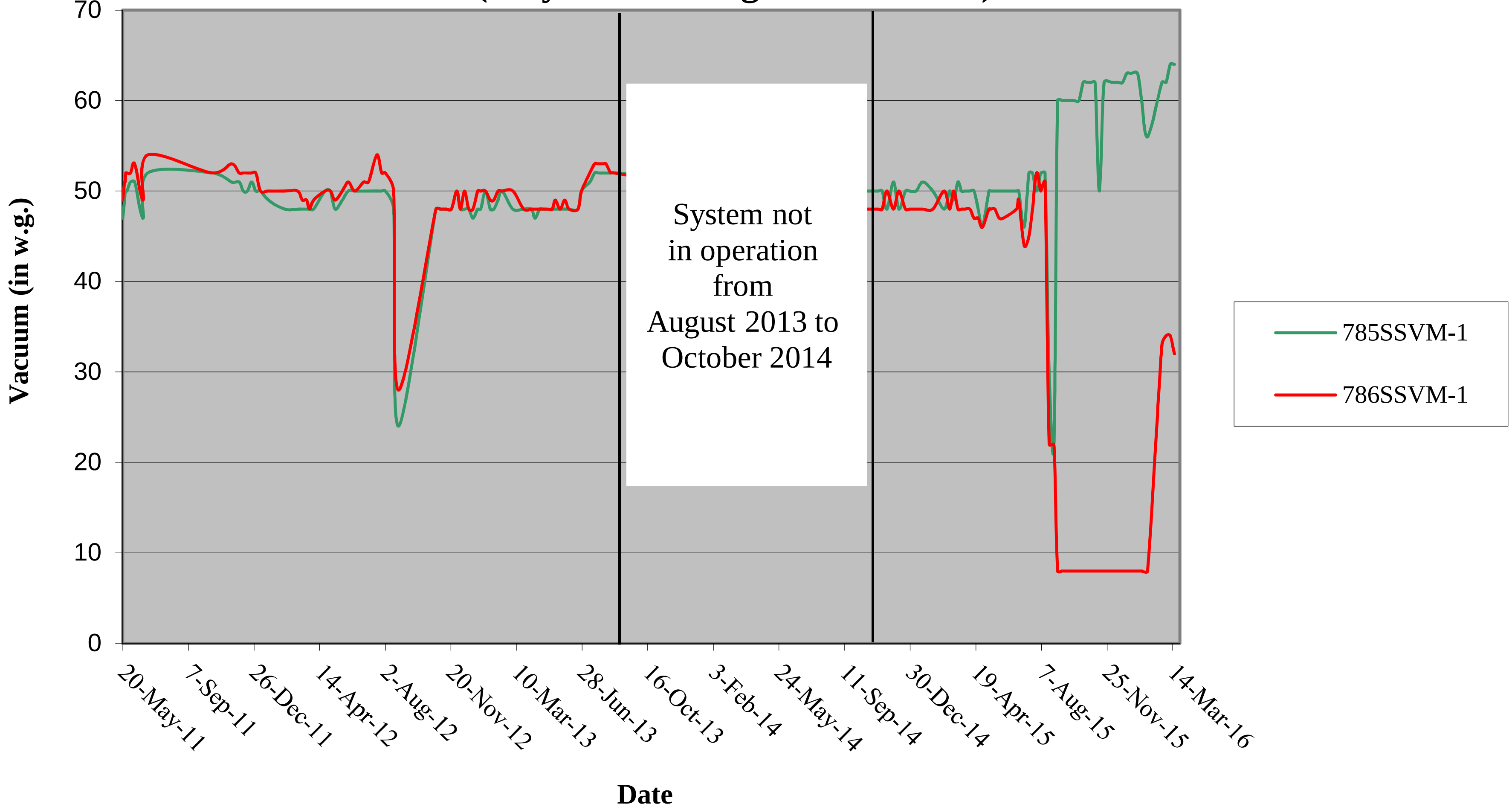
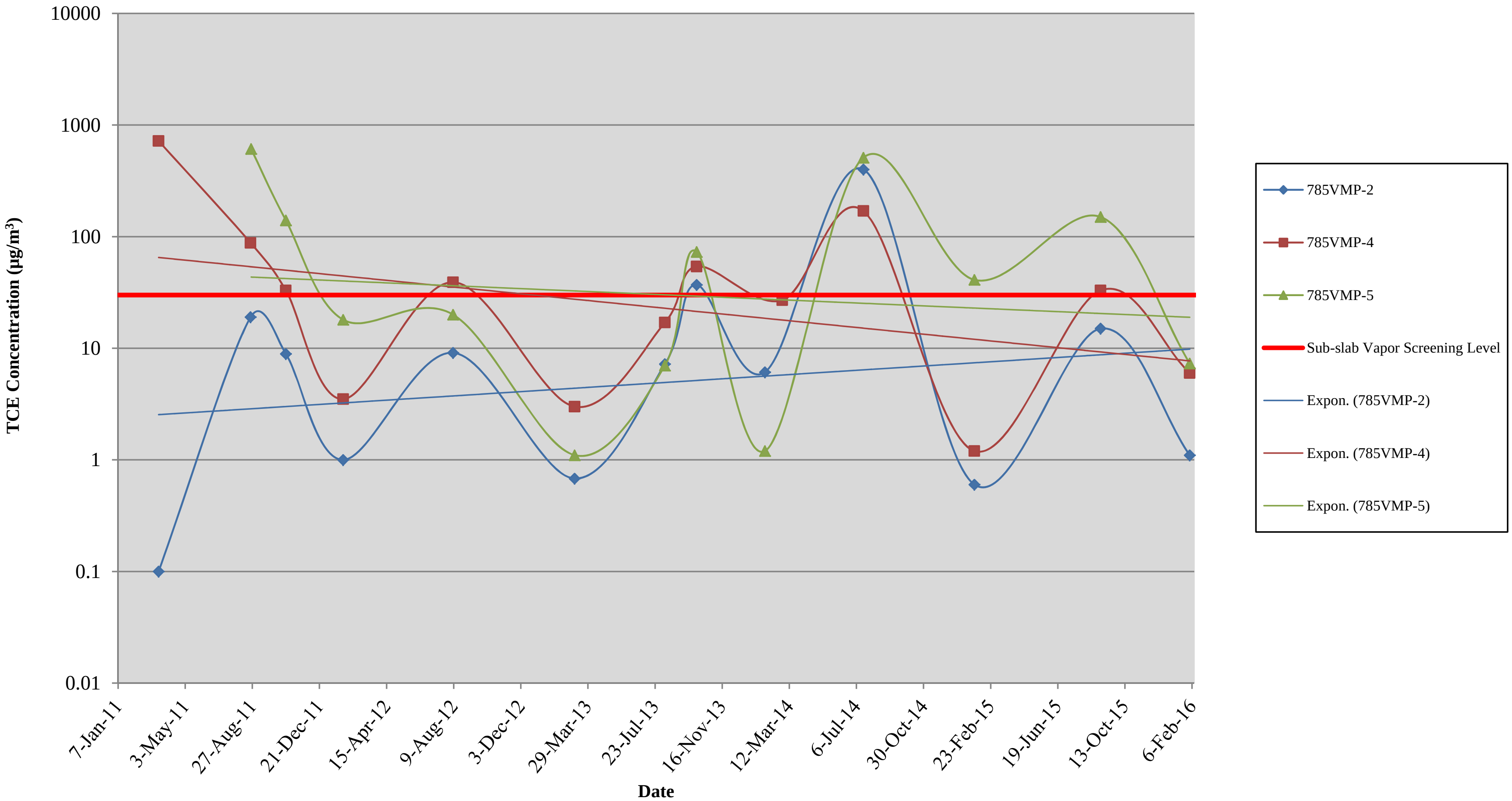


**Figure 3-9**
**Sub-Slab TCE Trend Chart Building 785 (January 2011 through February 2016)**




Note: Not detected results are plotted as 0.1 µg/m³.

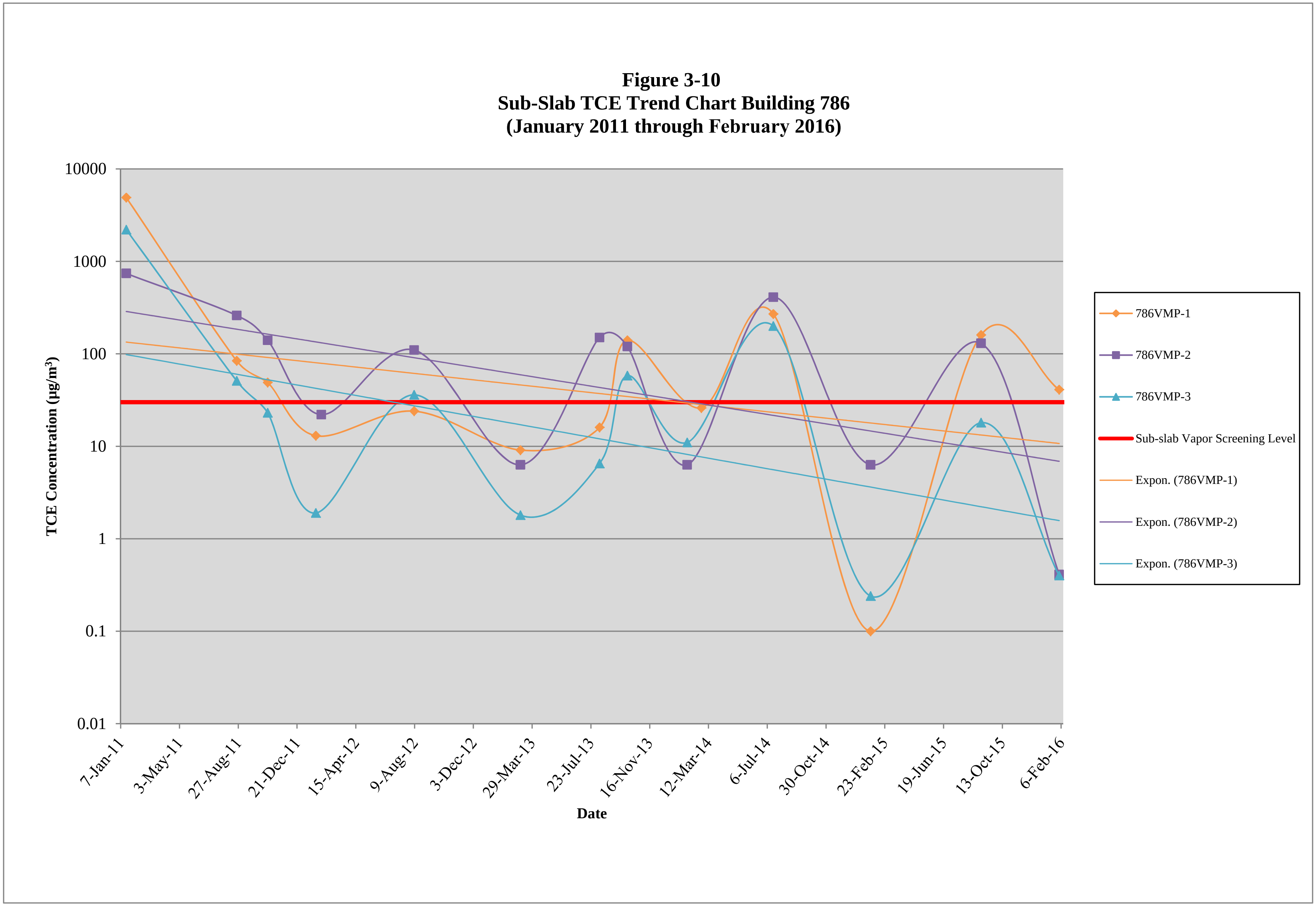


Figure 3-10
Sub-Slab TCE Trend Chart Building 786
(January 2011 through February 2016)
10000
1000
100
10
1
0.1
0.01
TCE Concentration (µg/m³)
7-Jan-11
3-May-11
27-Aug-11
21-Dec-11
15-Apr-12
9-Aug-12
3-Dec-12
29-Mar-13
23-Jul-13
16-Nov-13
12-Mar-14
6-Jul-14
30-Oct-14
23-Feb-15
19-Jun-15
13-Oct-15
6-Feb-16
Date
786VMP-1
786VMP-2
786VMP-3
Sub-slab Vapor Screening Level
Expon. (786VMP-1)
Expon. (786VMP-2)
Expon. (786VMP-3)

# Tables

**Table 2-1 - Building 774/776 AOC Short List Indoor and Outdoor Historical Analytical Results**
**December 2006/April 2008/May 2008**

| Sample Location | Indoor Air Screening Level (µg/$m^3$) | 774IA-1 | | | 774IA-2 | | | 774IA-3 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID | | 774-IA1 | 774IA1BB | 774IA1CA | 774-IA2 | 774IA2BB | 774IA2CA | 774IA3BB | 774IA3CA |
| Sample Type | | Indoor | Indoor | Indoor | Indoor | Indoor | Indoor | Indoor | Indoor |
| Sample Date | | 20-Dec-2006 | 15-Apr-2008 | 29-May-2008 | 20-Dec-2006 | 15-Apr-2008 | 29-May-2008 | 15-Apr-2008 | 29-May-2008 |
| Sample Depth (ft above ground) | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Sample Collection Duration (hr) | 12 | 8 | 12 | 12 | 8 | 12 | 12 | 12 | 12 |
| **Volatiles (TO-15) in µg/$m^3$** | | | | | | | | | |
| cis-1,2-dichloroethene | 102 | U | 1.57 | 0.685 | U | U | U | U | U |
| trichloroethylene (TCE) | 41 | 2.4 | 347 | 3.99 | 3.4 | 559 | 4.21 | 389 | 4.7 |
| vinyl chloride | 186 | U | 0.13 | U | U | U | U | U | U |

Notes:
U - Not detected.
µg/$m^3$: microgram per cubic meter.
Exceedance of the indoor or outdoor initial benchmark.

**Table 2-1 - Building 774/776 AOC Short List Indoor and Outdoor Historical Analytical Results**
**December 2006/April 2008/May 2008**

| Sample Location | Indoor Air Screening Level ($\mu g/m^3$) | 774IA-4 | | 774IA-5 | 774OA-1 | | |
|---|---|---|---|---|---|---|---|
| Sample ID | | 774IA4BB | 774IA4CA | 774IA5CA | 774-OA1 | 774OA1BB | 774OA1CA |
| Sample Type | | Indoor | Indoor | Indoor | Outdoor | Outdoor | Outdoor |
| Sample Date | | 15-Apr-2008 | 29-May-2008 | 29-May-2008 | 20-Dec-2006 | 15-Apr-2008 | 29-May-2008 |
| Sample Depth (ft above ground) | | 5 | 5 | 5 | 5 | 5 | 5 |
| Sample Collection Duration (hr) | 12 | 12 | 12 | 12 | 8 | 8 | 8 |
| Volatiles (TO-15) in $\mu g/m^3$ | | | | | | | |
| cis-1,2-dichloroethene | 102 | U | U | U | U | U | U |
| trichloroethylene (TCE) | 41 | 236 | 2.13 | 6.61 | U | 0.492 | U |
| vinyl chloride | 186 | U | U | U | U | U | U |

Notes:
U - Not detected.
$\mu g/m^3$: microgram per cubic meter.
Exceedance of the indoor or outdoor initial benchmark.

**Table 2-1 - Building 774/776 AOC Short List Indoor and Outdoor Historical Analytical Results**
**December 2006/April 2008**

| **Sample Location** | **Indoor Air Screening Level (µg/m³)** | **776IA-1** | | **776IA-2** | | **776IA-3** | **776IA-4** |
|---|---|---|---|---|---|---|---|
| **Sample ID** | | **776-IA1** | **776IA1BB** | **776-IA2** | **776IA2BB** | **776IA3BB** | **776IA4BB** |
| **Sample Type** | | **Indoor** | **Indoor** | **Indoor** | **Indoor** | **Indoor** | **Indoor** |
| **Sample Date** | | **20-Dec-2006** | **15-Apr-2008** | **20-Dec-2006** | **15-Apr-2008** | **15-Apr-2008** | **20-Dec-2006** |
| **Sample Depth (ft above ground)** | | **5** | **5** | **5** | **5** | **5** | **5** |
| **Sample Collection Duration (hr)** | **12** | **8** | **12** | **8** | **12** | **12** | **12** |
| **Volatiles (TO-15) in µg/m³** | | | | | | | |
| cis-1,2-dichloroethene | 102 | U | U | U | U | U | U |
| trichloroethylene (TCE) | 41 | 4.4 | 3.28 | 2.9 | 2.35 | 2.51 | 2.62 |
| vinyl chloride | 186 | U | U | U | U | U | U |

Notes:

U - Not detected.

µg/m³: microgram per cubic meter.

[grey box] Exceedance of the indoor or outdoor initial benchmark.

**Table 2-1 - Building 774/776 AOC Detected Sub-slab Vapor Historical Analytical Results**
**October 2006/April 2008**

| Sample Location | Sub-slab Vapor Screening Level (µg/m$^3$) | 774SSV-1 | | 774SSV-2 | | 774SSV-3 | 774SSV-4 |
|---|---|---|---|---|---|---|---|
| Sample ID | | 774-SSV1 | 774SSV1BB | 774-SSV2 | 774SSV2BB | 774SSV3BB | 774SSV4BB |
| Sample Type | | SSV | SSV | SSV | SSV | SSV | SSV |
| Sample Date | | 24-Oct-2006 | 15-Apr-2008 | 24-Oct-2006 | 15-Apr-2008 | 15-Apr-2008 | 15-Apr-2008 |
| Sample Depth (ft bgs) | | 1 | 1 | 1 | 1 | 1 | 1 |
| Sample Collection Duration (hr) | 12 | 8 | 12 | 8 | 12 | 12 | 12 |
| **Volatiles (TO-15) in µg/m$^3$** | | | | | | | |
| cis-1,2-dichloroethene | 1,022 | U | U | U | U | 0.64 | 0.60 |
| trichloroethylene (TCE) | 409 | 1,700 | 490 | 810 | 590 | 66 | 69 |
| vinyl chloride | 186 | U | U | U | U | U | U |

Notes:

U: Not detected.

µg/m$^3$: microgram per cubic meter.

Exceedance of the cancer screening value.

**Table 2-1 - Building 774/776 AOC Detected Sub-slab Vapor Historical Analytical Results**
**October 2006/April 2008**

| Sample Location | Sub-slab Vapor Screening Level ($\mu g/m^3$) | 776SSV-1 | | 776SSV-2 | | 776SSV-3 | 776SSV-4 |
|---|---|---|---|---|---|---|---|
| Sample ID | | 776-SSV1 | 776SSV1BB | 776-SSV2 | 776SSV2BB | 776SSV3BB | 776SSV4BB |
| Sample Type | | SSV | SSV | SSV | SSV | SSV | SSV |
| Sample Date | | 24-Oct-2006 | 15-Apr-2008 | 24-Oct-2006 | 15-Apr-2008 | 15-Apr-2008 | 15-Apr-2008 |
| Sample Depth (ft bgs) | | 1 | 1 | 1 | 1 | 1 | 1 |
| Sample Collection Duration (hr) | 12 | 8 | 12 | 8 | 12 | 12 | 12 |
| Volatiles (TO-15) in $\mu g/m^3$ | | | | | | | |
| cis-1,2-dichloroethene | 1,022 | U | U | U | U | 0.64 | U |
| trichloroethylene (TCE) | 409 | 3,000 | 6.9 | 700 | 110 | 120 | 230 |
| vinyl chloride | 186 | U | U | U | U | U | U |

Notes:

U: Not detected.

$\mu g/m^3$: microgram per cubic meter.

Exceedance of the cancer screening value.

**Table 2-1 - Building 785/786 AOC Short List Indoor and Outdoor Historical Analytical Results**
**December 2006/April 2008**

| Sample Location | Indoor Air Screening Level ($\mu g/m^3$) | 785IA-1 | 785IA-2 | 785IA-3 |
|---|---|---|---|---|
| Sample ID | | 785-IA1 | 785-IA2 | 785IA3BB |
| Sample Type | | Indoor | Indoor | Indoor |
| Sample Date | | 20-Dec-2006 | 20-Dec-2006 | 17-Apr-2008 |
| Sample Depth (ft above ground) | | 5 | 5 | 5 |
| Sample Collection Duration (hr) | 12 | 12 | 12 | 12 |
| Volatiles (TO-15) in $\mu g/m^3$ | | | | |
| 1,2,4-trimethylbenzene | NA | NA | NA | 1.30 |
| 1,3,5-trimethylbenzene | NA | NA | NA | 0.650 F |
| benzene | 88 | 1.1 | 1.1 | 0.617 |
| carbon disulfide | NA | U | U | U |
| carbon tetrachloride | NA | U | U | U |
| ethylbenzene | 743 | NA | NA | 0.441 F |
| freon 11 | NA | U | U | U |
| freon 113 | NA | U | U | U |
| freon 12 | NA | U | U | U |
| isopropyl alcohol | NA | U | U | U |
| m,p-xylene (sum of isomers) | 292 | NA | NA | 1.28 F |
| methyl ethyl ketone | NA | U | U | U |
| methylene chloride | NA | U | U | U |
| Naphthalene | NA | NA | NA | 1.33 |
| o-xylene | 292 | NA | NA | 0.485 F |
| tetrachloroethylene (PCE) | 102 | U | U | U |
| toluene | NA | NA | NA | 2.72 |
| trichloroethylene (TCE) | 41 | U | U | 0.655 |
| vinyl chloride | 186 | U | U | U |

Notes:

U - Not detected.

F - The result was detected between the MDL and RL.

NA- Not Available

$\mu g/m^3$: microgram per cubic meter.

**Table 2-1 - Building 786 AOC Short List Indoor and Outdoor Analytical Results**
**December 2006/April 2008**

| Sample Location | Indoor Air Screening Level ($\mu g/m^3$) | 786IA-1 | 786IA-2 | 786IA-3 | 786OA-1 | |
|---|---|---|---|---|---|---|
| Sample ID | | 786-IA1 | 786-IA2 | 786IA3BB | 786-OA1 | 786OA1BB |
| Sample Type | | Indoor | Indoor | Indoor | Outdoor | Outdoor |
| Sample Date | | 20-Dec-2006 | 20-Dec-2006 | 18-Apr-2008 | 20-Dec-2006 | 18-Apr-2008 |
| Sample Depth (ft above ground) | | 5 | 5 | 5 | 5 | 5 |
| Sample Collection Duration (hr) | 12 | 8 | 8 | 12 | 12 | 12 |
| **Volatiles (TO-15) in $\mu g/m^3$** | | | | | | |
| 1,2,4-trimethylbenzene | NA | NA | U | 0.749 | U | 0.949 |
| 1,3,5-trimethylbenzene | NA | NA | U | U | U | U |
| benzene | 88 | 1.2 | 1.2 | 0.747 | 0.96 | 0.617 |
| cis-1,2-dichloroethene | 102 | U | U | U | U | U |
| ethylbenzene | 743 | NA | NA | U | NA | U |
| m,p-xylene (sum of isomers) | 292 | NA | NA | 0.750 J | NA | 0.883 J |
| Naphthalene | NA | NA | NA | 1.01 | NA | U |
| o-xylene | 292 | NA | NA | U | NA | 0.441 J |
| tetrachloroethylene (pce) | 102 | U | 0.896 F | U | U | U |
| toluene | NA | NA | NA | 1.92 | NA | 1.49 |
| trichloroethylene (tce) | 41 | 0.43 J | U | U | U | U |
| vinyl chloride | 186 | U | U | U | U | U |

Notes:

U - Not detected.

F - The result was detected between the MDL and RL.

NA- Not Available

$\mu g/m^3$: microgram per cubic meter.

J- The analyte was positively indentified; the quantitation is an estimation.

**Table 2-1 - Building 785/786 AOC Detected Sub-slab Vapor Historical Analytical Results**
**October 2006/April 2008**

| Sample Location | Sub-slab Vapor Screening Level ($\mu g/m^3$) | 785SSV-1 | | 785SSV-2 | | 785SSV-3 | 785SSV-4 | 785SSV-5 | 785SSV-6 |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID | | B785-SSV1 | 785SSV1BB | B785-SSV2 | 785SSV2BB | 785SSV3BB | 785SSV4BB | 785SSV5BB | 785SSV6BB |
| Sample Type | | SSV | SSV | SSV | SSV | SSV | SSV | SSV | SSV |
| Sample Date | | 24-Oct-2006 | 17-Apr-2008 | 24-Oct-2006 | 17-Apr-2008 | 17-Apr-2008 | 17-Apr-2008 | 17-Apr-2008 | 17-Apr-2008 |
| Sample Depth (ft bgs) | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Sample Collection Duration (hr) | 12 | 8 | 12 | 8 | 12 | 12 | 12 | 12 | 12 |
| **Volatiles (TO-15) in $\mu g/m^3$** | | | | | | | | | |
| 1,1,1-trichloroethane | 146,000 | U | U | U | U | U | U | U | U |
| 1,2,4-trimethylbenzene | 175 | NA | 1.9 | NA | 2.3 | 2.9 | 4.0 | 3.4 | 9.0 |
| 1,3,5-trimethylbenzene | 175 | U | 0.70 J | U | 0.90 | 1.1 | 1.6 | 1.6 | 3.5 |
| acetone | NA | U | U | U | U | U | U | U | U |
| allyl chloride (3-chloropropene) | 29 | U | U | U | U | U | U | U | U |
| benzene | 105 | U | 10 | 15 | 3.5 | 17 | 19 | 14 | 20 |
| carbon disulfide | 20,440 | U | U | U | U | U | U | U | U |
| carbon tetrachloride | 55 | U | U | U | U | U | U | U | U |
| chloroform | 36 | U | U | U | U | U | U | U | U |
| chloromethane | 818 | U | U | U | U | U | U | U | U |
| cis-1,2-dichloroethene | 1,022 | 75 | 13 | U | 0.69 | 0.48 J | 14 | 0.52 J | 56.00 |
| cyclohexane | 175,200 | U | U | U | U | U | U | U | U |
| ethylbenzene | 743 | U | 1.0 | U | 1.9 | 1.8 | 2.4 | 3.0 | 4.0 |
| freon 11 | 20,440 | U | U | U | U | U | U | U | U |
| freon 113 | 876,000 | U | U | U | U | U | U | U | U |
| freon 12 | 5,840 | U | U | U | U | U | U | U | U |
| m,p-xylene (sum of isomers) | 2,920 | U | 2.7 | U | 4.4 | 6.3 | 8.8 | 10 | 12 J |
| methyl ethyl ketone | 146,000 | U | U | U | U | U | U | U | U |
| methylene chloride | 1,740 | U | U | U | U | U | U | U | U |
| Naphthalene | NA | NA | 1.2 | NA | 1.9 | 1.2 | 1.4 | 1.8 | 1.6 |
| o-xylene | 2,920 | U | 1.1 | U | 1.6 | 1.9 | 2.8 | 4.9 | 3.3 |
| tetrachloroethylene (PCE) | 139 | U | U | U | U | U | U | U | U |
| tetrahydrofuran | NA | U | U | U | U | U | U | U | U |
| toluene | 146,000 | 60 | 5.5 | 13 | 5.1 | 12 | 18 | 64 | 28 |
| trans-1,2-dichloroethene | NA | U | U | | U | U | U | U | U |
| trichloroethylene (TCE) | 409 | 11,000 | 110 | 2,300 | 430 | 220 | 11 | 180 | 2200 |
| vinyl chloride | 186 | U | U | U | U | U | U | U | U |

Notes:

U - Not detected.

F- The result was detected between the MDL and RL.

J- The analyte was positvely identified, but the quantitation is an approximation.

NA- Not Available

$\mu g/m^3$: microgram per cubic meter.

Exceedance of the indoor or outdoor initial benchmark.

**Table 2-1 - Building 785/786 AOC Detected Sub-slab Vapor Historical Analytical Results**
**October 2006/April 2008**

| Sample Location | Sub-slab Vapor Screening Level ($\mu g/m^3$) | 786SSV-1 | | 786SSV-2 | | 786SSV-3 | 786SSV-4 | 786SSV-5 | 786SSV-6 |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID | | B786-SSV1 | 786SSV1BB | B786-SSV2 | 786SSV2BB | 786SSV3BB | 786SSV4BB | 786SSV5BB | 786SSV6BB |
| Sample Type | | SSV | SSV | SSV | SSV | SSV | SSV | SSV | SSV |
| Sample Date | | 24-Oct-2006 | 18-Apr-2008 | 24-Oct-2006 | 18-Apr-2008 | 18-Apr-2008 | 18-Apr-2008 | 18-Apr-2008 | 18-Apr-2008 |
| Sample Depth (ft bgs) | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Sample Collection Duration (hr) | 12 | 8 | 12 | 8 | 12 | 12 | 12 | 12 | 12 |
| Volatiles (TO-15) in $\mu g/m^3$ | | | | | | | | | |
| 1,2,4-trimethylbenzene | 175 | NA | 3.9 | NA | 4.8 | 4.5 | 4.2 | 170 | 4.8 |
| benzene | 105 | U | 29 | 24 J | 21 | 21 | 35 | 36 | 16 |
| cis-1,2-dichloroethene | 1,022 | 480 | 230 | U | 12 | 1.2 | U | 3.1 | 5.4 |
| ethylbenzene | 743 | U | 2.3 | U | 3.1 | 2.3 | 2.9 | 29 | 2.3 |
| m,p-xylene (sum of isomers) | 2,920 | U | 9.0 | U | 8.4 | 8.9 | 8.4 | 91 | 9.2 |
| Naphthalene | NA | NA | 1.3 | NA | 2.1 | 2.6 | 1.2 | 27 | 1.5 |
| o-xylene | 2,920 | U | 3.0 | U | 3.9 | 2.8 | 3.8 | 57 | 3.0 |
| tetrachloroethylene (PCE) | 139 | 2200 | 70 | U | 0.97 | U | U | 57 | 23 |
| toluene | 146,000 | U | 21 | U | 14 | 12 | 20 | 75 | 15 |
| trichloroethylene (TCE) | 409 | 81,000 | 19,000 | 4,700 J | 1,500 | 69 | 320 | 3,600 | 6,500 |
| vinyl chloride | 186 | U | U | U | U | U | U | U | U |

Notes:

U - Not detected.

F- The result was detected between the MDL and RL.

J- The analyte was positvely identified, but the quantitation is an approximation.

NA- Not Available

$\mu g/m^3$: microgram per cubic meter.

Exceedance of the indoor or outdoor initial benchmark.

**Table 3-1**
**SSVM Systems Operation and Maintenance**

| Field Activities | Rationale | Location | Parameters |
|---|---|---|---|
| System Component Readings | Weekly recording of system temperature, flow, vacuum and motor status to determine proper operation. | Building 774 / 776 Blower Shed and Building 785 / 786 Blower Shed | None |
| VMP Vacuum Measurements | Semi-annually recording to support sub-slab depressurization. | VMPs inside buildings as shown on Figure 3-1 and 3-2 | None |
| Granular Activated Carbon Replacement | Every four months to adsorb extracted chlorinated solvent vapors. | Building 774 / 776 Blower Shed and Building 785 / 786 Blower Shed | None |
| Indoor Air Sampling | Semi-Annually to evaluate current human exposure and to obtain site specific attenuation factors for risk assessment (ratio of indoor air to sub-slab vapor concentrations). | One sample per building as shown on Figure 3-1 and 3-2 | VOC: Method TO-15 Full List |
| Outdoor Air Sampling | Semi-Annually to occur simultaneously with indoor air sampling to evaluate potential influence of outdoor air on indoor air sampled. | One sample per site as shown on Figure 3-1 and 3-2 | VOC: Method TO-15 Full List |
| Sub-Slab Vapor Sampling | Semi-Annually to occur simultaneously with indoor air sampling to evaluate chlorinated solvent transport and mitigation and to obtain site specific attenuation factors for risk assessment (ratio of indoor air to sub-slab vapor concentrations). | VMPs inside buildings as shown on Figure 3-1 and 3-2 | VOC: Method TO-15 Full List |
| Influent Sampling | Semi-Annually prior to sub-slab sampling to determine soil vapor extraction. | SSVM System's exhaust stack before carbon treatment | VOC: Method TO-15 Full List |

**Table 3-2**
**Building 774/776 SSVM Performance Monitoring**
**Sub-Slab Vapor, Indoor and Outdoor Air Results**

| Sample Location | Sub-slab Vapor Screening Level* ($\mu g/m^3$) | Indoor Air Screening Level* ($\mu g/m^3$) | 774VMP-1 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | | | 774VMP0101AA | 774VMP0101AB | 774VMP0101AC | 774VMP0101AD | 774VMP0101AG | 774VMP0101HA | 774VMP0101IA | 774VMP0101JA | 774VMP0101KA | 774VMP0101MA | 774VMP0101NA | 774VMP0101PA |
| Sample Type | | | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab |
| Sample Date | | | 4-May-2011 | 24-Aug-2011 | 21-Oct-2011 | 25-Jan-2012 | 6-Aug-2012 | 21-Feb-2013 | 8-Aug-2013 | 30-Jan-2014 | 17-Jul-2014 | 22-Jan-2015 | 31-Aug-2015 | 3-Feb-2016 |
| Sample Depth (ft bgs / ags) | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Sample Collection Duration (hr) | | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| **Volatiles (TO-15) in $\mu g/m^3$** | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 220,000 | 22,000 | U | U | 1.1 | U | U | 22,000 | U | 0.84 J | U | 0.2 J | U | 0.29 J |
| 1,1-dichloroethane | 77 | 7.7 | 0.53 J | U | U | U | U | U | U | U | U | U | U | U |
| 1,2,4-trichlorobenzene | 88 | 9 | U | U | U | U | U | U | U | U | U | 0.27 J | U | U |
| 1,2,4-trimethylbenzene | 310 | 31 | 6.7 | 3.2 | U | 12 | 1.8 | 1.3 J | U | U | U | 0.35 J | 1.8 | U |
| 1,2-dichloroethane | 4.7 | 0.47 | U | U | U | U | U | 0.37 J | U | U | U | U | U | U |
| 1,3,5-trimethylbenzene | NA | NA | 2.5 | 0.9 | U | 3.2 J | 0.47 J | 0.52 J | U | U | U | U | 0.49 J | U |
| 1,3-dichlorobenzene | NA | NA | U | U | U | 1.4 J | 0.40 J | U | U | U | U | U | 0.65 J | U |
| 1,4-dichlorobenzene | 11 | 1.1 | U | U | U | U | U | U | 0.31 J | U | U | 0.17 J | 1 J | U |
| 1,4-dioxane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 2,2,4-trimethylpentane | NA | NA | U | 1.9 | U | 2.6 J | 2.2 | 15 | 1.1 | U | U | U | 0.18 J | U |
| 4-ethyltoluene | NA | NA | 4.6 | 1.2 | U | 3.2 J | 0.56 J | 0.26 J | U | U | U | 0.14 J | 0.52 J | U |
| 4-isopropyltoluene | NA | NA | NA | NA | NA | U | 0.28 J | U | U | U | U | U | 0.81 J | U |
| acetone | 1,400,000 | 140,000 | 54 | 31 | 18 | 64 | 30 B | 86 | 28 | 43 J | U | 64 | 20 | 22 |
| benzene | 16 | 1.6 | 1.6 | 4.3 | U | U | 0.44 J | 1.3 | 0.64 | 0.49 J | U | 0.89 | 0.43 J | 0.45 J |
| carbon disulfide | 31,000 | 3,100 | U | 0.66 | U | U | U | 0.42 J | 1.3 J | U | U | 0.89 J | 9 | 0.71 J |
| carbon tetrachloride | 20 | 2 | 1 | 0.70 J | U | U | 0.50 J | 0.76 J | 0.71 J | 0.55 J | U | 0.57 J | 0.52 J | 0.39 J |
| chlorobenzene | 2,200 | 220 | U | 0.51 J | U | U | U | U | 0.15 J | U | U | U | U | U |
| chloroethane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| chloroform | 5.3 | 0.53 | 18 | 9.1 | U | U | 0.38 J | U | 0.42 J | 0.82 J | U | U | 0.49 J | U |
| chloromethane | 3,900 | 390 | 3.5 | U | U | U | 1.1 | 2.1 | 1.2 | 1.5 | U | 1.3 | 1.1 | 0.95 J |
| cis-1,2-dichloroethene | NA | NA | 0.89 | 0.77 | U | U | U | U | U | U | U | U | U | U |
| cumene | 18,000 | 1,800 | NA | NA | NA | 1.1 J | U | U | 0.42 J | U | U | U | 0.49 J | U |
| cyclohexane | 260,000 | 26,000 | 4.8 | 7.8 | 2.4 | U | 2.3 | 18 | 0.91 | 1.1 | U | 1.1 | 0.59 J | 1.3 |
| ethyl acetate | 3,100 | 310 | U | U | 0.77 J | U | U | U | NA | U | U | U | U | U |
| ethylbenzene | 49 | 4.9 | 1.4 | 2.8 | U | 4.1 J | 0.95 | 1.8 | 0.97 | U | U | 0.25 J | 6.2 | 0.22 J |
| freon 11 (trichlorofluoromethane) | 31,000 | 3,100 | 31 | 19 | 2.0 | 1.9 J | 2.3 | 2 J | 3.7 | 2.4 | 15 J | 1.6 | 2.1 | 5.3 |
| freon 113 (freon TF) | 1,300,000 | 130,000 | U | 0.78 J | U | U | 0.63 J | 0.65 J | 0.50 J | 0.62 J | U | 0.97 J | 0.54 J | U |
| freon 12 (dichlorodifluoromethane) | 4,400 | 440 | 2.1 | 2.8 | 2.5 | 2.4 J | 2.8 | 3.4 J | 2.3 J | 3.1 | 2.8 J | 2.5 | 2.3 J | 1.7 J |
| freon 22 | 2,200,000 | 220,000 | NA | NA | NA | 300 | 83 | 7.3 J | 17 | 8.2 | 1100 | 5.1 | U | 3.5 |
| heptane | NA | NA | U | 3.7 | U | U | 0.68 J | 18 | 0.57 J | 0.51 J | U | 0.44 J | U | 0.51 J |
| hexane | 31,000 | 3,100 | U | 7.9 | U | 5.1 | 1.2 | 27 | 0.67 J | 0.71 | U | 0.51 J | 0.21 J | 0.5 J |
| isopropyl alcohol | NA | NA | U | U | 2.8 | 17 J | 22 | 65 | 15 | 4.0 J | 9.0 J | 13 | 7.4 J | 4.5 J |
| m,p-xylene (sum of isomers) | 4,400 | 440 | 5.3 | 9 | U | 12 | 3.1 | 6.4 | 2.5 | U | U | 0.56 J | 6.3 | 0.62 J |
| methyl butyl ketone | NA | NA | U | U | U | U | 0.43 J | U | 0.58 J | U | U | 1.2 J | U | 0.56 J |
| methyl ethyl ketone | 220,000 | 22,000 | 1.7 | 4.9 | 1.7 | 1.9 J | 3.2 B | 6.1 | 3.2 | 2.5 | U | 7.2 | 2.6 | 3.4 |
| methyl isobutyl ketone | 130,000 | 13,000 | U | U | U | U | 1.1 J | U | 0.61 J | 0.40 J | U | 1.2 J | 0.8 J | U |
| methyl methacrylate | NA | NA | NA | NA | NA | U | U | U | U | U | U | U | U | U |
| methylene chloride | 12,000 | 1,200 | U | 0.99 | 0.46 J | U | 0.72 J | 0.77 J | 0.50 J | 0.69 J | U | 1.3 J | 0.53 J | 2.3 |
| Naphthalene | 3.6 | 0.36 | U | U | U | U | 0.60 J | 1.1 J | U | U | U | U | 0.54 J | U |
| n-Butane | NA | NA | NA | NA | NA | U | 1.4 | 3.7 | 1.0 J | 12 | U | 1.9 | 1.1 J | 1.9 |
| n-Propylbenzene | 44,000 | 4,400 | NA | NA | NA | 2.2 J | 0.36 J | U | U | U | U | U | 0.45 J | U |
| o-xylene | 4,400 | 440 | 2.4 | 2.4 | U | 7.9 | 1.2 | 2 | 0.63 J | U | U | 0.27 J | 2.3 | 0.26 J |
| styrene | 44,000 | 4,400 | U | U | U | U | 0.48 J | 0.41 J | U | U | U | 0.12 J | 0.54 J | U |
| tert-Butyl alcohol | NA | NA | NA | NA | NA | U | U | 1.4 J | 1.4 J | U | U | 0.96 J | 0.77 J | U |
| tetrachloroethylene (pce) | 470 | 47 | 0.97 J | 1 | U | U | U | U | U | U | U | U | U | 0.2 J |
| tetrahydrofuran | NA | NA | 3.1 | U | U | U | 2.2 J | U | U | U | U | 0.75 J | U | U |
| toluene | 220,000 | 22,000 | 1.6 | 17 | 2.1 | 5.2 | 4.2 | 7.4 | 3.3 | 0.69 J | 1.4 J | 1 | 3.4 | 1.5 |
| trichloroethylene (tce) | 30 | 3 | 580 | 410 | 3.7 | 4.8 J | 1.0 J | 0.24 J | 0.18 J | 6.8 | U | 0.71 J | 0.5 J | 1.9 |
| vinyl chloride | 28 | 2.8 | U | U | U | U | U | U | U | U | U | U | U | U |

Notes:
U - Not detected.
J- The analyte was positively identified; the quantitation is an estimation.
D - The reported value is from a dilution
NA- Not Available
$\mu g/m^3$: microgram per cubic meter.
Exceedance of the indoor or outdoor initial benchmark.
B - Analytes detected in the trip blank.
*EPA Commercial Regional Screening Levels

**Table 3-2**
**Building 774/776 SSVM Performance Monitoring**
**Sub-Slab Vapor, Indoor and Outdoor Air Results**

| **Sample Location** | **Sub-slab Vapor Screening Level* ($\mu g/m^3$)** | **Indoor Air Screening Level* ($\mu g/m^3$)** | **774VMP-2** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample ID** | | | **774VMP0201AA** | **774VMP0201AB** | **774VMP0201AC** | **774VMP0201AD** | **774VMP0201AG** | **774VMP0201HA** | **774VMP0201IA** | **774VMP0201JA** | **774VMP0201KA** | **774VMP0201MA** | **774VMP0201NA** | **774VMP0201PA** |
| **Sample Type** | | | **sub-slab** | **sub-slab** | **sub-slab** | **sub-slab** | **sub-slab** | **sub-slab** | **sub-slab** | **sub-slab** | **sub-slab** | **sub-slab** | **sub-slab** | **sub-slab** |
| **Sample Date** | | | **4-May-2011** | **24-Aug-2011** | **21-Oct-2011** | **25-Jan-2012** | **6-Aug-2012** | **21-Feb-2013** | **8-Aug-2013** | **30-Jan-2014** | **17-Jul-2014** | **22-Jan-2015** | **31-Aug-2015** | **3-Feb-2016** |
| **Sample Depth (ft bgs / ags)** | | | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |
| **Sample Collection Duration (hr)** | | | **0.5** | **0.5** | **0.5** | **0.5** | **0.5** | **0.5** | **0.5** | **0.5** | **0.5** | **0.5** | **0.5** | **0.5** |
| **Volatiles (TO-15) in $\mu g/m^3$** | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 220,000 | 22,000 | 85 | 2.4 | U | U | 2.6 | U | U | U | U | U | 0.66 JM | U |
| 1,1-dichloroethane | 77 | 7.7 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,2,4-trichlorobenzene | 88 | 9 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,2,4-trimethylbenzene | 310 | 31 | 12 | 4 | 0.65 J | 6.0 J | 1.7 | 0.45 J | 0.34 J | 0.31 J | U | 0.28 J | 1.8 | U |
| 1,2-dichloroethane | 4.7 | 0.47 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,3,5-trimethylbenzene | NA | NA | 3.9 | 2 | U | U | 0.43 J | U | U | U | U | 0.11 J | 0.5 J | U |
| 1,3-dichlorobenzene | NA | NA | U | U | U | U | 0.37 J | U | U | U | U | U | 0.71 J | U |
| 1,4-dichlorobenzene | 11 | 1.1 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,4-dioxane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 2,2,4-trimethylpentane | NA | NA | U | 2.2 | U | 2.1 J | U | 12 | U | 0.26 J | U | U | 0.21 J | U |
| 4-ethyltoluene | NA | NA | 8.5 | 1.5 | U | U | 0.52 J | U | U | U | U | U | 0.64 J | U |
| 4-isopropyltoluene | NA | NA | NA | NA | NA | U | 0.34 J | U | U | 0.47 J | U | U | 0.28 J | U |
| acetone | 1,400,000 | 140,000 | 53 | U | 11 | 110 J | 43 | 82 | 22 | 47 J | U | 17 | 29 | 8.1 J |
| benzene | 16 | 1.6 | 6 | 4.4 | U | U | 0.53 J | 1.2 | 0.34 J | 0.79 | U | 0.74 | 0.41 J | 0.48 J |
| carbon disulfide | 31,000 | 3,100 | 0.95 | 0.6 | U | U | 1.2 J | U | U | U | U | U | 0.19 JM | U |
| carbon tetrachloride | 20 | 2 | 1.4 | 0.70 J | U | U | 0.59 J | U | 1.0 J | 0.78 J | U | 0.54 J | 0.67 J | 0.69 J |
| chlorobenzene | 2,200 | 220 | U | 0.56 J | U | U | U | U | U | U | U | U | U | U |
| chloroethane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| chloroform | 5.3 | 0.53 | 45 | 1.8 | 0.69 J | U | 0.69 J | U | 0.76 J | 1.1 | U | 0.23 J | 0.58 J | U |
| chloromethane | 3,900 | 390 | U | U | U | U | 0.77 J | 1.9 | 1.3 | 1.0 J | U | 1.1 | 0.82 J | U |
| cis-1,2-dichloroethene | NA | NA | 0.73 | U | U | U | U | U | U | U | U | U | U | U |
| cumene | 18,000 | 1,800 | NA | NA | NA | U | U | U | U | U | U | U | 0.43 J | U |
| cyclohexane | 260,000 | 26,000 | 5.9 | 10 | 3.5 | U | 1.8 | 12 | 1.3 | 1.6 J | U | 0.98 | 0.19 JM | U |
| ethyl acetate | 3,100 | 310 | U | 0.62 J | U | U | U | U | NA | U | U | U | U | U |
| ethylbenzene | 49 | 4.9 | 1.6 | 3.2 | U | 1.9 J | 0.94 | 1.5 | 0.31 J | 0.25 J | U | 0.22 J | 5.2 | U |
| freon 11 (trichlorofluoromethane) | 31,000 | 3,100 | 400 | 22 | 2.2 | U | 3.8 | 1.8 | 7.3 | 3.5 | 14 J | 1.9 | 3 | 4.3 |
| freon 113 (freon TF) | 1,300,000 | 130,000 | 0.86 J | 0.78 J | U | U | 0.61 J | U | 0.51 J | 0.82 J | U | 0.82 J | 0.66 J | U |
| freon 12 (dichlorodifluoromethane) | 4,400 | 440 | 2.8 | 2.8 | 2.1 | 3.1 J | 2.5 | 2.9 | 2.4 J | 3.4 | U | 2.6 | 2.9 | 1.9 J |
| freon 22 | 2,200,000 | 220,000 | NA | NA | NA | 750 | 130 | 6.7 J | 27 | U | 1300 J | U | U | 3 |
| heptane | NA | NA | U | 4.2 | 6.2 | U | 0.88 | 18 | 0.32 J | 0.75 J | U | 0.38 J | 0.29 J | U |
| hexane | 31,000 | 3,100 | U | 8.2 | U | U | 0.77 | 23 | 0.49 J | 0.83 | U | 0.55 J | 0.37 J | 0.36 J |
| isopropyl alcohol | NA | NA | 4.4 | 15 | 2.4 | 20 J | 30 | 39 | 44 | 7.2 J | 12 J | 9.3 J | 7.1 J | 2.7 J |
| m,p-xylene (sum of isomers) | 4,400 | 440 | 5.1 | 12 | 0.53 J | 5.5 J | 3.1 | 4.7 | 0.89 J | 0.63 J | U | 0.57 J | 5.7 | U |
| methyl butyl ketone | NA | NA | U | U | U | U | U | U | 0.19 J | U | U | U | U | U |
| methyl ethyl ketone | 220,000 | 22,000 | 4.3 | 3 | U | U | 3.4 B | 5.4 | 1.2 J | 2.0 | U | U | 1.9 | U |
| methyl isobutyl ketone | 130,000 | 13,000 | U | U | U | U | 1.3 J | U | 0.44 J | 0.45 J | U | U | U | U |
| methyl methacrylate | NA | NA | NA | NA | NA | U | U | U | U | U | U | U | U | U |
| methylene chloride | 12,000 | 1,200 | U | U | U | U | 0.59 J | U | 0.48 J | 1.1 J | U | 0.72 J | 0.45 J | 1.3 J |
| Naphthalene | 3.6 | 0.36 | U | U | U | U | 1.9 J | U | U | U | U | U | 0.82 J | U |
| n-Butane | NA | NA | NA | NA | NA | U | 1.2 J | 3.6 | 4.7 | 18 J | U | 3.4 | 1.9 | 1.6 |
| n-Propylbenzene | 44,000 | 4,400 | NA | NA | NA | U | 0.31 J | U | U | U | U | U | 0.46 J | U |
| o-xylene | 4,400 | 440 | 2.2 | 2.8 | U | 3.6 J | 1.1 | 1.2 | 0.34 J | 0.23 J | U | 0.2 J | 2.2 | U |
| styrene | 44,000 | 4,400 | U | U | U | U | 0.44 J | U | 0.18 J | U | U | 0.078 J | 0.55 J | U |
| tert-Butyl alcohol | NA | NA | NA | NA | NA | U | U | U | U | U | U | U | 0.63 J | U |
| tetrachloroethylene (pce) | 470 | 47 | 2.8 | U | U | U | U | U | U | 0.25 J | U | U | U | U |
| tetrahydrofuran | NA | NA | 6.7 | U | U | U | 1.4 J | U | U | U | U | U | U | U |
| toluene | 220,000 | 22,000 | 3.2 | 17 | 1.4 | 4.8 J | 3.9 | 4.7 | 1.4 | 1.2 J | U | 0.91 | 4.1 | 0.64 J |
| trichloroethylene (tce) | 30 | 3 | 2,900 | 84 | 11 | 4.2 J | 20 | U | 0.21 J | 3.3 J | U | 0.29 J | 1.9 | 0.61 J |
| vinyl chloride | 28 | 2.8 | U | U | U | U | U | U | U | U | U | U | U | U |

Notes:
U - Not detected.
J- The analyte was positively identified; the quantitation is an estimation.
D - The reported value is from a dilution
NA- Not Available
$\mu g/m^3$: microgram per cubic meter.
Exceedance of the indoor or outdoor initial benchmark.
B - Analytes detected in the trip blank.
*EPA Commercial Regional Screening Levels

**Table 3-2**
**Building 774/776 SSVM Performance Monitoring**
**Sub-Slab Vapor, Indoor and Outdoor Air Results**

| Sample Location | Sub-slab Vapor Screening Level* (µg/m³) | Indoor Air Screening Level* (µg/m³) | 774VMP-3 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | | | 774VMP0301AA | 774VMP0301AB | 774VMP0301AC | 774VMW0301AD | 774VMP0301AG | 774VMP0301HA | 774VMP0301IA | 774VMP0301JA | 774VMP0301KA | 774VMP0301MA | 774VMP0301NA | 774VMP0301PA |
| Sample Type | | | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab |
| Sample Date | | | 4-May-2011 | 24-Aug-2011 | 21-Oct-2011 | 26-Jan-2012 | 6-Aug-2012 | 21-Feb-2013 | 8-Aug-2013 | 30-Jan-2014 | 17-Jul-2014 | 22-Jan-2015 | 31-Aug-2015 | 3-Feb-2016 |
| Sample Depth (ft bgs / ags) | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Sample Collection Duration (hr) | | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| **Volatiles (TO-15) in µg/m³** | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 220,000 | 22,000 | 12 | 0.67 J | U | U | U | U | U | U | U | U | U | U |
| 1,1-dichloroethane | 77 | 7.7 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,2,4-trichlorobenzene | 88 | 9 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,2,4-trimethylbenzene | 310 | 31 | 6.3 | 4.1 | 0.95 | U | 0.35 J | 1.4 J | U | U | U | U | U | U |
| 1,2-dichloroethane | 4.7 | 0.47 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,3,5-trimethylbenzene | NA | NA | 2.2 | 1.8 | U | U | U | U | U | U | U | U | U | U |
| 1,3-dichlorobenzene | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,4-dichlorobenzene | 11 | 1.1 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,4-dioxane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 2,2,4-trimethylpentane | NA | NA | U | 2.3 | U | U | U | 13 | 0.22 J | U | U | U | U | U |
| 4-ethyltoluene | NA | NA | 4.2 | 1.6 | U | U | U | U | U | U | U | U | U | U |
| 4-isopropyltoluene | NA | NA | NA | NA | NA | U | 0.27 J | 1.8 J | U | U | U | U | U | U |
| acetone | 1,400,000 | 140,000 | 17 | 19 | 12 | 30 J | 25 B | 94 | 11 J | U | 170 J | 8 J | U | U |
| benzene | 16 | 1.6 | 2.5 | 3.8 | 0.39 J | U | 0.38 J | 2.9 J | 0.34 J | U | 5.8 J | 1.4 J | U | U |
| carbon disulfide | 31,000 | 3,100 | 0.95 | 1.4 | U | U | 0.32 J | 9 | 0.25 J | U | U | U | U | U |
| carbon tetrachloride | 20 | 2 | 0.45 | U | U | U | U | U | U | U | U | U | 380 | U |
| chlorobenzene | 2,200 | 220 | U | 0.84 | U | U | U | U | 0.10 J | U | U | U | U | U |
| chloroethane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| chloroform | 5.3 | 0.53 | 9.1 | U | U | U | 0.22 J | U | 0.16 J | U | U | U | U | U |
| chloromethane | 3,900 | 390 | U | U | U | U | 0.43 J | 1.3 J | 0.79 J | U | U | 1.3 J | U | U |
| cis-1,2-dichloroethene | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| cumene | 18,000 | 1,800 | NA | NA | NA | U | U | U | U | U | U | U | U | U |
| cyclohexane | 260,000 | 26,000 | 6.2 | 11 | 4.8 | U | 0.83 | 12 | 0.94 | U | 12 J | 0.44 J | U | U |
| ethyl acetate | 3,100 | 310 | U | U | U | U | U | U | NA | U | U | U | U | U |
| ethylbenzene | 49 | 4.9 | 1.5 | 3.6 | U | U | 0.45 J | 4 J | 0.26 J | U | 2.5 J | U | U | U |
| freon 11 (trichlorofluoromethane) | 31,000 | 3,100 | 630 | 120 | 9.5 | 21 | 15 | 5.4 J | 40 | 15 J | 370 | 8.5 | 13 J | 32 D |
| freon 113 (freon TF) | 1,300,000 | 130,000 | 0.86 J | 0.78 J | U | U | 0.51 J | U | 0.45 J | U | U | U | U | U |
| freon 12 (dichlorodifluoromethane) | 4,400 | 440 | U | 2.6 | 2.4 | 3.5 J | 2.4 J | 3.5 J | 2.1 J | U | 24 J | 3 J | U | U |
| freon 22 | 2,200,000 | 220,000 | NA | NA | NA | 880 | 26 | 11 J | 11 | U | 4000 | 3.1 J | U | 9.1 J |
| heptane | NA | NA | U | 3.5 | U | U | 0.72 J | 17 | 0.23 J | U | U | U | U | U |
| hexane | 31,000 | 3,100 | U | 7.5 | U | U | 1.6 | 20 | 0.37 J | U | U | U | U | U |
| isopropyl alcohol | NA | NA | U | U | U | 25 J | 4.2 J | 65 | 7.4 J | U | 110 J | 3 J | 8.9 J | U |
| m,p-xylene (sum of isomers) | 4,400 | 440 | 4.5 | 12 | 1.2 J | U | 1.2 J | 15 | 0.66 J | U | 5.6 J | U | U | U |
| methyl butyl ketone | NA | NA | U | U | U | U | 0.81 J | U | U | U | U | U | U | U |
| methyl ethyl ketone | 220,000 | 22,000 | U | U | U | 7.6 J | 3.8 B | 13 | U | U | U | U | U | U |
| methyl isobutyl ketone | 130,000 | 13,000 | U | U | U | U | 0.37 J | 1.1 J | 0.37 J | U | U | U | U | U |
| methyl methacrylate | NA | NA | NA | NA | NA | U | U | U | U | U | U | U | U | U |
| methylene chloride | 12,000 | 1,200 | U | U | U | U | 2.1 | 2.3 J | 0.51 J | U | U | U | U | U |
| Naphthalene | 3.6 | 0.36 | U | U | U | U | 0.68 J | U | U | U | U | U | U | U |
| n-Butane | NA | NA | NA | NA | NA | U | 2.7 | 3.2 J | 0.96 J | U | U | 2.1 J | U | U |
| n-Propylbenzene | 44,000 | 4,400 | NA | NA | NA | U | U | U | U | U | U | U | U | U |
| o-xylene | 4,400 | 440 | 2.2 | 3.2 | U | U | 0.38 J | 3.7 J | 0.26 J | U | U | U | U | U |
| styrene | 44,000 | 4,400 | U | 1.4 | U | U | 0.31 J | U | 0.23 J | U | 5.0 J | U | U | U |
| tert-Butyl alcohol | NA | NA | NA | NA | NA | U | 1.3 J | U | 0.50 J | U | U | U | U | U |
| tetrachloroethylene (pce) | 470 | 47 | U | U | U | U | U | U | 0.24 J | U | U | U | U | U |
| tetrahydrofuran | NA | NA | U | U | U | 12 J | 1.3 J | U | U | U | U | U | U | U |
| toluene | 220,000 | 22,000 | 2.3 | 16 | 2.2 | 1.3 J | 4.0 | 12.0 | 1.1 | U | 8.6 J | 0.68 J | U | U |
| trichloroethylene (tce) | 30 | 3 | 300 | 11 | 3.0 | U | 1.0 J | 1.3 J | 0.33 J | U | 9.2 J | U | U | U |
| vinyl chloride | 28 | 2.8 | U | U | U | U | U | U | U | U | U | U | U | U |

Notes:
U - Not detected.
J- The analyte was positively identified; the quantitation is an estimation.
D - The reported value is from a dilution
NA- Not Available
µg/m³: microgram per cubic meter.
Exceedance of the indoor or outdoor initial benchmark.
B - Analytes detected in the trip blank.
*EPA Commercial Regional Screening Levels

**Table 3-2**
**Building 774/776 SSVM Performance Monitoring**
**Sub-Slab Vapor, Indoor and Outdoor Air Results**

| Sample Location | Sub-slab Vapor Screening Level* (µg/m$^3$) | Indoor Air Screening Level* (µg/m$^3$) | 774-IA | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | | | 774IA1AD | 774IA1AE | 774IA1AF | 774IA1AG | 774IA1AH | 774IA1IA | 774IA1JA | 774IA1KA | 774IA1LA | 774IA1MA | 774IA1NA | 774IA1PA |
| Sample Type | | | Indoor | Indoor | Indoor | Indoor | Indoor | Indoor | Indoor | Indoor | Indoor | Indoor | Indoor | Indoor |
| Sample Date | | | 5-May-2011 | 6-Sep-2011 | 21-Oct-2011 | 25-Jan-2012 | 6-Aug-12 | 21-Feb-13 | 8-Aug-13 | 30-Jan-14 | 17-Jul-14 | 22-Jan-15 | 31-Aug-15 | 3-Feb-16 |
| Sample Depth (ft bgs / ags) | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Sample Collection Duration (hr) | | | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| **Volatiles (TO-15) in µg/m$^3$** | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 220,000 | 22,000 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,1-dichloroethane | 77 | 7.7 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,2,4-trichlorobenzene | 88 | 9 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,2,4-trimethylbenzene | 310 | 31 | 2.7 | 1.6 | 0.65 J | U | U | U | 0.28 J | 0.32 J | 0.20 J | U | 0.13 J | U |
| 1,2-dichloroethane | 4.7 | 0.47 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,3,5-trimethylbenzene | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,3-dichlorobenzene | NA | NA | U | U | U | U | U | 0.27 J | U | U | U | U | U | U |
| 1,4-dichlorobenzene | 11 | 1.1 | U | U | U | U | U | 0.46 J | U | U | U | U | U | U |
| 1,4-dioxane | NA | NA | U | U | U | U | U | 1.6 J | U | U | U | U | U | U |
| 2,2,4-trimethylpentane | NA | NA | U | U | U | U | U | 0.55 J | 0.24 J | U | U | U | U | U |
| 4-ethyltoluene | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 4-isopropyltoluene | NA | NA | NA | NA | NA | U | U | U | U | U | U | U | U | U |
| acetone | 1,400,000 | 140,000 | 52 | 34 | 19 | 28 J | 32 B | 44 | 18 | 47 | 18 J | 11 J | 12 | 17 |
| benzene | 16 | 1.6 | 1.3 | U | U | U | U | 0.69 | 0.31 J | 0.80 | 0.24 J | 0.68 | 0.32 J | 0.49 J |
| carbon disulfide | 31,000 | 3,100 | 0.66 | U | U | U | U | U | U | U | U | U | U | U |
| carbon tetrachloride | 20 | 2 | 0.51 | 0.90 J | U | U | 0.45 J | 0.46 J | 0.44 J | 0.53 J | 0.49 J | 0.45 J | 0.43 J | 0.39 J |
| chlorobenzene | 2,200 | 220 | 0.7 | U | U | U | U | U | U | U | U | U | U | U |
| chloroethane | NA | NA | U | U | U | U | U | 0.2 J | U | U | U | U | U | U |
| chloroform | 5.3 | 0.53 | 0.55 J | U | U | U | 0.28 J | 0.32 J | 0.18 J | 0.57 J | U | U | 0.18 J | U |
| chloromethane | 3,900 | 390 | U | 1.2 | U | 1.7 J | 1.2 | 2.7 | 1.0 J | 1.7 | 1.2 J | 1.1 | 1 | 1.4 |
| cis-1,2-dichloroethene | NA | NA | U | U | U | U | U | U | U | 0.21 J | U | U | U | U |
| cumene | 18,000 | 1,800 | NA | NA | NA | U | U | U | U | U | U | U | U | U |
| cyclohexane | 260,000 | 26,000 | 1.3 | U | U | U | U | 0.57 J | 0.14 J | U | U | U | U | U |
| ethyl acetate | 3,100 | 310 | U | U | U | U | U | U | NA | U | U | U | U | U |
| ethylbenzene | 49 | 4.9 | 0.84 | 0.57 J | U | U | U | 0.19 J | 0.24 J | 0.26 J | 0.23 J | 0.15 J | 0.19 J | 0.15 J |
| freon 11 (trichlorofluoromethane) | 31,000 | 3,100 | 33 | 77 | 4.2 | 8.9 | 5.0 | 3.2 | 40 | 16 | 18 | 2.2 | 2.5 | 38 |
| freon 113 (freon TF) | 1,300,000 | 130,000 | U | 0.86 J | U | U | 0.56 J | 0.72 J | 0.55 J | 0.65 J | U | 0.67 J | 0.49 J | U |
| freon 12 (dichlorodifluoromethane) | 4,400 | 440 | U | 2.8 | 2.4 | U | 2.4 J | 3 | 2.2 J | 3.0 | 2.9 J | 2.6 | 2.4 J | 2.2 J |
| freon 22 | 2,200,000 | 220,000 | NA | NA | NA | 350 | 40 | 10 J | 11 | 13 | 330 | 2 | U | 6.8 |
| heptane | NA | NA | 1.7 | U | U | U | U | 0.66 J | 0.21 J | 0.51 J | U | U | U | U |
| hexane | 31,000 | 3,100 | 33 | U | U | U | U | 1.9 | 0.42 J | 0.74 | 0.34 J | U | 0.28 J | 0.56 J |
| isopropyl alcohol | NA | NA | 11 | 32 | 9.9 | 29 J | 8.3 J | 26 | 14 | 26 | 11 J | 1.6 J | U | 3 J |
| m,p-xylene (sum of isomers) | 4,400 | 440 | 2.4 | 1.2 J | 0.57 J | U | U | 0.44 J | 0.65 J | 0.61 J | 0.45 J | U | 0.5 J | U |
| methyl butyl ketone | NA | NA | U | U | U | U | 0.62 J | U | 0.61 J | U | U | U | U | U |
| methyl ethyl ketone | 220,000 | 22,000 | U | 2.8 | U | 2.5 J | 2.2 B | 15 | 2.6 | 1.6 | 3.5 J | 2.1 | 0.93 J | 1.9 |
| methyl isobutyl ketone | 130,000 | 13,000 | U | U | U | U | 0.37 J | 1 J | 0.35 J | 0.30 J | U | U | U | U |
| methyl methacrylate | NA | NA | NA | NA | NA | U | U | 0.93 J | U | U | U | U | U | U |
| methylene chloride | 12,000 | 1,200 | U | 1.1 | U | U | 0.45 J | 1 J | 0.59 J | 0.76 J | U | 0.88 J | 0.84 J | 2.7 |
| Naphthalene | 3.6 | 0.36 | U | U | U | U | U | U | U | U | U | U | 0.48 J | U |
| n-Butane | NA | NA | NA | NA | NA | U | 0.32 J | 2.5 | 1.0 J | 18 | U | 2.1 | 1.1 J | 1.4 |
| n-Propylbenzene | 44,000 | 4,400 | NA | NA | NA | U | U | U | U | U | U | U | U | U |
| o-xylene | 4,400 | 440 | 0.71 | 0.49 J | U | U | U | 0.18 J | 0.27 J | 0.23 J | U | U | 0.18 J | U |
| styrene | 44,000 | 4,400 | 0.78 | 0.56 J | U | U | U | 0.18 J | 0.24 J | 0.16 J | 0.43 J | U | 0.13 J | U |
| tert-Butyl alcohol | NA | NA | NA | NA | NA | U | U | 1.7 J | 0.69 J | U | U | U | U | U |
| tetrachloroethylene (pce) | 470 | 47 | U | U | U | U | U | U | U | U | U | U | U | U |
| tetrahydrofuran | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| toluene | 220,000 | 22,000 | 5.1 | 2.5 | 1.3 | 0.76 J | 0.47 J | 0.71 J | 1 | 1.2 | 0.65 J | 0.58 J | 0.85 | 1.2 |
| trichloroethylene (tce) | 30 | 3 | 4.4 | 2.3 | 0.87 | 1.5 J | 0.35 J | 0.22 J | U | 0.34 J | U | U | U | U |
| vinyl chloride | 28 | 2.8 | U | U | U | U | U | U | U | U | U | U | U | U |

Notes:
U - Not detected.
J- The analyte was positively identified; the quantitation is an estimation.
D - The reported value is from a dilution
NA- Not Available
µg/m$^3$: microgram per cubic meter.
Exceedance of the indoor or outdoor initial benchmark.
B - Analytes detected in the trip blank.
*EPA Commercial Regional Screening Levels

**Table 3-2**
**Building 774/776 SSVM Performance Monitoring**
**Sub-Slab Vapor, Indoor and Outdoor Air Results**

| Sample Location | Sub-slab Vapor Screening Level ($\mu g/m^3$) | Indoor Air Screening Level ($\mu g/m^3$) | 776VMP-1 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | | | 776VMP0101AA | 776VMP0101AB | 776VMP0101AC | 776VMP0101AD | 776VMP0101AG | 776VMP0101HA | 776VMP0101IA | 776VMP0101JA | 776VMP0101KA | 776VMP0101MA | 776VMP0101NA | 776VMP0101PA |
| Sample Type | | | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab |
| Sample Date | | | 4-May-2011 | 6-Sep-2011 | 21-Oct-2011 | 25-Jan-2012 | 6-Aug-2012 | 21-Feb-2013 | 9-Aug-2013 | 30-Jan-2014 | 17-Jul-2014 | 22-Jan-2015 | 31-Aug-2015 | 3-Feb-2016 |
| Sample Depth (ft bgs / ags) | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Sample Collection Duration (hr) | | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Volatiles (TO-15) in $\mu g/m^3$ | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 220,000 | 22,000 | 4.5 | U | U | U | U | U | U | U | U | U | U | U |
| 1,1,2,2-tetrachloroethane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,2,4-trimethylbenzene | 310 | 31 | 9.0 | 3.5 | U | U | 0.46 J | 0.66 J | 0.27 J | U | U | 1.3 | 2.3 | U |
| 1,2-dichloroethane | 4.7 | 0.47 | U | 0.45 J | U | U | 0.32 J | U | U | U | U | U | 0.22 J | U |
| 1,3,5-trimethylbenzene | NA | NA | 3.8 | 1.6 | U | U | U | U | U | U | U | 0.4 J | 0.66 J | U |
| 1,3-dichlorobenzene | NA | NA | U | U | U | U | U | U | U | U | U | U | 1 J | U |
| 1,4-dichlorobenzene | NA | NA | U | U | U | U | U | U | U | U | U | 0.38 J | U | U |
| 1,4-dioxane | NA | NA | U | U | U | U | U | U | U | U | U | 0.99 J | 12 J | U |
| 2,2,4-trimethylpentane | NA | NA | U | U | 0.47 J | U | U | 6.5 | 0.18 J | U | U | U | U | U |
| 4-ethyltoluene | NA | NA | 7.2 | 0.9 | U | U | U | U | U | U | U | 0.55 J | 0.79 J | U |
| 4-isopropyltoluene | NA | NA | NA | NA | NA | U | 0.33 J | U | U | U | U | 1.7 | 0.34 J | U |
| acetone | 1,400,000 | 140,000 | 25 | 39 | 39 | 23 | 57 | 37 | 26 | 11 J | 24 | 21 | 38 | 21 J |
| benzene | 16 | 1.6 | 1.0 | 0.55 | 1.3 | 0.52 J | 0.43 J | 0.87 | 0.30 J | 0.68 | 0.26 J | 0.82 | 0.46 J | 0.87 J |
| bromomethane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| carbon disulfide | 31,000 | 3,100 | 1.2 | 0.57 | 0.44 J | U | 9.5 | U | 0.22 J | U | 2.3 J | 4.8 | 2.2 | U |
| carbon tetrachloride | 20 | 2 | 0.77 | 0.77 J | U | 0.53 J | 0.83 J | 0.51 J | 1.1 J | 0.52 J | 0.47 J | 0.52 J♦ | 0.6 J | U |
| chlorobenzene | 2,200 | 220 | U | U | U | U | U | U | U | U | U | U | U | U |
| chloroethane | NA | NA | U | U | U | U | U | U | U | U | U | U | 0.27 J | U |
| chloroform | 5.3 | 0.53 | 11 | 0.79 | U | 0.27 J | U | U | 0.66 J | 0.17 J | 0.25 J | U | 0.54 J | U |
| chloromethane | 3,900 | 390 | U | 1.1 | U | 0.67 J | 1.3 | 1.4 | 1.2 | 1.1 | 0.85 J | 0.76 J | 0.98 J | U |
| cis-1,2-dichloroethene | NA | NA | U | 9.70 | U | U | U | U | U | U | U | U | U | U |
| cumene | 18,000 | 1,800 | NA | NA | NA | U | U | U | U | U | U | 0.17 J | 0.67 J | U |
| cyclohexane | 260,000 | 26,000 | 6.8 | 1.6 | 3.0 | 1.2 | 2.9 | 6.6 | 1.1 | 0.9 | 1.1 J | 0.47 J | 0.34 J | 0.61 J |
| ethyl acetate | 3,100 | 310 | U | U | U | U | U | U | NA | U | U | U | U | U |
| ethylbenzene | 49 | 4.9 | 1.6 | 0.79 | 1.6 | U | 0.92 | 0.76 J | 0.40 J | 0.30 J | U | 1.40 | 7.6 | U |
| freon 11 (trichlorofluoromethane) | 31,000 | 3,100 | 1.7 | 2.5 | 1.3 | 1.4 | 1.3 | 1.5 | 1.2 | 1.4 | 1.2 J | 1.3 ♦ | 1.4 | 0.99 J |
| freon 113 (freon TF) | 1,300,000 | 130,000 | 8.6 | 0.86 J | U | 0.70 J | 0.65 J | 0.73 J | 0.54 J | 0.69 J | 0.63 J | 0.43 J | 0.83 J | U |
| freon 12 (dichlorodifluoromethane) | 4,400 | 440 | 6.6 | 2.9 | 2.2 | 2.9 | 2.5 | 2.9 | U | 3.0 | 2.7 J | 2.7 | 2.6 | 2 J |
| freon 22 | 2,200,000 | 220,000 | NA | NA | NA | 12 | 13 | 52 J | 3 | 17 | 130 | 4.9 | 4.2 | 200 |
| heptane | NA | NA | U | U | 1.0 | U | 0.38 J | 8.3 | 0.20 J | U | U | 0.72 J | U | U |
| hexane | 31,000 | 3,100 | U | U | 1.9 | 0.38 J | U | 9.8 | 0.29 J | 0.35 J | 0.33 J | 0.72 | 1.2 | U |
| isopropyl alcohol | NA | NA | U | 21 | 21 | 49 | 46 | 46 | 19 | 24 | 15 J | 18 ♦ | 40 | 38 J |
| m,p-xylene (sum of isomers) | 4,400 | 440 | 5.4 | 1.9 | 4.0 | 0.23 J | 1.8 J | 2.4 | 0.87 J | 0.60 J | U | 4.9 | 7.8 | U |
| methyl butyl ketone | NA | NA | U | U | U | U | 1.4 J | U | 0.63 J | U | U | U | 0.7 J | U |
| methyl ethyl ketone | 220,000 | 22,000 | 2.9 | 2.7 | 1.9 | 5.9 | 4.3 | 3.9 | 2.8 | 0.86 J | 4 | U | 4.4 | 2.6 J |
| methyl isobutyl ketone | 130,000 | 13,000 | 2.2 | U | U | U | 3.1 | U | 1.1 J | 0.22 J | 0.28 J | 0.91 J | 0.92 J | U |
| methyl methacrylate | NA | NA | NA | NA | NA | U | U | U | U | U | U | U | U | U |
| methyl tert-butyl ether | 31,000 | 3,100 | U | U | U | U | U | U | U | U | U | U | U | U |
| methylene chloride | 12,000 | 1,200 | U | 13 | 0.46 J | 0.49 J | 0.52 J | 1 J | 0.47 J | 0.67 J | U | 0.71 J | 0.43 J | U |
| naphthalene | 3.6 | 0.36 | U | U | U | U | 3.2 J | U | 0.61 J | U | U | U | 0.75 J | U |
| n-Butane | NA | NA | NA | NA | NA | 2.4 | 2.8 | 2.4 | 1.1 J | 3.3 | U | 21 | 5.1 | 1.1 J |
| n-Propylbenzene | NA | NA | NA | NA | NA | U | U | U | U | U | U | U | 0.64 J | U |
| o-xylene | 4,400 | 440 | 2.5 | 0.97 | 1.1 | U | 0.65 J | 0.78 J | 0.31 J | 0.23 J | U | 1.5 | 3.1 | U |
| styrene | 44,000 | 4,400 | 1.1 | 1.1 | 0.56 J | U | 1.0 | 0.2 J | 0.31 J | 0.20 J | U | 0.3 J♦ | 0.88 | U |
| tert-Butyl alcohol | NA | NA | NA | NA | NA | 1.3 J | 2.0 J | 1 J | 0.89 J | U | U | 0.95 J | 2.7 J | U |
| tetrachloroethylene (pce) | 470 | 47 | U | 2.7 | U | U | U | U | U | U | U | U | U | U |
| tetrahydrofuran | NA | NA | 4.8 | 1.1 | U | 9.9 J | 0.72 J | U | U | U | U | 3 J | 0.82 J | U |
| toluene | 220,000 | 22,000 | 5.6 | 4.1 | 6.1 | 0.40 J | 1.5 | 3.1 | 1.1 | 0.85 | 0.38 J | 5.2 | 5 | U |
| trichloroethylene (tce) | 30 | 3 | 21 | 38 | U | 0.36 J | U | U | U | 0.36 J | 0.71 J | U | 0.81 J | U |
| vinyl chloride | 28 | 2.8 | U | 0.81 | U | U | U | U | U | U | U | U | U | U |

Notes:
U - Not detected.
J- The analyte was positively identified; the quantitation is an estimation.
D - The reported value is from a dilution
M - Lab qualifier for manual integrated compound
NA- Not Available
$\mu g/m^3$: microgram per cubic meter.
Exceedance of the indoor or outdoor initial benchmark.
B - Analytes detected in the trip blank.
♦-Denotes higher nominal value of duplicate sample result.
*EPA Commercial Regional Screening Levels

**Table 3-2**
**Building 774/776 SSVM Performance Monitoring**
**Sub-Slab Vapor, Indoor and Outdoor Air Results**

| Sample Location | Sub-slab Vapor Screening Level ($\mu g/m^3$) | Indoor Air Screening Level ($\mu g/m^3$) | 776VMP-2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | | | 776VMP0201AA | 776VMP0201AB | 776VMP0201AC | 776VMP0201AD | 776VMP0201AG | 776VMP0201HA | 776VMP0201IA | 776VMP0201JA | 776VMP0201KA | 776VMP0201MA | 776VMP0201NA | 776VMP0201PA |
| Sample Type | | | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab |
| Sample Date | | | 4-May-2011 | 6-Sep-2011 | 21-Oct-2011 | 25-Jan-2012 | 6-Aug-2012 | 21-Feb-2013 | 9-Aug-2013 | 30-Jan-2014 | 17-Jul-2014 | 22-Jan-2015 | 31-Aug-2015 | 3-Feb-2016 |
| Sample Depth (ft bgs / ags) | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Sample Collection Duration (hr) | | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| **Volatiles (TO-15) in $\mu g/m^3$** | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 220,000 | 22,000 | 8.7 | U | U | U | U | U | U | U | U | U | U | U |
| 1,1,2,2-tetrachloroethane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,2,4-trimethylbenzene | 310 | 31 | 9.1 | 3.3 | 0.65 J | U | 0.45 J | 0.73 J | 2 | 5.6 | 2.7 | 0.3 J | 2.6 | U |
| 1,2-dichloroethane | 4.7 | 0.47 | U | 0.49 J | U | U | U | U | U | 0.27 J | U | 0.22 J | U | U |
| 1,3,5-trimethylbenzene | NA | NA | 2.8 | 1.2 | U | U | U | U | 0.55 J | 1.6 | 0.74 J | U | 0.73 J | U |
| 1,3-dichlorobenzene | NA | NA | U | U | U | U | U | U | U | 44 | 7.8 | U | 1.2 | U |
| 1,4-dichlorobenzene | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,4-dioxane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 2,2,4-trimethylpentane | NA | NA | U | U | U | 0.24 J | 0.56 J | 6.5 J | 2.1 | 0.92 ♦ | 0.80 J | U | 0.21 J | U |
| 4-ethyltoluene | NA | NA | 5.1 | 1.0 | U | U | U | 0.27 J | 0.58 JM | 1.7 | 0.81 J | 0.15 J | 0.82 J | U |
| 4-isopropyltoluene | NA | NA | NA | NA | NA | 0.49 J | 0.41 J | U | U | 1.8 ♦ | U | U | 0.34 J | U |
| acetone | 1,400,000 | 140,000 | 17 | 39 | 45 | 20 | 43 | 36 | 38 | 58 | 38 ♦ | 8.8 J | 35 | U |
| benzene | 16 | 1.6 | 1.1 | 0.45 J | 1.5 | 0.65 | 0.43 J | 0.92 | 0.7 | 1.7 ♦ | 0.60 J♦ | 0.75 | 0.41 JM | U |
| bromomethane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| carbon disulfide | 31,000 | 3,100 | 0.98 | 0.79 | 0.38 J | 0.64 J | 0.41 J | 0.33 J | 3.4 | 0.44 J♦ | U | U | 0.7 J♦ | U |
| carbon tetrachloride | 20 | 2 | 0.77 | 0.77 J | 0.70 J | 0.53 J | 0.70 J | 0.56 J | 0.42 J | 0.62 J♦ | U | 0.59 J | 0.69 J♦ | U |
| chlorobenzene | 2,200 | 220 | U | U | U | 0.13 J | U | U | U | 0.31 J♦ | U | U | U | U |
| chloroethane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| chloroform | 5.3 | 0.53 | 8.3 | U | U | 0.30 J | 0.22 J | U | 0.24 J♦ | 0.22 J | 0.33 J♦ | U | 0.62 J | U |
| chloromethane | 3,900 | 390 | U | 1.2 | U | 0.85 J | 1.4 | 1.7 | 1.4♦ | 1.8 | 1.3 J | 1.2 | 0.87 J | U |
| cis-1,2-dichloroethene | NA | NA | U | U | U | U | U | U | U | 0.36 J | U | U | U | U |
| cumene | 18,000 | 1,800 | NA | NA | NA | U | U | U | U | U | 0.34 J♦ | U | 0.82 J | U |
| cyclohexane | 260,000 | 26,000 | 4.5 | 7.3 | 8.5 | 1.4 | 2.1 | 5.5 | 0.79 | 6.9 J♦ | 1.3 J♦ | 0.72 | 0.57 J♦ | U |
| ethyl acetate | 3,100 | 310 | U | 1.9 | U | U | U | U | NA | U | U | U | U | U |
| ethylbenzene | 49 | 4.9 | 0.66 | 0.88 | 1.4 | 0.75 J | 1.1 | 0.98 | 1.4 | 4.1 J♦ | 2.1 | 0.4 J | 10 | U |
| freon 11 (trichlorofluoromethane) | 31,000 | 3,100 | 2.5 | 1.8 | 1.6 | 1.6 | 1.4 | 1.5 | 1.2 | 1.6 ♦ | 1.5 J | 1.2 | 1.5 | U |
| freon 113 (freon TF) | 1,300,000 | 130,000 | 6.8 | 1.0 J | U | 1.2 J | 0.67 J | 0.68 J | 0.53 J | 0.73 J♦ | 0.74 J | 0.54 J | 0.98 J♦ | U |
| freon 12 (dichlorodifluoromethane) | 4,400 | 440 | 11.0 | 3.0 | 2.6 | 3.1 | 2.5 | 2.5 ♦ | 0.47 J | 3.3 ♦ | 3.0 J | 2.6 | 2.8 | U |
| freon 22 | 2,200,000 | 220,000 | NA | NA | NA | 16 | 14 | 68 J | 3.3 | 99 J♦ | 170 | 10 | 4.6 | 900 |
| heptane | NA | NA | 0.67 | 1.3 | U | 0.38 J | 0.43 J | 7.1 J | 0.72 J | 2.3 ♦ | 0.69 J♦ | U | 0.35 J | U |
| hexane | 31,000 | 3,100 | U | U | U | 0.53 J | 0.43 J | 8.5 J | 0.68 J | 2.3 ♦ | 0.79 J♦ | 0.32 J | 1.2 | U |
| isopropyl alcohol | NA | NA | U | 68 | 31 | 41 | 40 | 44 | 30 | 95 | 48 | 16 | 42 | U |
| m,p-xylene (sum of isomers) | 4,400 | 440 | 2.1 | 2.4 | 3.4 | 1.9 J | 2.4 | 3.2 | 4.7 | 11 | 5.8 | 1.1 J | 9.6 | U |
| methyl butyl ketone | NA | NA | U | U | U | U | 1.0 J | U | 1.0 J | 0.94 J | U | U | U | U |
| methyl ethyl ketone | 220,000 | 22,000 | 1.7 | U | 3.9 | 1.2 J | 4.3 B | 3.6 | 5.9 | 9.4 | 7.0 ♦ | U | 4 ♦ | U |
| methyl isobutyl ketone | 130,000 | 13,000 | U | U | U | 0.44 J | 1.9 J | 0.39 J | 0.89 J | 1.0 J | 1.2 J♦ | U | 0.99 J♦ | U |
| methyl methacrylate | NA | NA | NA | NA | NA | U | U | U | U | U | 0.74 J | U | U | U |
| methyl tert-butyl ether | 31,000 | 3,100 | U | U | U | U | U | U | U | U | 0.33 J | U | U | U |
| methylene chloride | 12,000 | 1,200 | U | 0.53 | U | 0.55 J | 0.92 J | 0.98 J | 0.83 J♦ | 0.89 J | U | U | 0.56 J♦ | U |
| naphthalene | 3.6 | 0.36 | U | U | U | U | 1.9 J | 0.5 J | 0.61 J | U | U | 0.68 J | 0.85 J | 5.8 J♦ |
| n-Butane | NA | NA | NA | NA | NA | 3.2 | 3.3 | 2.7 ♦ | 1.4 | 5.8 J♦ | 1.6 J | 2.5 | 5.2 | U |
| n-Propylbenzene | NA | NA | NA | NA | NA | U | U | U | U | U | U | U | 0.65 J | U |
| o-xylene | 4,400 | 440 | 1.1 | 0.93 | 0.97 | 0.79 J | 0.82 J | 1 | 1.8 | 4.5 J♦ | 2.1 | 0.37 J | 3.6 | U |
| styrene | 44,000 | 4,400 | 0.78 | 1.0 | 0.65 | 0.44 J | 1.8 | U | 0.44 J | 4.8 | 1.6 J | 0.67 J | 0.91 | U |
| tert-Butyl alcohol | NA | NA | NA | NA | NA | U | 1.3 J | 1.7 J | 1.7 J | 17 | 5.0 J♦ | U | 2.4 J | U |
| tetrachloroethylene (pce) | 470 | 47 | 1.4 | U | 7.4 | U | U | U | 0.17 J♦ | 0.52 J♦ | U | U | U | U |
| tetrahydrofuran | NA | NA | 1.6 | 4.3 | U | U | 1.1 J | 3.3 J♦ | U | 1.4 J | U | U | 0.58 J | U |
| toluene | 220,000 | 22,000 | 3.2 | 4.5 | 6.9 | 1.4 | 1.7 | 3.6 J | 4.5 | 19 J♦ | 4.8 | 0.85 | 4.9 | U |
| trichloroethylene (tce) | 30 | 3 | 360 | 3.8 | 3.7 | 3.0 | 1.4 | 0.33 J | 0.20 J♦ | 0.81 J | 1.1 J | 0.42 J | 0.76 J | U |
| vinyl chloride | 28 | 2.8 | U | U | U | U | U | U | U | U | U | U | U | U |

Notes:
U - Not detected.
J- The analyte was positively identified; the quantitation is an estimation.
D - The reported value is from a dilution
M - Lab qualifier for manual integrated compound
NA- Not Available
$\mu g/m^3$: microgram per cubic meter.
Exceedance of the indoor or outdoor initial benchmark.
B - Analytes detected in the trip blank.
♦-Denotes higher nominal value of duplicate sample result.
*EPA Commercial Regional Screening Levels

**Table 3-2**
**Building 774/776 SSVM Performance Monitoring**
**Sub-Slab Vapor, Indoor and Outdoor Air Results**

| **Sample Location** | **Sub-slab Vapor Screening Level ($\mu g/m^3$)** | **Indoor Air Screening Level ($\mu g/m^3$)** | **776VMP-3** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample ID** | | | **776VMP0301AA** | **776VMP0301AB** | **776VMP0301AC** | **776VMP0301AD** | **776VMP0301AG** | **776VMP0301HA** | **776VMP0301IA** | **776VMP0301JA** | **776VMP0301KA** | **776VMP0301MA** | **776VMP0301NA** | **776VMP0301PA** |
| **Sample Type** | | | **sub-slab** | **sub-slab** | **sub-slab** | **sub-slab** | **sub-slab** | **sub-slab** | **sub-slab** | **sub-slab** | **sub-slab** | **sub-slab** | **sub-slab** | **sub-slab** |
| **Sample Date** | | | **4-May-2011** | **6-Sep-2011** | **21-Oct-2011** | **25-Jan-2012** | **6-Aug-2012** | **21-Feb-2013** | **9-Aug-2013** | **30-Jan-2014** | **17-Jul-2014** | **22-Jan-2015** | **31-Aug-2015** | **3-Feb-2016** |
| **Sample Depth (ft bgs / ags)** | | | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |
| **Sample Collection Duration (hr)** | | | **0.5** | **0.5** | **0.5** | **0.5** | **0.5** | **0.5** | **0.5** | **0.5** | **0.5** | **0.5** | **0.5** | **0.5** |
| **Volatiles (TO-15) in $\mu g/m^3$** | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 220,000 | 22,000 | 18 | U | U | U | U | U | U | U | U | U | 0.18 J | U |
| 1,1,2,2-tetrachloroethane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,2,4-trimethylbenzene | 310 | 31 | 11 | 2.1 | 0.50 J | 0.61 J | 0.52 J | U | 0.67 J | U | 0.36 J | 0.25 J | 0.23 J | U |
| 1,2-dichloroethane | 4.7 | 0.47 | U | 0.62 | U | 0.27 J | U | 0.29 J | U | U | 0.27 J | U | U | U |
| 1,3,5-trimethylbenzene | NA | NA | 2.7 | 0.70 J | U | U | U | U | U | U | 0.11 J | U | U | U |
| 1,3-dichlorobenzene | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,4-dichlorobenzene | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,4-dioxane | NA | NA | U | U | U | U | U | U | U | U | 0.79 J | U | U | U |
| 2,2,4-trimethylpentane | NA | NA | U | U | U | U | U | 5.7 | 0.65 J | 0.21 J | 0.16 J | U | U | U |
| 4-ethyltoluene | NA | NA | 5.2 | 0.65 J | U | U | U | U | U | U | 0.12 J | U | U | U |
| 4-isopropyltoluene | NA | NA | NA | NA | NA | 0.29 J | 0.40 J | U | U | U | 0.12 J | U | 0.22 J | U |
| acetone | 1,400,000 | 140,000 | 20 | 30 | 58 | 34 | 50 | 37 | 19 | 37 | 26 | 21 | 27 | 18 JD |
| benzene | 16 | 1.6 | 2 | 0.39 J | 1.0 | 0.40 J | 0.32 J | 0.99 | 0.37 J | 0.81 | 0.31 J | 0.54 J | 0.28 J | 0.68 J |
| bromomethane | NA | NA | U | U | U | U | U | U | U | U | 0.11 J | U | U | U |
| carbon disulfide | 31,000 | 3,100 | 0.95 | 0.95 | 0.63 | 6.0 | 0.44 J | U | 0.21 J | U | 2.0 | U | 0.93 J | U |
| carbon tetrachloride | 20 | 2 | 0.38 | 0.83 J | 0.70 J | 0.51 J | 0.60 J | 0.53 J | 0.41 J | 0.49 J | U | 0.49 J | 0.61 J | U |
| chlorobenzene | 2,200 | 220 | U | U | U | U | 0.22 J | U | U | U | U | U | U | U |
| chloroethane | NA | NA | U | U | U | U | U | U | U | U | 0.093 J | U | U | U |
| chloroform | 5.3 | 0.53 | 16 | U | 0.74 | 0.68 J | 0.87 J | 1.2 | 0.18 J | 0.29 J | 0.44 J | U | 0.47 JM | U |
| chloromethane | 3,900 | 390 | U | 0.97 | U | U | 1.3 | U | 1.2 | 0.73 J | 1.3 | U | 0.67 J | U |
| cis-1,2-dichloroethene | NA | NA | U | U | U | U | U | U | U | 0.30 J | U | U | U | U |
| cumene | 18,000 | 1,800 | NA | NA | NA | U | U | U | U | U | U | U | U | U |
| cyclohexane | 260,000 | 26,000 | 5.4 | 3.5 | 4.8 | 1.2 | 2.8 | 5 | 0.71 | 3.4 | 1.2 | 0.8 | 0.81 M | 0.91 J |
| ethyl acetate | 3,100 | 310 | U | U | U | U | U | U | NA | U | U | U | U | U |
| ethylbenzene | 49 | 4.9 | 1.1 | 0.66 | 1.2 | 0.64 J | 0.72 J | 0.98 | 0.56 J | 0.47 J | 0.40 J | 0.3 J | 0.29 J | U |
| freon 11 (trichlorofluoromethane) | 31,000 | 3,100 | 4.6 | 1.7 | 1.5 | 1.4 | 1.4 | 1.5 | 1.1 | 1.3 | 1.3 | 1.3 | 1.4 | 1.1 J |
| freon 113 (freon TF) | 1,300,000 | 130,000 | 1.6 | 0.93 J | U | 0.60 J | 0.61 J | 0.63 J | 0.52 J | 0.57 J | 0.57 J | 0.53 J | 0.55 J | U |
| freon 12 (dichlorodifluoromethane) | 4,400 | 440 | 21 | 2.9 | 2.6 | 2.9 | 2.5 | 2.7 | 2.3 J | 2.9 | 2.8 | 2.7 | 2.6 | 2.1 J |
| freon 22 | 2,200,000 | 220,000 | NA | NA | NA | 6.3 | 15 | 50 J | 9.9 | 15 | 50 | 9.2 | 6 | 140 |
| heptane | NA | NA | U | U | U | 0.36 J | 0.45 J | 5.4 | 0.36 J | 0.74 J | 0.34 J | U | U | U |
| hexane | 31,000 | 3,100 | U | U | U | 0.72 | 0.91 | 7.2 | 0.40 J | 0.89 | 0.24 J | U | 0.37 J | U |
| isopropyl alcohol | NA | NA | U | 12 | 21 | 28 | 28 | 34 | 24 | 63 | 19 | 20 | 29 | 28 J |
| m,p-xylene (sum of isomers) | 4,400 | 440 | 3.8 | 1.7 | 2.7 | 1.7 J | 1.7 J | 2.6 | 1.6 J | 0.65 J | 0.99 J | 0.72 J | 0.71 J | U |
| methyl butyl ketone | NA | NA | U | U | U | U | 0.78 J | U | 0.25 J | U | U | 0.86 J | U | U |
| methyl ethyl ketone | 220,000 | 22,000 | 2.8 | 2.0 | 2.2 | 2.6 | 7.0 B | 4.6 | 1.5 | 6.6 | 4.0 | 5.9 | 3.6 | 1.9 J |
| methyl isobutyl ketone | 130,000 | 13,000 | U | U | U | 0.83 J | 3.1 | U | 0.43 J | 0.44 J | 1.1 J | U | 1.1 J | U |
| methyl methacrylate | NA | NA | NA | NA | NA | U | U | U | U | U | U | U | U | U |
| methyl tert-butyl ether | 31,000 | 3,100 | U | U | U | U | U | U | U | U | U | U | U | U |
| methylene chloride | 12,000 | 1,200 | U | 0.95 | U | 0.50 J | 0.99 J | 0.79 J | 0.43 J | 0.66 J | U | U | 0.57 J | U |
| naphthalene | 3.6 | 0.36 | U | U | U | 0.51 J | 1.6 J | U | 0.62 J | U | 1.2 J | U | 0.31 J | U |
| n-Butane | NA | NA | NA | NA | NA | 1.7 | 16 | 1.8 | 1.2 J | 3.3 | 0.69 J | 1.6 | 1.2 J | 0.75 J |
| n-Propylbenzene | NA | NA | NA | NA | NA | U | U | U | U | U | U | U | U | U |
| o-xylene | 4,400 | 440 | 1.6 | 0.66 | 0.71 | 0.70 J | 0.58 J | U | 0.62 J | 0.16 J | 0.34 J | 0.35 J | 0.26 J | U |
| styrene | 44,000 | 4,400 | 0.78 | 0.69 | 0.56 J | 0.26 J | 0.79 J | 0.14 J | 0.31 J | U | 0.43 J | 0.31 J | 0.35 J | U |
| tert-Butyl alcohol | NA | NA | NA | NA | NA | U | 1.4 J | 1 J | 0.60 J | 9.0 J | U | U | 0.69 J | U |
| tetrachloroethylene (pce) | 470 | 47 | 0.83 J | U | U | U | U | U | 0.19 J | U | U | U | U | U |
| tetrahydrofuran | NA | NA | 11 | 1.8 | U | 0.81 J | 2.5 J | U | U | U | U | U | U | U |
| toluene | 220,000 | 22,000 | 4.4 | 3.1 | 2.5 | 1.2 | 1.8 | 3.8 | 1.7 | 5.2 | 0.88 | 0.82 | 1 | 1.6 J |
| trichloroethylene (tce) | 30 | 3 | 830 | 10 | 7.3 | 13 | 12 | 2.4 | U | 2.6 | 3.5 | 2.1 | 5.1 | 2.9 J |
| vinyl chloride | 28 | 2.8 | U | U | U | U | U | U | U | U | U | U | U | U |

Notes:
U - Not detected.
J- The analyte was positively identified; the quantitation is an estimation.
D - The reported value is from a dilution
M - Lab qualifier for manual integrated compound
NA- Not Available
$\mu g/m^3$: microgram per cubic meter.
Exceedance of the indoor or outdoor initial benchmark.
B - Analytes detected in the trip blank.
♦-Denotes higher nominal value of duplicate sample result.
*EPA Commercial Regional Screening Levels

## Table 3-2
## Building 774/776 SSVM Performance Monitoring
## Sub-Slab Vapor, Indoor and Outdoor Air Results

| Sample Location | Sub-slab Vapor Screening Level (µg/m³) | Indoor Air Screening Level (µg/m³) | 776-IA | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | | | 776IA1CA | 776IA1DA | 776IA1EA | 776IA1FA | 776IA1GA | 776IA1HA | 776IA1IA | 776IA1JA | 776IA1LA | 776IA1MA | 776IA1NA | 776IA1PA |
| Sample Type | | | Indoor | Indoor | Indoor | Indoor | Indoor | Indoor | Indoor | Indoor | Indoor | Indoor | Indoor | Indoor |
| Sample Date | | | 4-May-2011 | 6-Sep-2011 | 21-Oct-2011 | 25-Jan-2012 | 6-Aug-2012 | 21-Feb-2013 | 8-Aug-2013 | 30-Jan-2014 | 17-Jul-2014 | 22-Jan-2015 | 31-Aug-2015 | 3-Feb-2016 |
| Sample Depth (ft bgs / ags) | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Sample Collection Duration (hr) | | | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| **Volatiles (TO-15) in µg/m³** | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 220,000 | 22,000 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,1,2,2-tetrachloroethane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,2,4-trimethylbenzene | 310 | 31 | 1.2 | 1.7 | 0.85 | U | 0.55 J | U | U | U | 0.32 J | U | 0.29 J | U |
| 1,2-dichloroethane | 4.7 | 0.47 | U | 0.53 J | U | U | U | U | U | U | 0.27 J | U | U | U |
| 1,3,5-trimethylbenzene | NA | NA | U | U | U | U | U | U | U | U | U | U | 0.097 J | U |
| 1,3-dichlorobenzene | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,4-dichlorobenzene | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,4-dioxane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | 34 |
| 2,2,4-trimethylpentane | NA | NA | U | U | U | 0.30 J | U | U | 0.20 J | U | U | U | 0.26 J | 0.22 J |
| 4-ethyltoluene | NA | NA | U | U | U | U | U | U | U | U | 0.090 J | U | U | U |
| 4-isopropyltoluene | NA | NA | NA | U | U | U | 0.33 J | U | U | U | U | U | 0.13 J | 2.1 |
| acetone | 1,400,000 | 140,000 | 54 | 47 | 30 | 18 | 68 | 28 | 22 | U | 20 | 22 | 32 | 25 |
| benzene | 16 | 1.6 | 0.49 | 0.36 J | 1.4 | 0.67 J | 0.40 J | 1.4 | 0.29 J | 2.4 | 0.18 J | 0.67 | 0.37 J | 0.55 J |
| bromomethane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| carbon disulfide | 31,000 | 3,100 | 0.41 J | 0.82 | U | U | 0.64 J | U | 0.21 J | 0.26 J | 0.82 J | U | 0.69 J | U |
| carbon tetrachloride | 20 | 2 | 0.51 | 0.77 J | U | 0.57 J | 0.46 J | 0.44 J | 0.41 J | 0.55 J | 0.51 J | 0.57 J | 0.51 J | 0.27 J |
| chlorobenzene | 2,200 | 220 | U | U | U | U | U | U | U | U | 0.33 J | U | U | U |
| chloroethane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| chloroform | 5.3 | 0.53 | U | U | 0.55 J | 0.32 J | 0.25 J | U | U | U | 0.29 J | U | 0.22 J | U |
| chloromethane | 3,900 | 390 | 1.8 | 1.5 | U | 1.4 J | 1.5 | 1.8 | 1.1 | 5.3 | 1.3 | 1.3 | 1.1 | 1.6 |
| cis-1,2-dichloroethene | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| cumene | 18,000 | 1,800 | NA | NA | NA | U | U | U | U | U | U | U | U | U |
| cyclohexane | 260,000 | 26,000 | U | U | U | U | 1.2 | 0.23 J | U | U | U | U | U | 0.31 J |
| ethyl acetate | 3,100 | 310 | 5.8 | 3.3 | U | U | U | U | NA | U | U | U | U | U |
| ethylbenzene | 49 | 4.9 | 0.71 | 0.93 | 1.3 | 0.47 J | 1.1 | 0.29 J | 0.37 J | 0.50 J | 0.45 J | 0.25 J | 0.37 J | 0.25 J |
| freon 11 (trichlorofluoromethane) | 31,000 | 3,100 | 1.4 | 1.7 | 1.3 | 1.4 J | 1.4 | 1.4 | 1.3 | 1.6 | 1.5 | 1.3 | 1.3 | 1 J |
| freon 113 (freon TF) | 1,300,000 | 130,000 | U | 0.93 J | U | U | 0.57 J | 0.63 J | 0.51 J | 0.75 J | U | 0.46 J | 0.42 J | U |
| freon 12 (dichlorodifluoromethane) | 4,400 | 440 | 3.6 | 3.1 | 2.2 | 3.2 J | 2.4 J | 2.2 J | 2.3 J | 3.5 | 3.1 | 2.8 | 2.4 J | 2 J |
| freon 22 | 2,200,000 | 220,000 | NA | NA | NA | 15 | 14 | 69 | 2.4 | 17 | 30 | 10 | 4.4 | 15 |
| heptane | NA | NA | 3.2 | 1.3 | U | 0.43 J | 1.5 | 0.14 J | 0.19 J | 1.8 | U | U | U | 0.36 J |
| hexane | 31,000 | 3,100 | 2.3 | U | U | U | 2.0 | 0.54 J | 0.25 J | 2.8 | U | U | 0.33 J | 0.51 J |
| isopropyl alcohol | NA | NA | 50 | 50 | 35 | 100 | 57 | 43 | 23 | 1.9 J | 15 | 18 | 28 | 61 |
| m,p-xylene (sum of isomers) | 4,400 | 440 | 1.2 J | 2.1 | 2.9 | 1.0 J | 2.5 | 0.23 J | 1.2 J | 1.6 J | 1.1 J | 0.54 J | 0.89 J | 0.54 J |
| methyl butyl ketone | NA | NA | U | U | U | U | 1.2 J | U | 0.53 J | U | U | U | U | 0.36 J |
| methyl ethyl ketone | 220,000 | 22,000 | 3.3 | 4.1 | U | 0.84 J | 6.5 B | 2.1 | 2.6 | U | 2.0 | 2.1 | 3.9 | 2 |
| methyl isobutyl ketone | 130,000 | 13,000 | U | U | U | 0.83 J | 2.7 | 1.1 J | 1.5 J | U | 1.5 J | U | U | 0.68 J |
| methyl methacrylate | NA | NA | NA | NA | NA | U | U | U | U | U | U | U | U | U |
| methyl tert-butyl ether | 31,000 | 3,100 | U | U | U | U | U | U | U | U | U | U | U | U |
| methylene chloride | 12,000 | 1,200 | U | 1.3 | U | U | 1.7 J | 1.2 J | 1.8 | 1.0 J | 0.64 J | U | 0.95 J | 2.1 |
| naphthalene | 3.6 | 0.36 | U | U | U | 0.71 J | 2.2 J | U | U | U | U | U | 1.1 J | 0.38 J |
| n-Butane | NA | NA | NA | NA | NA | 2.4 | 8.9 | 2.2 | 3.5 | 8.5 | 0.77 J | 2.5 | 1.5 | 1.5 |
| n-Propylbenzene | NA | NA | NA | NA | NA | U | U | U | U | U | U | U | U | U |
| o-xylene | 4,400 | 440 | 0.44 J | 0.75 | 0.88 | 0.46 J | 0.81 J | U | 0.66 J | 0.47 J | 0.36 J | U | 0.32 J | 0.22 J |
| styrene | 44,000 | 4,400 | 1.1 | 1.0 | 0.82 | 0.33 J | 1.9 | U | 0.16 J | U | 0.35 J | 0.23 J | 0.33 J | 0.29 J |
| tert-Butyl alcohol | NA | NA | NA | NA | NA | 0.56 J | 5.4 J | U | 0.69 J | U | U | U | U | U |
| tetrachloroethylene (pce) | 470 | 47 | U | U | U | U | U | 0.38 J | U | U | U | U | U | U |
| tetrahydrofuran | NA | NA | U | U | U | U | 0.90 J | U | U | U | U | U | U | U |
| toluene | 220,000 | 22,000 | 4.4 | 3.2 | 3.9 | 1.3 | 5.3 | 4.3 | 0.97 | 8.7 | 1.1 | 0.8 | 1.4 | 1.7 |
| trichloroethylene (tce) | 30 | 3 | 3.6 | 1.9 | 0.98 | 0.41 J | U | U | U | 0.26 J | 0.95 J | 0.35 J | 0.52 J | 0.28 J |
| vinyl chloride | 28 | 2.8 | U | U | U | U | U | U | U | U | U | U | U | U |

Notes:
U - Not detected.
J- The analyte was positively identified; the quantitation is an estimation.
D - The reported value is from a dilution
M - Lab qualifier for manual integrated compound
NA- Not Available
µg/m³: microgram per cubic meter.
Exceedance of the indoor or outdoor initial benchmark.
B - Analytes detected in the trip blank.
♦-Denotes higher nominal value of duplicate sample result.
*EPA Commercial Regional Screening Levels

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**Table 3-2**
**Building 774/776 SSVM Performance Monitoring**
**Sub-Slab Vapor, Indoor and Outdoor Air Results**

| **Sample Location** | | | **774/776-OA** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample ID** | **Sub-slab Vapor Screening Level ($\mu g/m^3$)** | **Indoor Air Screening Level ($\mu g/m^3$)** | **776OA1DA** | **776OA1EA** | **774776OA1FA** | **774776OA1GA** | **774776OA1HA** | **774776OA1IA** | **774776OA1JA** | **774776OA1KA** | **774776OA1LA** | **774776OA1MA** | **774776OA1NA** | **774776OA1PA** |
| **Sample Type** | | | **Outdoor** | **Outdoor** | **Outdoor** | **Outdoor** | **Outdoor** | **Outdoor** | **Outdoor** | **Outdoor** | **Outdoor** | **Outdoor** | **Outdoor** | **Outdoor** |
| **Sample Date** | | | **4-May-2011** | **6-Sep-2011** | **21-Oct-2011** | **25-Jan-2012** | **6-Aug-2012** | **21-Feb-2013** | **8-Aug-2013** | **30-Jan-2014** | **17-Jul-2014** | **22-Jan-2015** | **1-Sep-2015** | **3-Feb-2016** |
| **Sample Depth (ft bgs / ags)** | | | **5** | **5** | **5** | **5** | **5** | **5** | **5** | **5** | **5** | **5** | **5** | **5** |
| **Sample Collection Duration (hr)** | | | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** |
| **Volatiles (TO-15) in $\mu g/m^3$** | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 220,000 | 22,000 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,1,2,2-tetrachloroethane | NA | NA | U | U | U | U | U | U | U | U | 5.5 | U | U | U |
| 1,2,4-trimethylbenzene | 310 | 31 | U | 1.7 | 0.60 J | U | 1.8 | U | 0.48 J | U | 0.11 J | U | 0.64 J | U |
| 1,2-dichloroethane | 4.7 | 0.47 | U | U | U | U | 0.49 J | U | U | U | U | U | U | U |
| 1,3,5-trimethylbenzene | NA | NA | U | U | U | U | 0.51 J | U | U | U | U | U | 0.15 J | U |
| 1,3-dichlorobenzene | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,4-dichlorobenzene | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,4-dioxane | NA | NA | U | U | U | U | U | U | U | U | U | U | 0.69 J | U |
| 2,2,4-trimethylpentane | NA | NA | U | U | U | U | 0.94 J | U | 0.80 J | 4.2 | U | U | U | U |
| 4-ethyltoluene | NA | NA | U | U | U | U | 0.53 J | U | U | U | U | U | 0.17 J | U |
| 4-isopropyltoluene | NA | NA | U | U | U | U | 0.8 J | U | U | U | U | U | U | U |
| acetone | 1,400,000 | 140,000 | 18 | 53 | 6.8 | 1.9 J | 97 | 15 | 13 | 7.0 J | 9.1 J | U | 13 | U |
| benzene | 16 | 1.6 | U | 0.39 J | U | 0.63 | 0.92 J | 0.61 J | 0.47 J | 0.91 | 0.16 J | 0.63 | 0.33 JM | 0.43 J |
| bromomethane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| carbon disulfide | 31,000 | 3,100 | 0.6 | 0.35 J | U | U | 2.3 J | U | 2 | U | 0.50 J | U | U | U |
| carbon tetrachloride | 20 | 2 | 0.51 | 0.90 J | U | 0.51 J | 0.5 J | 0.47 J | 0.42 J | 0.55 J | 0.48 J | 0.45 J | 0.43 J | 0.46 J |
| chlorobenzene | 2,200 | 220 | U | U | U | U | U | U | U | U | U | U | U | U |
| chloroethane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| chloroform | 5.3 | 0.53 | U | U | U | U | U | U | U | U | U | U | U | U |
| chloromethane | 3,900 | 390 | U | 1.1 | 0.76 | 1.2 | 1.4 J | 1.5 | 1.1 | 1.6 | 1.0 | 1.1 | 1.7 | 1.2 |
| cis-1,2-dichloroethene | NA | NA | U | 0.48 J | U | U | U | U | U | U | U | U | U | U |
| cumene | 18,000 | 1,800 | NA | NA | NA | U | U | U | U | U | U | U | U | U |
| cyclohexane | 260,000 | 26,000 | U | U | U | U | 5.1 | U | 1.1 | U | U | U | U | U |
| ethyl acetate | 3,100 | 310 | U | U | U | U | U | U | NA | U | U | U | U | U |
| ethylbenzene | 49 | 4.9 | U | U | 1.1 | U | 2.1 | U | 0.37 J | 0.24 J | U | U | 0.21 J | 0.15 J |
| freon 11 (trichlorofluoromethane) | 31,000 | 3,100 | 1.3 | 1.7 | 1.3 | 1.4 | 1.4 J | 1.4 | 1.1 | 1.5 | 1.3 | 1.4 | 1.3 | 1.7 |
| freon 113 (freon TF) | 1,300,000 | 130,000 | U | 0.86 J | U | 0.56 J | 0.61 J | 0.64 J | 0.57 J | 0.68 J | U | 0.53 J | 0.43 J | 1.2 J |
| freon 12 (dichlorodifluoromethane) | 4,400 | 440 | U | 2.9 | 2.5 | 2.8 | 3.4 J | 2.7 | 2.2 J | 3.2 | 2.8 | 2.7 | 2.3 J | 2.2 J |
| freon 22 | 2,200,000 | 220,000 | NA | NA | NA | U | 2.1 J | 1.1 J | 1.2 J | 1.2 J | 0.94 J | 0.86 J | 0.96 J | 0.95 J |
| heptane | NA | NA | 1.2 | U | U | U | 3.6 | U | 0.37 J | 1.2 | U | U | U | U |
| hexane | 31,000 | 3,100 | 0.9 | U | U | 0.42 J | 8.2 | 0.48 J | 0.73 | 0.96 | U | U | U | U |
| isopropyl alcohol | NA | NA | U | U | 1.2 | U | 14 J | U | 5.6 J | U | 0.98 J | U | U | U |
| m,p-xylene (sum of isomers) | 4,400 | 440 | U | 1.1 J | 2.7 | 0.33 J | 6.2 | U | 0.98 J | 0.68 J | 0.20 J | U | 0.72 J | 0.49 J |
| methyl butyl ketone | NA | NA | U | U | U | U | 0.56 J | 1.5 | 0.33 J | U | U | U | U | U |
| methyl ethyl ketone | 220,000 | 22,000 | U | 8.7 J | U | 0.42 J | 6.7 B | U | 15 | 1.2 J | 2.2 | U | 2 | U |
| methyl isobutyl ketone | 130,000 | 13,000 | U | U | U | U | U | U | 0.25 J | U | 0.11 J | U | 0.95 J | U |
| methyl methacrylate | NA | NA | NA | NA | NA | U | U | U | U | U | U | U | U | U |
| methyl tert-butyl ether | 31,000 | 3,100 | U | U | U | U | U | U | U | U | U | U | U | U |
| methylene chloride | 12,000 | 1,200 | U | 0.92 | 0.56 | 0.50 J | 2.0 J | 0.98 J | 1.3 J | 0.92 J | U | 0.82 J | 0.75 J | 1.2 J |
| naphthalene | 3.6 | 0.36 | U | U | U | U | 3.1 J | U | U | U | U | U | 0.37 J | U |
| n-Butane | NA | NA | NA | NA | NA | 1.8 | 24 | 1.4 | 1.3 | 4.7 | U | 1.4 | 0.88 J | 1.6 |
| n-Propylbenzene | NA | NA | NA | NA | NA | U | U | U | U | U | U | U | 0.14 J | U |
| o-xylene | 4,400 | 440 | U | 0.44 J | 0.97 | 0.12 J | 2.2 | U | 0.43 J | 0.21 J | U | U | 0.28 J | U |
| styrene | 44,000 | 4,400 | U | U | U | U | 1.2 J | U | 0.25 J | U | U | U | U | U |
| tert-Butyl alcohol | NA | NA | NA | NA | NA | U | 1.2 J | U | 0.73 J | U | U | U | U | U |
| tetrachloroethylene (pce) | 470 | 47 | U | U | U | U | U | U | 0.91 J | U | U | U | U | U |
| tetrahydrofuran | NA | NA | U | 1.3 | U | U | 8.2 J | U | U | U | U | U | U | U |
| toluene | 220,000 | 22,000 | 1 | 5.8 | 3.5 | 0.73 J | 20 | 0.39 J | 5.6 | 1.9 | 0.37 J | 0.49 J | 0.73 J | 1 |
| trichloroethylene (tce) | 30 | 3 | 0.98 | 2.6 | 0.60 J | U | U | U | U | 1.2 | 0.53 J | U | U | U |
| vinyl chloride | 28 | 2.8 | U | U | U | U | U | U | U | U | U | U | U | U |

Notes:
U - Not detected.
J- The analyte was positively identified; the quantitation is an estimation.
D - The reported value is from a dilution
M - Lab qualifier for manual integrated compound
NA- Not Available
$\mu g/m^3$: microgram per cubic meter.
Exceedance of the indoor or outdoor initial benchmark.
B - Analytes detected in the trip blank.
♦-Denotes higher nominal value of duplicate sample result.
*EPA Commercial Regional Screening Levels

**Table 3-3**
**Buildings 774/776**
**SSVM System Performance Monitoring Influent Air Results**

| Sample Location | 774776- Influent | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample ID** | 774776CA01AA | 774776CA01AB | 774776CA01AC | 774776CA01AD | 774776CA01AE | 774776CA01AF | 774776CA01AG | 774776CA01AH | 774776CA01IA | 774776CA01JA | 774776CA01KA | 774776CA01LA | 774776CA01MA | 774776CA01NA |
| **Sample Type** | Influent | Influent | Influent | Influent | Influent | Influent | Influent | Influent | Influent | Influent | Influent | Influent | Influent | Influent |
| **Sample Date** | 6-Jun-2011 | 23-Aug-2011 | 14-Oct-2011 | 14-Oct-2011 | 25-Oct-2011 | 24-Jan-2012 | 3-Aug-2012 | 15-Feb-2013 | 7-Aug-2013 | 28-Jan-2014 | 16-Jul-2014 | 20-Jan-2015 | 28-Aug-2015 | 1-Feb-2016 |
| **Sample Depth (ft bgs / ags)** | na | na | na | na | na | na | na | na | na | na | na | na | na | na |
| **Sample Collection Duration (hr)** | quick grab | quick grab | quick grab | quick grab | quick grab | quick grab | quick grab | quick grab | quick grab | quick grab | quick grab | quick grab | quick grab | quick grab |
| **Volatiles (TO-15) in μg/m$^3$** | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6.6 | 4.0 | 6.9 | 6.1 | 6.5 | 5.0 J | 2.9 | 0.91 J | 1.8 | U | U | 1.8 | 1.6 M | U |
| 1,2,4-trimethylbenzene | 9.5 | 3.1 | U | U | 1.7 | U | 0.69 J | U | 0.56 J | U | U | U | 1.4 | U |
| 1,3,5-trimethylbenzene | 4.7 | 2.2 | U | U | 0.55 J | U | U | U | U | U | U | U | 0.42 J | U |
| 1,3-dichlorobenzene | U | U | U | U | U | U | 0.81 J | U | U | U | U | U | U | U |
| 2,2,4-trimethylpentane | U | U | U | U | U | U | U | U | 0.23 J | U | U | U | 1.1 | U |
| 4-ethyltoluene | 6.9 | 1.0 | U | U | U | U | U | U | U | U | U | U | 0.55 J | U |
| 4-isopropyltoluene | NA | NA | NA | NA | NA | U | 0.34 J | U | 0.35 J | U | U | U | 0.49 J | U |
| acetone | 50 | 30 | 300 | 440 | 27 | 16 J | 23 B | 28 | 35 | 19 J | 63 | 7.6 J | 36 | 10 J |
| benzene | 0.45 J | 4.1 | 0.42 J | 0.7 | 0.97 | 1.8 J | 0.30 J | 0.25 J | 0.33 J | 3.9 | 0.65 J | 0.53 J | 0.37 J | 0.84 J |
| carbon disulfide | 0.73 | U | U | U | U | U | 0.46 J | 0.21 J | U | U | U | 0.44 J | 1.5 J | U |
| carbon tetrachloride | U | U | U | U | 0.96 | U | 0.54 J | 1.8 | 0.51 J | U | 1.5 J | U | 1.5 | U |
| chloroform | 15 | 4.3 | 3.6 | 5.0 | 4.6 | 3.6 J | 4.9 | 2.2 | 5.7 | 0.93 J | 4.4 J | 1.8 | 2.4 | U |
| chloromethane | U | U | U | U | U | U | 0.71 J | 1.5 | 0.61 J | 2.0 J | 1.7 J | 0.96 J | 0.58 J | 1 J |
| cis-1,2-dichloroethene | 1.80 | U | U | U | U | U | U | U | U | U | U | U | U | U |
| cumene | NA | NA | NA | NA | NA | U | U | U | U | U | 0.98 J | 0.26 J | 0.14 J | U |
| cyclohexane | U | U | U | U | U | U | 0.36 J | 0.38 J | 0.14 J | U | U | U | 0.14 J | U |
| ethylbenzene | 0.62 J | 0.93 | U | U | 0.79 | U | 0.38 J | U | 0.47 J | U | 0.32 J | U | 1.2 | U |
| freon 11 (trichlorofluoromethane) | 50 | 130 | 83 | 59 | 49 | 40 | 61 | 29 | 35 | 14 | 24 | 28 | 42 | 20 |
| freon 113 (freon TF) | U | 1.9 | 1.1 J | 1.0 J | U | U | 0.82 J | 0.5 J | 0.65 J | U | U | U | U | U |
| freon 12 (dichlorodifluoromethane) | 3.7 | 16 | 6.1 | 6.1 | 6.4 | 11 J | 7.1 | 4.7 | 6.5 | 4.4 J | 6.9 J | 4.5 | 6.8 | 3.4 J |
| freon 22 | NA | NA | NA | NA | NA | 320 | 94 | 33 | 45 | 42 | 510 | U | 3.3 | 280 |
| heptane | 0.83 | 12 | U | U | 0.87 | 1.9 J | 0.37 J | U | 0.30 J | 2.5 J | U | U | U | U |
| hexane | U | U | U | U | U | U | 0.66 J | 0.27 J | 0.27 J | U | U | 0.17 J | 0.3 J | U |
| isopropyl alcohol | U | U | U | U | U | U | 7.9 J | 2.1 J | 13 | U | 10 J | 2.4 J | 11 J | U |
| m,p-xylene (sum of isomers) | 1.3 J | 3.3 | U | U | 2.4 | U | 0.99 J | U | 1.4 J | U | 0.50 J | 0.13 J | 4 | 2.6 J |
| methyl ethyl ketone | 14 | 4.4 | 300 | 400 | 15 | 4.8 J | 2.5 B | 0.45 J | 5 | U | 4.7 J | U | 4 | U |
| methyl isobutyl ketone | U | U | U | U | U | U | 0.28 J | U | 0.46 J | U | U | U | U | U |
| methylene chloride | 2.2 | U | U | U | U | U | 0.64 J | 1 J | 0.41 J | 3.8 J | U | 0.5 J | U | U |
| naphthalene | U | U | U | U | U | U | 1.9 J | U | U | U | U | U | U | U |
| n-Butane | NA | NA | NA | NA | NA | 2.9 J | 1.7 | 3.4 | 1.1 J | 7.3 | U | 1.7 | 1.7 | 1.7 J |
| n-Propylbenzene | NA | NA | NA | NA | NA | U | U | U | U | U | U | U | 0.3 J | U |
| o-xylene | 0.84 | 1.8 | U | U | 1.0 | U | 0.42 J | U | 0.53 J | U | U | U | 1.4 | U |
| styrene | U | U | U | U | U | U | 0.15 J | U | 0.14 J | U | U | U | 0.15 J | U |
| tert-Butyl alcohol | NA | NA | NA | NA | NA | U | U | U | 1.9 J | U | U | U | 0.65 JM | U |
| tetrachloroethylene (pce) | 3.4 | 2.4 | 2.3 | 12 | 3.5 | U | 1.5 | U | 1.1 J | U | 1.6 J | 0.84 J | 0.69 J | U |
| tetrahydrofuran | 120 | 6.0 | 600 | 770 | 5.2 | U | 1.4 J | 1.8 J | 0.24 U | U | U | U | 0.91 J | U |
| toluene | 1.8 | 2.2 | 0.96 | 1.4 | 2.2 | 0.83 J | 1.2 | 0.17 J | 1.1 | 0.67 J | 0.72 J | 0.22 J | 1.1 | 2.3 J |
| trichloroethylene (tce) | 510 | 240 | 670 | 1,200 | 650 | 300 | 190 | 20 | 120 | 32 | 97 | 100 | 82 | 60 |
| vinyl chloride | U | U | U | U | U | U | U | U | U | U | U | U | U | U |

Notes:
U - Not detected.
J- The analyte was positively identified; the quantitation is an estimation.
D - The reported value is from a dilution
M - Lab qualifier for manual integrated compound
NA- Not Available
μg/m$^3$: microgram per cubic meter.
B - Analytes detected in the trip blank.

**Table 3-4**
**Buildings 785/786 SSVM System Performance Monitoring**
**Sub-Slab Vapor, Indoor and Outdoor Air Results**

| Sample Location | | | 785VMP-2 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | Sub-slab Vapor | Indoor Air | 785VMP0202AD | 785VMP0202AE | 785VMP0202AF | 785VMP0202AG | 785VMP0202AH | 785VMP0202IA | 785VMP0202JA | 785VMP0202KA | 785VMP0202LA | 785VMP0202MA | 785VMP0202NA | 785VMP0202PA | 785VMP0202QA |
| Sample Type | Screening | Screening | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab |
| Sample Date | Level* (µg/m³) | Level* (µg/m³) | 18-Mar-2011 | 24-Aug-2011 | 24-Oct-2011 | 31-Jan-2012 | 8-Aug-2012 | 6-Mar-2013 | 9-Aug-2013 | 3-Oct-2013 | 29-Jan-2014 | 18-Jul-2014 | 26-Jan-2015 | 1-Sep-2015 | 2-Feb-2016 |
| Sample Depth (ft bgs / ags) | | | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| Sample Collection Duration (hr) | | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| **Volatiles (TO-15) in µg/m³** | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 220,000 | 22,000 | U | U | U | 0.57 J | U | U | U | 0.43 J | U | U | U | U | U |
| 1,2,4-trimethylbenzene | 310 | 31 | 1.5 | 1.4 | U | U | 3.7 | 1.6 | U | U | U | 1.4 J | 0.72 J | 3.9 | U |
| 1,2-dichloroethane | 4.7 | 0.47 | U | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,3,5-trimethylbenzene | NA | NA | U | U | U | U | 1.0 | 0.46 J | U | U | U | 0.38 J | U | 1.1 | U |
| 1,3-butadiene | 4.1 | 0.41 | U | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,3-dichlorobenzene | NA | NA | U | U | U | U | 3.0 | 37 | U | U | U | 3.1 | U | 2.2 | U |
| 1,4-dichlorobenzene | 23,360 | 2,336 | U | 1.5 | U | U | U | U | U | U | U | | U | 0.21 J | U |
| 1,4-dioxane | NA | NA | U | U | U | U | U | U | U | 0.36 J | U | 6.6 J♦ | U | U | U |
| 2,2,4-trimethylpentane | NA | NA | U | U | 1.2 | U | 1.5 | 5.8 | 0.17 J | U | U | U | U | U | 0.2 J |
| 4-ethyltoluene | NA | NA | 0.65 J | U | U | U | 1.2 | 0.65 J | U | U | U | 0.30 J | U | 0.98 | U |
| 4-isopropyltoluene | NA | NA | NA | NA | NA | U | 0.33 J | U | U | U | U | U | U | 0.45 J | U |
| acetone | 1,400,000 | 140,000 | 10 | 17 | 3.2 | 0.76 J | 12 JB | 4.5 J | 15 | 8.7 J | 3.2 J | 28 | 7.7 J | 14 | 8.6 J♦ |
| benzene | 16 | 1.6 | 2.9 | 0.65 | 2.2 | U | U | U | 0.64 | 0.16 J | 0.72 | 0.68 J | 0.37 J | 0.25 J | 0.5 J |
| bromodichloromethane | 3.3 | 0.33 | U | U | U | U | U | U | U | U | U | U | U | U | U |
| carbon disulfide | 31,000 | 3,100 | 0.82 | 0.63 | U | U | 0.86 J | U | 0.70 J | 0.41 J | 0.43 J | 4.7 | 0.65 J | 4.8 | 0.6 J |
| carbon tetrachloride | 20 | 2 | U | U | 0.70 J | 0.49 J | 0.46 J | 0.44 J | 0.46 J | U | 0.33 J | 0.86 J | 0.42 J | 0.57 J | 0.4 J |
| chlorobenzene | 2,200 | 220 | U | U | U | U | U | U | U | U | U | U | U | U | U |
| chloroethane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U | U |
| chloroform | 5.3 | 0.53 | 1.5 | U | U | U | U | U | 0.16 J | 0.55 J | 0.24 J | 26 J | U | 0.28 J | U |
| chloromethane | 3,900 | 390 | 1.4 | 1.1 | U | 3.5 | 37 | 0.21 J | 8.8 | 3.7 | 5.1 | 12 J | 2.2 | 4.2 | 0.6 J♦ |
| cis-1,2-dichloroethene | NA | NA | U | U | U | U | U | U | U | 0.5 J | 0.24 J | 2.0 | U | 0.16 J | U |
| cumene | 18,000 | 1,800 | NA | NA | NA | U | U | U | U | U | U | 0.19 J | U | 0.61 J | U |
| cyclohexane | 260,000 | 26,000 | 1.3 | 0.94 | 1.9 | U | U | 6.8 | U | U | U | U | U | U | U |
| dibromochloromethane | 10 | NA | U | U | U | U | U | U | U | U | U | U | U | U | U |
| ethylbenzene | 49 | 4.9 | 1.5 | U | 0.75 | U | 1.2 | 1.8 | 0.49 J | 0.14 J | 0.27 J | 0.76 J | 0.42 J | 5.8 | U |
| freon 11 (trichlorofluoromethane) | 31,000 | 3,100 | 1 | 1.8 | 1.5 | 1.4 | 1.3 | 1.3 | 1.2 | 1.1 | 1.1 J | 2.7 | 1.2 | 1.4 | 1.1 |
| freon 113 (freon TF) | 1,300,000 | 130,000 | U | 0.78 J | U | 0.58 J | 0.59 J | 0.61 J | 0.59 J | 0.79 J | 0.88 J | 2.6 J | 0.42 J | 0.68 J | U |
| freon 114 (1,2-dichlorotetrafluoroethane) | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U | U |
| freon 12 (dichlorodifluoromethane) | 4,400 | 440 | 2.8 | 3.1 | 2.6 | 2.9 | 2.4 J | 2.3 J | 2.5 | 2.3 J | 3.1 | 4.6 J | 2.4 J | 2.7 | 1.8 J |
| freon 22 | 2,200,000 | 220,000 | NA | NA | NA | U | U | 0.81 J | 0.90 J | 0.83 J | U | 2.0 J | 0.75 J | 0.95 J | 0.8 J |
| heptane | NA | NA | 2.1 | U | 1.8 | U | 3.8 | 3.4 | 0.22 J | U | U | U | U | U | 0.3 J♦ |
| hexane | 31,000 | 3,100 | 6.9 | U | 6.1 | U | 1.3 | 9.8 | 0.18 J | 0.2 J | U | 7.5 | 0.74 | 0.23 J | 0.3 J |
| isopropyl alcohol | NA | NA | U | U | U | U | 13 | 470 | 2.4 J | U | U | 29 | U | 4.2 J | U |
| m,p-xylene (sum of isomers) | 4,400 | 440 | 4.7 | 0.93 J | 2.3 | 0.21 J | 4.5 | 6.8 | 0.93 J | 0.35 J | 0.63 J | 1.6 J | 1.1 J | 6.5 | 0.4 J |
| methyl butyl ketone | NA | NA | U | U | U | U | 0.47 J | U | 1.0 J | 0.25 J | U | 1.2 J♦ | U | 0.77 J | 0.4 J♦ |
| methyl ethyl ketone | 220,000 | 22,000 | 3 | 4.1 | U | U | 3.3 B | 6.3 | 7.1 | U | U | 10 | 2.2 | 3.6 | 2.1 ♦ |
| methyl isobutyl ketone | 130,000 | 13,000 | U | U | U | U | 1.0 J | U | 1.2 J | 1.5 | U | 1.2 J | U | 0.96 J | U |
| methyl tert-butyl ether | 31,000 | 3,100 | U | U | U | U | U | U | U | U | U | 0.38 J | U | U | U |
| methylene chloride | 12,000 | 1,200 | 1.4 | U | U | U | 2.4 | U | 0.40 J | 0.41 J | U | 0.45 J♦ | U | U | 0.7 J♦ |
| naphthalene | 3.6 | 0.36 | U | U | U | U | 2.2 J | U | U | U | U | U | U | 0.54 J | U |
| n-Butane | NA | NA | NA | NA | NA | 0.64 J | 6.3 | 0.52 J | 1.3 | 1 J | 1.6 | 2.9 | U | 1 J | 0.7 J |
| n-Propylbenzene | NA | NA | NA | NA | NA | U | 0.68 J | U | U | U | U | U | U | 0.78 J | U |
| o-xylene | 4,400 | 440 | 1.3 | U | 0.71 | U | 1.6 | 2.4 | 0.27 J | 0.14 J | 0.23 J | 0.68 J | 0.53 J | 2.9 | 0.2 J♦ |
| styrene | 44,000 | 4,400 | U | U | U | U | 0.46 J | 0.37 J | U | U | U | 0.29 J | U | 0.52 J | U |
| tert-Butyl alcohol | NA | NA | NA | NA | NA | U | 1.8 J | U | 2.7 J | 1.6 J | U | 8.9 J | U | 3.3 J | U |
| tetrachloroethylene (pce) | 470 | 47 | U | U | U | U | 0.73 J | 0.58 J | 0.51 J | U | U | U | U | U | U |
| tetrahydrofuran | NA | NA | 8.2 | 11 | U | 4.6 J | 87 | U | 68 | 46 | 13 J | 95 J | 8.2 J | 21 | U |
| toluene | 220,000 | 22,000 | 15 | 3.3 | 6.2 | 0.36 JB | 3.8 | 7.5 | 2.3 | 0.47 J | 1.1 | 1.9 | 1.3 J | 2.1 | 0.6 J |
| trichloroethylene (tce) | 30 | 3 | U | 19 | 8.9 | 1.0 J | 9.1 | 0.68 J | 7.2 | 37 | 6.1 | 400 | 0.6 J | 15 | 1.1 |
| vinyl chloride | 28 | 2.8 | U | U | U | U | U | U | U | U | U | U | U | U | U |

Notes:
U - Not detected.
J- The analyte was positively identified; the quantitation is an estimation.
D - The reported value is from a dilution
M - Lab qualifier for manual integrated compound
NA- Not Available
µg/m³: microgram per cubic meter.
Exceedance of EPA Commercial Regional Screening Levels.
B - Analytes detected in the trip blank.
♦-Denotes higher nominal value of duplicate sample result.
* EPA Commercial Regional Screening Levels (http://www.epa.gov/reg3hscd/risk/human/rb-concentration_table/Generic_Tables/index.htm)

**Table 3-4**
**Buildings 785/786 SSVM System Performance Monitoring**
**Sub-Slab Vapor, Indoor and Outdoor Air Results**

| Sample Location | | | 785VMP-4 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | Sub-slab Vapor Screening Level* (μg/m³) | Indoor Air Screening Level* (μg/m³) | 785VMP0401AA | 785VMP0401AB | 785VMP0401AC | 785VMP0401AD | 785VMP0401AG | 785VMP0401HA | 785VMP0401IA | 785VMP0401JA | 785VMP0401KA | 785VMP0401LA | 785VMP0401NA | 785VMP0401PA | 785VMP0401QA |
| Sample Type | | | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab |
| Sample Date | | | 18-Mar-2011 | 24-Aug-2011 | 24-Oct-2011 | 31-Jan-2012 | 8-Aug-2012 | 6-Mar-2013 | 9-Aug-2013 | 3-Oct-2013 | 28-Feb-2014 | 18-Jul-2014 | 26-Jan-2015 | 1-Sep-2015 | 2-Feb-2016 |
| Sample Depth (ft bgs / ags) | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Sample Collection Duration (hr) | | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Volatiles (TO-15) in μg/m³ | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 220,000 | 22,000 | 1.7 | 0.72 J | U | U | 0.40 J | U | 0.28 J | 0.93 J | 0.56 J | U | U | U | U |
| 1,2,4-trimethylbenzene | 310 | 31 | 0.95 | 6.7 | 1.8 | 0.45 J | 15 | 1.4 | 1.4 | 1.1 J | 0.20 J | U | 0.51 J | 11 D | 29 |
| 1,2-dichloroethane | 4.7 | 0.47 | U | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,3,5-trimethylbenzene | NA | NA | U | 2.1 | 0.50 J | U | 3.9 | 0.49 J | 0.39 J | U | 0.072 J | U | U | 3.1 JD | 9 |
| 1,3-butadiene | 4.1 | 0.41 | U | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,3-dichlorobenzene | NA | NA | U | U | U | U | U | 30 | 1.8 | U | U | U | U | U | U |
| 1,4-dichlorobenzene | 23,360 | 2,336 | U | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,4-dioxane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U | 2.7 J |
| 2,2,4-trimethylpentane | NA | NA | U | 1.5 | 3.9 | 0.58 J | U | 5.5 | 0.71 J | U | U | U | U | U | 0.5 J |
| 4-ethyltoluene | NA | NA | U | 2.7 | 0.85 | U | 3.6 | 0.49 J | 0.31 J | U | U | U | U | 4.2 JD | 12 |
| 4-isopropyltoluene | NA | NA | NA | NA | NA | U | 1.6 | U | U | 1.1 J | U | U | U | U | 0.23 J |
| acetone | 1,400,000 | 140,000 | 15 | 16 | U | 4.9 J | 44 | 8.1 J | 73 | 120 | 7.2 J | 7900 | 22 | 120 D | 51 |
| benzene | 16 | 1.6 | 4.9 | 4.2 | 8.4 | 0.64 | 0.57 J | 0.61 J | 0.58 J | 0.89 J | 0.58 J | U | 0.63 J | 0.75 JDM | 2.8 |
| bromodichloromethane | 3.3 | 0.33 | 2.6 | U | U | U | U | U | U | U | U | U | U | U | U |
| carbon disulfide | 31,000 | 3,100 | 4.8 | 13 | 9.2 | 1.1 J | 12 | 0.48 J | 2.7 | 8.3 | 2.0 | U | 1.6 | 21 D | 2.6 |
| carbon tetrachloride | 20 | 2 | U | U | U | 0.51 J | 0.47 J | 0.43 J | 0.39 J | U | U | U | 0.46 J | 0.53 JD | 0.38 J |
| chlorobenzene | 2,200 | 220 | U | 0.66 J | U | U | U | U | U | U | U | U | U | U | U |
| chloroethane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U | U |
| chloroform | 5.3 | 0.53 | 91 | 0.79 | U | U | 0.47 J | U | 0.33 J | 0.74 J | 2.5 | U | U | 1.7 JDM | U |
| chloromethane | 3,900 | 390 | U | U | U | U | 0.30 J | 0.15 J | 0.29 J | 0.43 J | U | U | U | U | 0.42 J |
| cis-1,2-dichloroethene | NA | NA | 2.3 | U | U | U | U | U | U | 0.75 J | U | U | U | 5.1 D | 1.8 |
| cumene | 18,000 | 1,800 | NA | NA | NA | U | U | U | U | 1.5 J | U | U | U | 0.57 JD | 2.1 |
| cyclohexane | 260,000 | 26,000 | 6.2 | 9.4 | 8.0 | 0.34 JB | 2.1 | 6.8 | 1.5 | U | U | U | U | U | U |
| dibromochloromethane | 10 | NA | U | U | U | 0.34 JB | 2.1 | 6.8 | 1.5 | U | U | U | U | U | U |
| ethylbenzene | 49 | 4.9 | 1.1 | 6.1 | 4.9 | 0.58 J | 3.9 | 3.1 | 1.9 | 1.8 | 0.39 J | U | 0.41 J | 4.5 | 12 |
| freon 11 (trichlorofluoromethane) | 31,000 | 3,100 | 0.86 | 1.7 | 1.3 | 1.4 | 1.4 | 1.3 | 1.1 | 1.3 J | 0.83 J | U | 1.1 | 1.5 J | 1 J |
| freon 113 (freon TF) | 1,300,000 | 130,000 | 1.1 J | 0.86 J | U | 0.58 J | 0.69 J | 0.64 J | 0.60 J | 0.91 J | 0.97 J | U | 0.55 J | U | U |
| freon 114 (1,2-dichlorotetrafluoroethane) | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U | U |
| freon 12 (dichlorodifluoromethane) | 4,400 | 440 | 2.9 | 2.8 | 2.5 | 2.9 | 2.6 | 2.6 | 2.3 J | U | 2.5 | U | 2.4 J | 3.1 J | 1.7 J |
| freon 22 | 2,200,000 | 220,000 | NA | NA | NA | U | U | 0.77 J | 0.88 J | U | 0.75 J | U | 0.82 J | U | 0.74 J |
| heptane | NA | NA | 3.6 | 5.3 | 8.2 | 0.45 JB | 1.1 | 3.6 | 0.69 J | U | U | U | U | U | 2.5 |
| hexane | 31,000 | 3,100 | 8.2 | 7.9 | 13 | 0.91 B | 1.4 | 9.3 | 0.57 J | 6 | 0.69 | U | 1 | U | 1.2 |
| isopropyl alcohol | NA | NA | U | U | 0.62 | 2.3 J | 15 | 190 | 5.5 J | 10 J | 1.3 J | U | U | U | U |
| m,p-xylene (sum of isomers) | 4,400 | 440 | 2.7 | 14 | 14 | 1.1 J | 3.4 | 8.7 | 2.8 | 1.9 J | 0.73 J | U | 1.2 J | 16 | 38 |
| methyl butyl ketone | NA | NA | U | U | U | U | 0.94 J | U | 0.61 J | 1.2 J | U | U | U | U | U |
| methyl ethyl ketone | 220,000 | 22,000 | 2.3 | 2.7 | U | 0.82 J | 10 B | 4.4 | 14 | 19 | U | 2300 | 7.6 | 55 | 14 |
| methyl isobutyl ketone | 130,000 | 13,000 | U | U | U | U | 1.3 J | U | 1.7 J | U | 2.9 | U | U | U | U |
| methyl tert-butyl ether | 31,000 | 3,100 | U | U | U | U | U | U | U | U | U | U | U | U | U |
| methylene chloride | 12,000 | 1,200 | 0.95 | U | U | 0.43 J | 0.82 J | 0.52 J | 0.95 J | 1.7 J | U | U | 0.76 J | U | 0.68 J |
| naphthalene | 3.6 | 0.36 | U | U | U | U | 0.68 J | U | 0.72 J | U | U | U | U | U | U |
| n-Butane | NA | NA | NA | NA | NA | 4.6 | 3.8 | 0.44 J | 0.91 J | 1.6 J | U | U | 1.2 | U | 0.41 J |
| n-Propylbenzene | NA | NA | NA | NA | NA | U | 1.5 | U | 0.31 J | U | U | U | U | 2.6 J | 7.9 |
| o-xylene | 4,400 | 440 | 0.84 | 5.1 | 2.8 | 0.46 J | 1.7 | 3.4 | 1.1 | 0.8 J | 0.41 J | U | 0.48 J | 5.3 | 17 |
| styrene | 44,000 | 4,400 | U | U | U | U | 0.30 J | 0.35 J | 0.34 J | 0.33 J | U | U | U | 1.4 J | 5.5 |
| tert-Butyl alcohol | NA | NA | NA | NA | NA | U | 1.8 J | U | 1.2 J | 2.2 J | U | U | U | U | 3.4 J |
| tetrachloroethylene (pce) | 470 | 47 | U | U | 1.0 | U | 1.2 J | 0.62 J | 0.34 J | 0.4 J | U | U | U | U | 0.24 J |
| tetrahydrofuran | NA | NA | U | U | U | U | 3.4 J | U | U | 0.95 J | U | 20,000 | 19 | 360 | 52 |
| toluene | 220,000 | 22,000 | 26 | 23 | 42 | 2.2 B | 5.9 | 8.1 | 3.3 | 4.2 | 1.2 | U | 1.9 | 6.7 | 15 |
| trichloroethylene (tce) | 30 | 3 | 720 | 88 | 33 | 3.5 | 39 | 3 | 17 | 54 | 27 | 170 J | 1.2 | 33 | 6 |
| vinyl chloride | 28 | 2.8 | U | U | U | U | U | U | U | U | U | U | U | U | U |

Notes:
U - Not detected.
J- The analyte was positively identified; the quantitation is an estimation.
D - The reported value is from a dilution
M - Lab qualifier for manual integrated compound
NA- Not Available
μg/m³: microgram per cubic meter.
Exceedance of EPA Commercial Regional Screening Levels.
B - Analytes detected in the trip blank.
♦-Denotes higher nominal value of duplicate sample result.
* EPA Commercial Regional Screening Levels (http://www.epa.gov/reg3hscd/risk/human/rb-concent

**Table 3-4**
**Buildings 785/786 SSVM System Performance Monitoring**
**Sub-Slab Vapor, Indoor and Outdoor Air Results**

| Sample Location | | | 785VMP-5 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | Sub-slab Vapor Screening Level* ($\mu g/m^3$) | Indoor Air Screening Level* ($\mu g/m^3$) | 785VMP0501AA | 785VMP0501AB | 785VMP0501AC | 785VMP0501AD | 785VMP0501FA | 785VMP0501GA | 785VMP0501HA | 785VMP0501IA | 785VMP0501JA | 785VMP0501NA | 785VMP0501PA | 785VMP0501PA |
| Sample Type | | | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab |
| Sample Date | | | 25-Aug-2011 | 24-Oct-2011 | 31-Jan-2012 | 8-Aug-2012 | 6-Mar-2013 | 9-Aug-2013 | 3-Oct-2013 | 29-Jan-2014 | 18-Jul-2014 | 26-Jan-2015 | 1-Sep-2015 | 2-Feb-2016 |
| Sample Depth (ft bgs / ags) | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Sample Collection Duration (hr) | | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Volatiles (TO-15) in $\mu g/m^3$ | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 220,000 | 22,000 | 4.8 | 1.8 | 0.53 J | 0.74 J | U | 0.54 J | 1.4 | U | U | U | U | U |
| 1,2,4-trimethylbenzene | 310 | 31 | 2.2 | 1.4 | U | 0.69 J | 0.71 J | U | U | 0.55 J | U | 1.1 J | 9.3 D | 0.35 JD |
| 1,2-dichloroethane | 4.7 | 0.47 | U | U | U | U | U | 0.28 J | U | U | U | U | U | U |
| 1,3,5-trimethylbenzene | NA | NA | 0.85 | U | U | U | 0.31 J | U | U | U | U | U | 2.4 JD | U |
| 1,3-butadiene | 4.1 | 0.41 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,3-dichlorobenzene | NA | NA | U | U | U | U | 17 | U | U | U | U | U | U | U |
| 1,4-dichlorobenzene | 23,360 | 2,336 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,4-dioxane | NA | NA | U | U | U | U | U | U | 0.48 J | U | U | U | U | U |
| 2,2,4-trimethylpentane | NA | NA | U | 1.4 | 1.3 | 0.92 | 6.5 | 0.96 | U | U | U | U | U | U |
| 4-ethyltoluene | NA | NA | 0.50 J | U | U | U | 0.34 J | U | U | U | U | U | 2.6 JD | U |
| 4-isopropyltoluene | NA | NA | NA | NA | U | 0.64 J | U | U | U | U | U | U | U | U |
| acetone | 1,400,000 | 140,000 | 21 | 4.3 | 2.3 J | 20 B | 6.8 J | 8.2 J | 2.8 J | 10 J | 2600 | 54 | 77 D | 23 D |
| benzene | 16 | 1.6 | 0.39 J | 2.6 | 0.64 | 0.50 J | 0.69 | 0.38 J | 0.27 J | 0.62 | U | 3.3 | 8.6 D | 3.5 D |
| bromodichloromethane | 3.3 | 0.33 | U | U | U | U | U | U | U | U | U | U | U | U |
| carbon disulfide | 31,000 | 3,100 | 0.38 J | U | U | 2.7 | U | U | U | U | U | U | 6.8 JD | 11 D |
| carbon tetrachloride | 20 | 2 | U | U | 0.48 J | 0.45 J | 0.48 J | 0.31 J | 0.38 J | 0.39 J | U | U | 0.92 JD | 0.42 JDM |
| chlorobenzene | 2,200 | 220 | U | U | U | U | U | U | U | U | U | U | U | U |
| chloroethane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| chloroform | 5.3 | 0.53 | 2.8 | 0.74 | U | U | U | 0.19 J | 0.21 J | U | 46 J | U | U | U |
| chloromethane | 3,900 | 390 | U | U | U | 0.97 J | 0.85 J | 0.48 J | 0.42 J | 1.4 | U | U | U | 0.36 JD |
| cis-1,2-dichloroethene | NA | NA | 2.1 | U | U | U | U | 0.41 J | U | U | U | U | U | U |
| cumene | 18,000 | 1,800 | NA | NA | 0.41 J | U | U | U | U | U | U | U | 1.2 JD | U |
| cyclohexane | 260,000 | 26,000 | U | 2.9 | 1.1 B | U | U | U | U | U | U | U | U | U |
| dibromochloromethane | 10 | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| ethylbenzene | 49 | 4.9 | 2.3 | 1.6 | 1.8 | 3.8 | 2.1 | U | 0.7 J | 0.55 J | U | 2.2 J | 6.7 | 0.57 J |
| freon 11 (trichlorofluoromethane) | 31,000 | 3,100 | 2.2 | 2.3 | 1.4 | 1.5 | 1.4 | 1.5 | 1.4 | 1.4 | U | U | 1.5 J | 1 J |
| freon 113 (freon TF) | 1,300,000 | 130,000 | 0.86 J | U | U | 0.58 J | 0.62 J | 0.50 J | 0.58 J | 0.60 J | U | U | U | U |
| freon 114 (1,2-dichlorotetrafluoroethane) | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| freon 12 (dichlorodifluoromethane) | 4,400 | 440 | 2.9 | 2.5 | 2.8 | 2.4 J | 2.6 | 2.2 J | 2.4 J | 3.2 | U | 2.2 J | 2.9 J | 1.9 J |
| freon 22 | 2,200,000 | 220,000 | NA | NA | U | U | 0.95 J | 0.90 J | U | 1.2 J | U | U | U | 0.73 J |
| heptane | NA | NA | U | 1.9 | 0.70 JB | 1.4 | 3.4 | 0.92 | U | 0.56 J | U | U | U | U |
| hexane | 31,000 | 3,100 | U | U | 3.5 B | 1.3 | 9.9 | 1.4 | 0.18 J | 0.83 | U | U | U | U |
| isopropyl alcohol | NA | NA | 8.2 | U | U | 2.1 J | 290 | 15 | U | 22 | U | 8.1 J | U | U |
| m,p-xylene (sum of isomers) | 4,400 | 440 | 8.2 | 5.8 | 3.6 | 14 | 7.5 | U | 2 J | 1.5 J | U | 6 J | 21 | 1.3 J |
| methyl butyl ketone | NA | NA | U | U | U | 0.86 J | U | U | U | U | U | U | U | U |
| methyl ethyl ketone | 220,000 | 22,000 | 2 | U | 0.37 J | 4.3 B | 3.9 | 0.49 J | U | 1.5 | 1200 | 13 | U | 4.9 |
| methyl isobutyl ketone | 130,000 | 13,000 | U | U | U | 0.49 J | U | U | 0.48 J | U | U | U | U | U |
| methyl tert-butyl ether | 31,000 | 3,100 | U | U | U | U | U | U | U | U | U | U | U | U |
| methylene chloride | 12,000 | 1,200 | 3.7 | U | U | 0.59 J | 0.6 J | 0.43 J | 1.7 J | 0.72 J | U | U | U | U |
| naphthalene | 3.6 | 0.36 | U | U | U | 0.46 J | U | U | U | U | U | U | U | U |
| n-Butane | NA | NA | NA | NA | 4.8 | 4.4 | 1.5 | 0.57 J | 0.64 J | 3.0 | U | U | U | U |
| n-Propylbenzene | NA | NA | NA | NA | U | U | U | U | U | U | U | U | 1.5 J | U |
| o-xylene | 4,400 | 440 | 3 | 1.5 | 1.7 | 4.7 | 2.4 | U | 0.63 J | 0.58 J | U | 2.1 J | 8.1 | 0.46 J |
| styrene | 44,000 | 4,400 | U | U | U | 0.64 J | U | U | U | 0.58 J | U | 3.9 | 22 | 1.1 J |
| tert-Butyl alcohol | NA | NA | NA | NA | U | 0.96 J | U | 0.55 J | U | 2.5 J | U | U | U | U |
| tetrachloroethylene (pce) | 470 | 47 | 2.2 | U | U | U | U | U | 0.3 J | U | U | U | U | U |
| tetrahydrofuran | NA | NA | U | U | 0.21 J | 0.41 J | U | U | U | U | 6900 | 230 | 540 | 67 |
| toluene | 220,000 | 22,000 | 2.1 | 7.4 | 1.6 B | 3.7 | 4.9 | 1.2 | 0.69 J | 3.2 | U | U | 2.6 J | 0.77 J |
| trichloroethylene (tce) | 30 | 3 | 610 | 140 | 18 | 20 | 1.1 | 7 | 73 | 1.2 | 510 | 41 | 150 | 7.3 |
| vinyl chloride | 28 | 2.8 | U | U | U | U | U | U | U | U | U | U | U | U |

Notes:
U - Not detected.
J- The analyte was positively identified; the quantitation is an estimation.
D - The reported value is from a dilution
M - Lab qualifier for manual integrated compound
NA- Not Available
$\mu g/m^3$: microgram per cubic meter.
Exceedance of EPA Commercial Regional Screening Levels.
B - Analytes detected in the trip blank.
♦-Denotes higher nominal value of duplicate sample result.
* EPA Commercial Regional Screening Levels (http://www.epa.gov/reg3hscd/risk/human/rb-concent

**Table 3-4**
**Buildings 785/786 SSVM System Performance Monitoring**
**Sub-Slab Vapor, Indoor and Outdoor Air Results**

| **Sample Location** | | | **785-IA** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample ID** | **Sub-slab Vapor Screening Level* (µg/m³)** | **Indoor Air Screening Level* (µg/m³)** | **785IA05** | **785IA06** | **785IA07** | **785IA08** | **785IA09** | **785IA10** | **785IA11** | **785IA12** | **785IA13** | **785IA14** | **785IA15** | **785IA1QA** |
| **Sample Type** | | | **Indoor** | **Indoor** | **Indoor** | **Indoor** | **Indoor** | **Indoor** | **Indoor** | **Indoor** | **Indoor** | **Indoor** | **Indoor** | **Indoor** |
| **Sample Date** | | | **24-Aug-2011** | **24-Oct-2011** | **27-Jan-2012** | **8-Aug-2012** | **6-Mar-2013** | **9-Aug-2013** | **3-Oct-2013** | **28-Jan-2014** | **17-Jul-2014** | **26-Jan-2015** | **1-Sep-2015** | **1-Feb-2016** |
| **Sample Depth (ft bgs / ags)** | | | **5** | **5** | **5** | **5** | **5** | **5** | **5** | **5** | **5** | **5** | **5** | **5** |
| **Sample Collection Duration (hr)** | | | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **8** |
| **Volatiles (TO-15) in µg/m³** | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 220,000 | 22,000 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,2,4-trimethylbenzene | 310 | 31 | 1.7 | 1.4 | U | 0.37 J | U | 0.49 J | U | U | 0.42 J | 0.21 J | 2.4 | U |
| 1,2-dichloroethane | 4.7 | 0.47 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,3,5-trimethylbenzene | NA | NA | U | U | U | U | U | U | U | U | 0.15 J | U | 0.54 J | U |
| 1,3-butadiene | 4.1 | 0.41 | U | U | U | U | 0.32 J | U | U | U | U | U | U | U |
| 1,3-dichlorobenzene | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,4-dichlorobenzene | 23,360 | 2,336 | U | U | U | U | U | U | U | U | 0.11 J | | U | U |
| 1,4-dioxane | NA | NA | U | U | U | U | U | U | U | U | 11 J | U | U | U |
| 2,2,4-trimethylpentane | NA | NA | U | 0.52 J | 0.29 J | U | U | U | U | U | U | U | 0.24 J | 0.25 J |
| 4-ethyltoluene | NA | NA | U | U | U | U | U | U | U | U | 0.12 J | U | 0.61 J | U |
| 4-isopropyltoluene | NA | NA | NA | NA | U | U | U | U | U | U | 0.56 J | U | U | U |
| acetone | 1,400,000 | 140,000 | 35 | 11 | 2.6 J | 16 B | 9.3 J | 9.7 J | 6.6 J | U | 19 | U | 9.3 J | 4.3 J |
| benzene | 16 | 1.6 | U | 1.3 | 0.58 J | 0.36 J | U | U | 0.31 J | 0.48 J | 0.30 J | 0.64 | 0.37 JM | 0.48 J |
| bromodichloromethane | 3.3 | 0.33 | U | U | U | U | U | U | U | U | U | U | U | U |
| carbon disulfide | 31,000 | 3,100 | U | U | U | U | U | U | U | 0.76 J | 6.8 | U | 0.92 J | 0.29 J |
| carbon tetrachloride | 20 | 2 | U | U | 0.53 J | 0.44 J | U | 0.48 J | 0.43 J | 0.49 J | 0.51 J | 0.47 J | 0.45 J | 0.37 J |
| chlorobenzene | 2,200 | 220 | U | U | U | U | U | U | U | U | U | U | U | U |
| chloroethane | NA | NA | U | U | U | | U | U | 0.3 J | U | U | U | U | U |
| chloroform | 5.3 | 0.53 | U | 4.7 | U | U | U | U | 0.39 J | U | U | U | U | U |
| chloromethane | 3,900 | 390 | U | U | 1.2 | 1.1 | 1.2 | 1 | 1.9 | 1.6 | 1.5 | 1.1 | 0.97 J | 1 |
| cis-1,2-dichloroethene | NA | NA | U | U | U | U | U | U | U | U | 0.84 | U | U | U |
| cumene | 18,000 | 1,800 | NA | NA | U | U | U | U | U | U | U | U | U | U |
| cyclohexane | 260,000 | 26,000 | U | U | 0.34 JB | U | U | U | U | U | U | U | 0.41 JM | U |
| dibromochloromethane | 10 | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| ethylbenzene | 49 | 4.9 | U | 0.75 | 0.13 J | 0.22 J | U | 0.19 J | 0.13 J | U | 0.69 J | 0.21 J | 0.52 J | U |
| freon 11 (trichlorofluoromethane) | 31,000 | 3,100 | 1.7 | 1.3 | 1.4 | 1.3 | 1.4 | 1.3 | 1.2 | 1.4 | 1.5 | 1.2 | 1.2 | 0.99 J |
| freon 113 (freon TF) | 1,300,000 | 130,000 | U | U | 0.54 J | 0.58 J | 0.65 J | 0.59 J | 0.56 J | 0.63 J | 0.69 J | 0.45 J | 0.47 J | U |
| freon 114 (1,2-dichlorotetrafluoroethane) | NA | NA | U | U | U | U | U | U | U | U | U | U | 5.7 | U |
| freon 12 (dichlorodifluoromethane) | 4,400 | 440 | 2.8 | 2.3 | 2.8 | 2.3 J | 2.6 | 2.3 J | 2..5 | 3.0 | 2.6 | 2.6 | 3.4 | 1.7 J |
| freon 22 | 2,200,000 | 220,000 | NA | NA | U | U | 1 J | 1.0 J | U | 1.1 J | 1.1 J | 0.84 J | 1.4 J | 0.74 J |
| heptane | NA | NA | U | 0.71 | 0.37 JB | 0.70 J | U | U | U | U | U | U | 0.43 JM | 0.24 JM |
| hexane | 31,000 | 3,100 | U | 2.3 | 2.0 B | 0.75 | U | U | 0.28 J | U | 0.29 J | 2.2 | 0.99 | 0.47 J |
| isopropyl alcohol | NA | NA | 24 | U | U | 0.84 J | U | U | U | U | 2.1 J | U | U | U |
| m,p-xylene (sum of isomers) | 4,400 | 440 | 1.0 J | 2.4 | 0.29 J | 0.65 J | U | 0.66 J | 0.33 J | U | 2.1 J | 0.53 J | 2.2 | U |
| methyl butyl ketone | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| methyl ethyl ketone | 220,000 | 22,000 | 3.2 | U | 0.30 J | 2.3 B | 1.1 J | 1.7 | 1.1 J | 1.0 J | 3.9 | U | 1.2 J | 0.95 J |
| methyl isobutyl ketone | 130,000 | 13,000 | U | U | U | 0.38 J | U | 0.37 J | U | U | 0.37 J | U | 2.3 | U |
| methyl tert-butyl ether | 31,000 | 3,100 | U | U | U | U | U | U | U | U | U | U | U | U |
| methylene chloride | 12,000 | 1,200 | 0.85 | U | U | 0.51 J | U | U | 0.63 J | 0.69 J | U | 0.88 J | 1.4 J | 0.73 J |
| naphthalene | 3.6 | 0.36 | U | U | U | U | U | U | U | U | U | U | 0.22 J | U |
| n-Butane | NA | NA | NA | NA | 2.0 | 2.5 | 1.3 | 0.70 J | 1.1 J | 1.4 | U | 5.9 | 7.4 | 1.1 J |
| n-Propylbenzene | NA | NA | NA | NA | U | U | U | U | U | U | U | U | 0.37 J | U |
| o-xylene | 4,400 | 440 | U | 0.75 | 0.11 J | 0.22 J | U | 0.25 JM | 0.14 J | U | 0.40 J | 0.2 J | 1.2 | U |
| styrene | 44,000 | 4,400 | U | U | U | U | U | U | U | U | U | U | 0.069 J | U |
| tert-Butyl alcohol | NA | NA | NA | NA | U | U | U | U | U | U | U | U | U | U |
| tetrachloroethylene (pce) | 470 | 47 | U | 21 | U | U | U | U | U | U | U | U | U | U |
| tetrahydrofuran | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| toluene | 220,000 | 22,000 | 4.2 | 4.0 | 1.4 B | 1.3 | U | 0.84 | 0.75 | 0.33 J | 1.3 | 0.97 | 0.89 | 3 |
| trichloroethylene (tce) | 30 | 3 | 1.1 | U | U | U | U | U | U | U | 0.88 J | U | U | U |
| vinyl chloride | 28 | 2.8 | U | U | U | U | U | U | U | U | U | U | U | U |

Notes:
U - Not detected.
J- The analyte was positively identified; the quantitation is an estimation.
D - The reported value is from a dilution
M - Lab qualifier for manual integrated compound
NA- Not Available
µg/m³: microgram per cubic meter.
Exceedance of EPA Commercial Regional Screening Levels.
B - Analytes detected in the trip blank.
♦-Denotes higher nominal value of duplicate sample result.
* EPA Commercial Regional Screening Levels (http://www.epa.gov/reg3hscd/risk/human/rb-concent

## Table 3-4
## Buildings 785/786 SSVM System Performance Monitoring
## Sub-Slab Vapor, Indoor and Outdoor Air Results

| Sample Location | | | 785/786-OA | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | Sub-slab Vapor Screening Level* (µg/m³) | Indoor Air Screening Level* (µg/m³) | 785OA01 | 785786OA02 | 785786OA03 | 785786OA04 | 785786OA05 | 785786OA06 | 785786OA07 | 785786OA08 | 785786OA09 | 785786OA10 | 785786OA11 | 785786OA1QA |
| Sample Type | | | Outdoor | Outdoor | Outdoor | Outdoor | Outdoor | Outdoor | Outdoor | Outdoor | Outdoor | Outdoor | Outdoor | Outdoor |
| Sample Date | | | 24-Aug-2011 | 24-Oct-2011 | 27-Jan-2012 | 8-Aug-2012 | 6-Mar-2013 | 9-Aug-2013 | 3-Oct-2013 | 28-Jan-2014 | 17-Jul-2014 | 26-Jan-2015 | 1-Sep-2015 | 1-Feb-2016 |
| Sample Depth (ft bgs / ags) | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Sample Collection Duration (hr) | | | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 8 |
| Volatiles (TO-15) in µg/m³ | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 220,000 | 22,000 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,2,4-trimethylbenzene | 310 | 31 | 1.3 | 2.6 | U | 0.73 J | U | U | U | U | 0.073 J | U | 0.091 J | U |
| 1,2-dichloroethane | 4.7 | 0.47 | U | U | U | 2.6 | U | U | U | U | U | U | U | U |
| 1,3,5-trimethylbenzene | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,3-butadiene | 4.1 | 0.41 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,3-dichlorobenzene | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,4-dichlorobenzene | 23,360 | 2,336 | U | U | U | U | U | U | U | U | U | | U | U |
| 1,4-dioxane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 2,2,4-trimethylpentane | NA | NA | U | 0.76 | 0.34 J | 0.56 J | U | 0.23 J | U | U | U | U | U | U |
| 4-ethyltoluene | NA | NA | U | 0.65 J | U | U | U | U | U | U | U | U | U | U |
| 4-isopropyltoluene | NA | NA | NA | NA | U | U | U | U | U | U | U | U | U | U |
| acetone | 1,400,000 | 140,000 | 39 | 12 | 19 | 150 | 4 J | 22 | 8.5 J | 3.3 J | 6.2 J | U | 12 J | 4 J |
| benzene | 16 | 1.6 | 0.39 J | 1.8 | 0.56 J | 0.80 J | 0.78 | 0.32 J | U | 0.53 J | 0.14 J | 0.5 J | 0.3 J | 0.37 JM |
| bromodichloromethane | 3.3 | 0.33 | U | U | U | U | U | U | U | U | U | U | U | U |
| carbon disulfide | 31,000 | 3,100 | U | U | U | 0.78 J | U | 0.57 J | U | U | 0.59 J | U | 0.8 J | 2.8 |
| carbon tetrachloride | 20 | 2 | U | U | 0.52 J | U | 0.54 J | 0.47 J | 0.4 J | 0.56 J | 0.30 J | 0.5 J | 0.45 J | 0.41 J |
| chlorobenzene | 2,200 | 220 | U | U | U | U | U | U | U | U | U | U | U | U |
| chloroethane | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| chloroform | 5.3 | 0.53 | U | U | U | U | U | U | U | U | U | U | U | U |
| chloromethane | 3,900 | 390 | U | U | 1.2 | 1.2 J | 1.4 | 1.0 J | 1.1 J | 1.7 | 1.2 | 1.3 | 0.93 J | 1.1 |
| cis-1,2-dichloroethene | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| cumene | 18,000 | 1,800 | NA | NA | U | U | U | U | U | U | U | U | U | U |
| cyclohexane | 260,000 | 26,000 | 0.77 | U | U | U | U | U | U | U | U | U | U | U |
| dibromochloromethane | 10 | NA | U | U | U | U | U | U | U | U | U | 2.8 | U | U |
| ethylbenzene | 49 | 4.9 | U | 1.3 | U | 1.4 J | U | 0.13 J | U | U | U | U | 0.099 J | U |
| freon 11 (trichlorofluoromethane) | 31,000 | 3,100 | 1.7 | 1.4 | 1.4 | 1.4 J | 1.4 | 1.2 | 1.2 | 1.5 | 1.2 | 1.3 | 1.2 | 1.1 J |
| freon 113 (freon TF) | 1,300,000 | 130,000 | U | U | 0.59 J | 0.70 J | U | 0.55 J | 0.54 J | 0.70 J | 0.54 J | 0.49 J | 0.49 J | U |
| freon 114 (1,2-dichlorotetrafluoroethane) | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| freon 12 (dichlorodifluoromethane) | 4,400 | 440 | 2.9 | 2.2 | 2.8 | 3.2 J | 2.7 | 2.1 J | 2.3 J | 3.3 | 2.5 | U | 2.3 J | 1.6 J |
| freon 22 | 2,200,000 | 220,000 | NA | NA | U | U | 0.92 J | 0.99 J | U | 1.3 J | 0.84 J | 0.93 J | 0.96 J | 0.72 J |
| heptane | NA | NA | U | 1.2 | 0.55 JB | 2.7 | U | 0.14 J | 0.89 J | U | U | U | U | 0.23 J |
| hexane | 31,000 | 3,100 | U | 3.8 | 2.2 B | 4.4 | U | 0.25 J | 0.19 J | 0.22 J | U | U | U | 0.2 J |
| isopropyl alcohol | NA | NA | 15 | 2.2 | 1.3 J | 11 J | U | 1.6 J | U | U | 1.1 J | U | U | U |
| m,p-xylene (sum of isomers) | 4,400 | 440 | 0.75 J | 4.3 | 0.30 J | 3.8 J | U | 0.37 J | U | U | 0.14 J | U | 0.33 J | U |
| methyl butyl ketone | NA | NA | U | U | U | 1.1 J | U | 0.37 J | 2.2 | U | U | U | U | U |
| methyl ethyl ketone | 220,000 | 22,000 | 3.4 | U | 0.92 J | 8.6 B | U | 3.3 | U | U | 1.3 J | U | 1.7 | 0.69 J |
| methyl isobutyl ketone | 130,000 | 13,000 | U | U | U | U | U | 0.17 J | 0.28 J | U | U | U | U | U |
| methyl tert-butyl ether | 31,000 | 3,100 | U | U | U | U | U | U | U | U | U | U | U | U |
| methylene chloride | 12,000 | 1,200 | 1.1 | 1.3 | 0.53 J | 2.4 J | U | 6.5 | 0.58 J | 1.0 J | 0.68 J | U | 1.4 J | 0.65 J |
| naphthalene | 3.6 | 0.36 | U | U | U | 1.1 J | U | U | U | U | U | U | U | U |
| n-Butane | NA | NA | NA | NA | 1.9 | 30 | 1.4 | 0.54 J | 0.95 J | 1.5 | U | 1.3 | 0.75 J | 0.94 J |
| n-Propylbenzene | NA | NA | NA | NA | U | U | U | U | U | U | U | U | U | U |
| o-xylene | 4,400 | 440 | U | 1.3 | U | 1.3 J | U | 0.12 J | U | U | U | U | 0.16 JM | U |
| styrene | 44,000 | 4,400 | U | U | U | 0.74 J | U | U | U | U | U | U | U | U |
| tert-Butyl alcohol | NA | NA | NA | NA | U | 1.8 J | U | 0.93 J | U | U | U | U | U | U |
| tetrachloroethylene (pce) | 470 | 47 | U | U | U | 1.7 J | U | U | U | U | U | U | U | U |
| tetrahydrofuran | NA | NA | U | U | U | 5.9 J | U | U | U | U | U | U | U | U |
| toluene | 220,000 | 22,000 | 2.3 | 7.2 | 0.57 JB | 17 | 0.55 J | 0.74 | 0.57 J | 0.34 J | 0.58 J | 0.28 J | 0.62 J | 1.5 |
| trichloroethylene (tce) | 30 | 3 | 0.82 | 0.82 | U | U | U | U | U | U | U | U | U | U |
| vinyl chloride | 28 | 2.8 | U | U | U | U | U | U | U | U | U | U | U | U |

Notes:
U - Not detected.
J- The analyte was positively identified; the quantitation is an estimation.
D - The reported value is from a dilution
M - Lab qualifier for manual integrated compound
NA- Not Available
µg/m³: microgram per cubic meter.
Exceedance of EPA Commercial Regional Screening Levels.
B - Analytes detected in the trip blank.
♦-Denotes higher nominal value of duplicate sample result.
* EPA Commercial Regional Screening Levels (http://www.epa.gov/reg3hscd/risk/human/rb-concent

**Table 3-4**
**Buildings 785/786 SSVM System Performance Monitoring**
**Sub-Slab Vapor, Indoor and Outdoor Air Results**

| Sample Location | | | 786VMP-1 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | Sub-slab Vapor Screening Level* (µg/m³) | Indoor Air Screening Level* (µg/m³) | 786VMP0102AA | 786VMP0102AB | 786VMP0102AC | 786VMP0102AD | 786VMP0102AG | 786VMP0102HA | 786VMP0102IA | 786VMP0102JA | 786VMP0102KA | 786VMP0102LA | 786VMP0102NA | 786VMP0102PA | 786VMP0102QA |
| Sample Type | | | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab |
| Sample Date | | | 18-Jan-2011 | 24-Aug-2011 | 24-Oct-2011 | 27-Jan-2012 | 8-Aug-2012 | 6-Mar-2013 | 9-Aug-2013 | 3-Oct-2013 | 26-Feb-2014 | 18-Jul-2014 | 26-Jan-2015 | 1-Sep-2015 | 2-Feb-2016 |
| Sample Depth (ft bgs / ags) | | | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| Sample Collection Duration (hr) | | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| **Volatiles (TO-15) in µg/m³** | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 220,000 | 22,000 | 12 | U | U | U | U | U | U | 0.53 J | U | U | U | U | U |
| 1,1-dichloroethane | 77 | 7.7 | U | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,2,4-trichlorobenzene | 88 | 9 | U | U | U | U | U | U | U | U | U | 0.59 J | U | U | 0.65 J |
| 1,2,4-trimethylbenzene | 310 | 31 | 7.5 | 6.9 | 1.2 | U | 0.38 J | 1.0 | 1.7 | 1.3 | 0.31 J | 4.2 | 0.48 J | 1.7 | U |
| 1,2-dichloroethane | 4.7 | 0.47 | U | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,3,5-trimethylbenzene | NA | NA | 5.2 | 1.9 | U | U | U | 0.33 J | 0.46 J | 0.38 J | U | 1.3 J | U | 0.5 J | U |
| 1,3-dichlorobenzene | NA | NA | U | U | U | U | U | 17 J | 2.3 | U | 1.8 J | 16 | U | 1.8 | U |
| 1,4-dichlorobenzene | 11 | 1.1 | U | U | U | U | U | U | U | U | U | U | U | 0.16 J | U |
| 2-chlorotoluene | NA | NA | NA | NA | NA | U | U | U | U | U | U | 0.30 J | U | U | U |
| 2,2,4-trimethylpentane | NA | NA | 19 | 0.95 | 3.8 | 1.9 | U | 7 J | 1.3 | U | U | 1.2 J | U | U | U |
| 4-ethyltoluene | NA | NA | 3.2 | 2.7 | 0.65 J | U | U | 0.29 J | 0.54 J | 0.23 J | U | 1.4 J | U | 0.59 J | U |
| 4-isopropyltoluene | NA | NA | NA | NA | NA | U | U | U | U | U | U | U | U | 0.27 J | U |
| acetone | 1,400,000 | 140,000 | 31 | 20 | U | 3.3 J | 7.8 JB | 12 J | 7.8 J | 9.2 J | U | 26 | 3.7 J | 15 | 3.6 J |
| benzene | 16 | 1.6 | 19 | 3.1 | 9.1 | U | U | U | 0.66 | 0.47 J | 0.71 J | 1.4 | 0.43 J | 0.31 J | 0.3 J |
| bromodichloromethane | 3.3 | 0.33 | 4.0 | U | U | U | U | U | U | U | U | U | U | U | U |
| bromomethane | 220 | 22 | U | U | U | U | U | U | U | U | U | U | U | U | U |
| carbon disulfide | 31,000 | 3,100 | 15 | 0.63 | U | U | 0.65 J | U | 0.56 J | 2.6 | U | 8.2 | U | 0.69 JM | 1 J |
| carbon tetrachloride | 20 | 2 | U | U | 0.70 J | 0.43 J | 0.52 J | 0.41 J♦ | 0.35 JM | 0.37 J♦ | U | 0.53 J | U | 0.78 J | 0.2 J |
| chlorobenzene | 2,200 | 220 | U | U | U | U | U | U | U | U | U | 0.90 J | U | U | U |
| chloroform | 5.3 | 0.53 | 30 | 0.84 | U | U | 0.43 J | U | U | 1.1 | U | 2.6 | U | 1.1 | U |
| chloromethane | 3,900 | 390 | U | U | U | U | 0.24 J | 0.2 J | 0.18 J | 0.27 J | U | U | U | 0.31 J | 0.22 J |
| cis-1,2-dichloroethene | NA | NA | 9.7 | U | U | U | U | U | U | U | U | U | U | U | U |
| cumene | 18,000 | 1,800 | NA | NA | NA | U | U | U | U | U | U | 0.67 J | U | 0.45 J | U |
| cyclohexane | 260,000 | 26,000 | U | 2.5 | 5.7 | 2.8 | U | 8.7 J | U | 0.25 J | U | 2.7 | U | U | 0.14 J |
| ethyl acetate | 3,100 | 310 | U | U | U | U | U | U | NA | U | U | U | U | U | U |
| ethylbenzene | 49 | 4.9 | 6.6 | 4.6 | 3.1 | U | 0.34 J | 0.89 | 1 | 2 | 0.40 J | 4.6 | 0.24 J | 4.5 | U |
| freon 11 (trichlorofluoromethane) | 31,000 | 3,100 | 3.0 | 1.8 | 2.6 | 1.3 | 1.3 | 1.3 | 1.1 | 1.3 | U | 1.6 J | U | 2.1 | 0.89 J |
| freon 113 (freon TF) | 1,300,000 | 130,000 | U | 0.86 J | 0.78 J | 0.64 J | 0.62 J | 0.64 J | 0.52 J | 0.61 J | U | 0.84 J | 0.38 J | 0.99 J | U |
| freon 12 (dichlorodifluoromethane) | 4,400 | 440 | 3.8 | 2.9 | U | 2.7 | 2.4 J | 2.6 ♦ | 2.2 J♦ | 2.3 J | 2.0 J | 2.9 J | 2.4 J | 4 | 1.5 J |
| freon 22 | 2,200,000 | 220,000 | NA | NA | NA | U | 0.86 J | 0.89 J♦ | 0.79 J♦ | 0.79 J | U | 0.92 J | 0.68 J | 1.4 J | 1 J |
| heptane | NA | NA | 25 | 3.4 | 8.1 | 4.1 | U | 3.9 J | 0.39 J♦ | 0.37 J | U | 1.0 J | U | U | U |
| hexane | 31,000 | 3,100 | 52 | 4.9 | 16 | 10 | U | 13 J | 0.22 J♦ | 2.5 | 0.81 J | 1.5 | U | U | 1.7 |
| isopropyl alcohol | NA | NA | U | 14 | U | 1.1 J | 0.87 J | 98 J | 6.6 J | 14 | 120 | 68 | 2.2 J | 4.5 J | U |
| m,p-xylene (sum of isomers) | 4,400 | 440 | 17 | 19 | 11 | 0.32 J | 1.0 J | 3.4 | 3.6 | 5.6 | 1.2 J | 13 | 0.69 J | 5 | 0.36 J |
| methyl butyl ketone | NA | NA | U | U | U | U | U | U | 0.31 J♦ | 0.34 J | U | U | U | U | U |
| methyl ethyl ketone | 220,000 | 22,000 | U | 2.3 | U | 0.55 J | 1.3 JB | 4.1 J | 1.4 J♦ | 3.6 | U | 11 | U | 2.3 | 1.1 J |
| methyl isobutyl ketone | 130,000 | 13,000 | U | U | U | 3.5 | U | U | U | 1.2 J | U | 1.4 J | U | 0.88 J | U |
| methyl methacrylate | NA | NA | NA | NA | NA | U | U | U | U | U | U | 2.8 J | U | U | U |
| methyl tert-butyl ether | 31,000 | 3,100 | U | U | U | U | U | U | U | U | U | 1.3 J | U | U | U |
| methylene chloride | 12,000 | 1,200 | 3.8 | U | U | U | 0.44 J | 0.55 J | 0.40 J♦ | 0.84 J | U | U | U | 0.97 JM | 0.66 J |
| naphthalene | 3.6 | 0.36 | U | U | U | U | U | U | 0.98 J | 0.85 J | U | U | U | 0.99 J | 0.58 J |
| n-Butane | NA | NA | NA | NA | NA | U | 0.43 J | 1.2 J♦ | U | 0.44 J | 5.0 | 2.9 | U | 4.3 | 12 |
| n-Propylbenzene | 44,000 | 4,400 | NA | NA | NA | U | U | U | U | U | U | 1.0 J | U | 0.46 J | U |
| o-xylene | 4,400 | 440 | 7.5 | 4.9 | 2.0 | 0.11 J | 0.39 J | 1.3 | 1.4 | 1.6 | 1.7 J | 4.3 | 0.14 J | 2.0 | 0.38 J |
| styrene | 44,000 | 4,400 | U | U | U | U | 0.20 J | 0.2 J | 0.37 J♦ | 0.43 J | U | 2.5 | U | 0.45 J | U |
| tert-Butyl alcohol | NA | NA | NA | NA | NA | U | U | U | 0.69 J♦ | 1.8 J | U | 16 J | U | 4.1 J | U |
| tetrachloroethylene (pce) | 470 | 47 | 140 | 3.7 | 2.0 | 2.4 | 1.5 | 0.5 J | 0.71 J♦ | 3.3 | U | 8.3 | U | 6.4 | 0.83 J |
| tetrahydrofuran | NA | NA | U | U | U | U | 0.43 J | U | U | 2.5 J | U | 7.5 J | U | U | U |
| toluene | 220,000 | 22,000 | 35 | 15 | 29 | 0.61 J | 1.5 | 3.7 J | 3 | 4.2 | 3.0 | 14 | 0.85 | 2.5 | U |
| trichloroethylene (tce) | 30 | 3 | 4,900 | 84 | 49 | 13 | 24 | 9.1 J♦ | 16♦ | 140♦ | 26 | 270 | U | 160 | 41 |
| vinyl chloride | 28 | 2.8 | U | U | U | U | U | U | U | U | U | U | U | U | U |

Notes:
U - Not detected.
J- The analyte was positively identified; the quantitation is an estimation.
M - Lab qualifier for manual integrated compound
NA- Not Available
µg/m³: microgram per cubic meter.
Exceedance of EPA Commercial Regional Screening Levels.
B - Analytes detected in the trip blank.
♦-Denotes higher nominal value of duplicate sample result.
*EPA Commercial Regional Screening Levels

**Table 3-4**
**Buildings 785/786 SSVM System Performance Monitoring**
**Sub-Slab Vapor, Indoor and Outdoor Air Results**

| Sample Location | Sub-slab Vapor Screening Level* (µg/m³) | Indoor Air Screening Level* (µg/m³) | 786VMP-2 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | | | 786VMP0202AA | 786VMP0202AB | 786VMP0202AC | 786VMP0202AE | 786VMP0202AG | 786VMP0202HA | 786VMP0202IA | 786VMP0202JA | 786VMP0202KA | 786VMP0202LA | 786VMP0202NA | 786VMP0202PA | 786VMP0202QA |
| Sample Type | | | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab |
| Sample Date | | | 18-Jan-2011 | 24-Aug-2011 | 24-Oct-2011 | 7-Feb-2012 | 8-Aug-2012 | 6-Mar-2013 | 9-Aug-2013 | 3-Oct-2013 | 29-Jan-2014 | 18-Jul-2014 | 26-Jan-2015 | 1-Sep-2015 | 2-Feb-2016 |
| Sample Depth (ft bgs / ags) | | | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| Sample Collection Duration (hr) | | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| **Volatiles (TO-15) in µg/m³** | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 220,000 | 22,000 | 15 | 4.2 | 3.7 | 0.78 J | 2.1 | U | 3.7 | 6.8 | 1.5 | 14 | 0.55 J | 4.7 | U |
| 1,1-dichloroethane | 77 | 7.7 | U | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,2,4-trichlorobenzene | 88 | 9 | U | U | U | U | U | U | U | 0.75 J | U | U | U | U | U |
| 1,2,4-trimethylbenzene | 310 | 31 | 4.5 | 7.5 | 1.6 | 0.62 J | 1.2 | 1.4 | 1.5 | U | 0.49 J | U | 0.16 J♦ | 2.4 ♦ | U |
| 1,2-dichloroethane | 4.7 | 0.47 | U | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,3,5-trimethylbenzene | NA | NA | 1.7 | 3.1 | 0.55 J | 0.26 J | 0.33 J | 0.44 J | 0.41 J | 0.25 J | U | U | U | 0.63 J♦ | U |
| 1,3-dichlorobenzene | NA | NA | U | U | U | U | U | 28 | 1.9 | 0.28 J | 4.9 | U | U | 1.3 ♦ | U |
| 1,4-dichlorobenzene | 11 | 1.1 | U | U | U | U | U | U | U | U | U | U | U | 0.12 J♦ | U |
| 2-chlorotoluene | NA | NA | NA | NA | NA | U | U | U | U | U | U | U | U | U | U |
| 2,2,4-trimethylpentane | NA | NA | 1.8 | U | 1.3 | U | U | 6.8 | 0.61 J | U | U | U | U | 0.14 J | U |
| 4-ethyltoluene | NA | NA | 0.95 | 2 | 0.55 J | 0.29 J | 0.36 J | 0.37 J | 0.46 J | U | U | U | U | 0.72 J♦ | U |
| 4-isopropyltoluene | NA | NA | NA | NA | NA | U | U | U | U | U | U | U | U | 0.82 J♦ | U |
| acetone | 1,400,000 | 140,000 | 49 | 25 | U | 1.9 J | 26 B | 25 | 4.8 J | 15 | 31 J♦ | U | 5.5 J | 12 ♦ | 3.4 J |
| benzene | 16 | 1.6 | 4.6 | 0.32 J | 2.2 | U | 0.19 J | 0.66 | 0.44 J | 0.42 J | 0.66 ♦ | 0.49 J | 0.63 | 0.27 J | U |
| bromodichloromethane | 3.3 | 0.33 | 7.4 | 3.2 | 1.7 | 0.32 J | 1.3 J | U | 0.70 J | 0.96 J | U | 2.1 J | U | 0.86 J | U |
| bromomethane | 220 | 22 | U | U | U | U | U | U | U | U | U | U | U | U | U |
| carbon disulfide | 31,000 | 3,100 | 5.3 | 1.4 | 0.41 J | U | 0.64 J | U | 0.62 J | 0.45 J | U | 1.1 J | U | 26 ♦ | 0.14 J |
| carbon tetrachloride | 20 | 2 | U | U | U | 0.44 J | 0.53 J | 0.41 J | 0.47 J | 0.34 J | U | U | 0.32 J | 0.57 J | U |
| chlorobenzene | 2,200 | 220 | U | U | U | U | U | U | U | U | U | U | U | U | U |
| chloroform | 5.3 | 0.53 | 620 | 100 | 72 | 12 | 31 | 2.4 | 55 | 58 | 11 | 160 | 3.8 | 31 | 3.1 |
| chloromethane | 3,900 | 390 | U | U | U | U | 0.27 J | U | 0.28 J | 0.19 J | U | U | U | 2.9 ♦ | 0.37 J |
| cis-1,2-dichloroethene | NA | NA | 1.4 | U | U | U | U | U | 0.34 J | 0.32 J | U | 0.90 J | U | 0.35 J | U |
| cumene | 18,000 | 1,800 | NA | NA | NA | U | U | U | U | U | U | U | U | 0.5 J♦ | U |
| cyclohexane | 260,000 | 26,000 | U | U | U | U | 0.38 J | 9.1 | U | U | 3.4 J♦ | U | U | U | U |
| ethyl acetate | 3,100 | 310 | U | 1.1 | U | U | U | U | NA | U | U | U | U | U | U |
| ethylbenzene | 49 | 4.9 | 1.5 | 8.8 | 2.7 | 1.4 | 1.9 | 1.6 | 0.77 J | 0.64 J | 0.56 J | U | 0.16 J♦ | 4.2 ♦ | U |
| freon 11 (trichlorofluoromethane) | 31,000 | 3,100 | 2.7 | 1.7 | 1.4 | 1.3 | 1.4 | 1.4 | 1.2 | 1.3 | 0.91 J♦ | 1.9 J | U | 1.6 | 0.65 J |
| freon 113 (freon TF) | 1,300,000 | 130,000 | 3.7 | 1.1 J | 1.1 J | 0.55 J | 0.78 J | 0.75 J | 0.78 J | 1.5 | 1.2 J♦ | 2.3 J | 0.68 J | 1.2 J | U |
| freon 12 (dichlorodifluoromethane) | 4,400 | 440 | 3.5 | 2.8 | 2.3 | 2.5 | 2.4 J | 2.7 | 1.9 J | 2.4 J | 3.0 ♦ | 3.0 J | 3.1 | 2.5 | 1.7 J |
| freon 22 | 2,200,000 | 220,000 | NA | NA | NA | U | 1.2 J | 0.98 J | 0.73 J | 0.82 J | U | 1.0 J | 1 J | 0.84 J♦ | 0.73 J |
| heptane | NA | NA | 5.8 | U | 1.7 | U | 0.38 J | 3.7 | U | U | 0.85 ♦ | U | 0.23 J | 0.26 J♦ | U |
| hexane | 31,000 | 3,100 | U | U | U | 0.22 J | 0.76 | 15 | 0.19 JM | 2.5 | 1.1 J♦ | U | U | 0.31 J♦ | U |
| isopropyl alcohol | NA | NA | U | U | U | 1.4 J | 1.5 J | 170 | 3.1 J | 1 J | 24 | U | 1.4 J | 3.7 J♦ | U |
| m,p-xylene (sum of isomers) | 4,400 | 440 | 4.8 | 32 | 9.9 | 4.6 | 7.2 | 6.3 | 2.8 | 1.5 J | 1.5 J | U | 0.39 J♦ | 4.9 ♦ | U |
| methyl butyl ketone | NA | NA | 9.2 | 8.7 J | U | U | 0.84 J | U | U | 0.58 J | U | U | U | U | U |
| methyl ethyl ketone | 220,000 | 22,000 | 15 | U | U | U | 4.8 B | 7 | 1.4 J | 3.2 | 3.1 ♦ | U | 1.4 J | 3.1 ♦ | U |
| methyl isobutyl ketone | 130,000 | 13,000 | 6.7 | U | U | 1.0 J | 0.74 J | U | U | 0.78 J | U | U | U | 0.72 J♦ | U |
| methyl methacrylate | NA | NA | NA | NA | NA | U | U | U | U | U | U | U | U | U | U |
| methyl tert-butyl ether | 31,000 | 3,100 | U | U | U | U | U | U | U | U | U | U | U | U | U |
| methylene chloride | 12,000 | 1,200 | 1.4 | 23 | 2.5 | 15 | 2.8 | 0.83 J | 2.3 | 1.3 J | 1.0 J♦ | U | 0.65 J♦ | 0.41 J♦ | U |
| naphthalene | 3.6 | 0.36 | U | U | U | U | 0.53 J | U | 0.77 J | 0.52 J | U | U | U | 0.87 J♦ | U |
| n-Butane | NA | NA | NA | NA | NA | 0.67 J | 2.1 | 1.3 | 0.37 J | 0.26 J | 0.85 J♦ | U | 1.1 J | 0.86 J♦ | U |
| n-Propylbenzene | 44,000 | 4,400 | NA | NA | NA | U | U | U | U | U | U | U | U | 0.53 J♦ | U |
| o-xylene | 4,400 | 440 | 2.2 | 6.6 | 2.1 | 1.1 | 1.6 | 2.2 | 1 | 0.53 J | 0.61 J | U | 0.18 J♦ | 2.1 ♦ | U |
| styrene | 44,000 | 4,400 | U | 2.2 | U | U | 0.25 J | U | U | 0.22 J | 0.29 J | U | U | 0.39 J♦ | U |
| tert-Butyl alcohol | NA | NA | NA | NA | NA | U | 1.1 J | U | U | 3.3 J | 4.2 J♦ | U | U | 2.1 J♦ | U |
| tetrachloroethylene (pce) | 470 | 47 | 11 | 0.83 J | 2.9 | U | 0.82 J | U | 0.93 J | 0.54 J | U | 1.6 J | U | 3 | U |
| tetrahydrofuran | NA | NA | 16 | U | U | U | 0.67 J | U | U | 0.42 J | U | 1.3 J | 1.3 J | 18 ♦ | U |
| toluene | 220,000 | 22,000 | 6.7 | 16 | 11 | 2.2 B | 4.4 | 5.2 | 2.1 | 2 | 4.3 ♦ | 0.59 J | 0.9 | 1.9 ♦ | U |
| trichloroethylene (tce) | 30 | 3 | 740 | 260 | 140 | 22 | 110 | 6.3 | 150 | 120 | 6.3 | 410 | 6.3 | 130 | 0.41 J |
| vinyl chloride | 28 | 2.8 | U | U | U | U | U | U | U | U | U | U | U | U | U |

Notes:
U - Not detected.
J- The analyte was positively identified; the quantitation is an estimation.
M - Lab qualifier for manual integrated compound
NA- Not Available
µg/m³: microgram per cubic meter.
Exceedance of EPA Commercial Regional Screening Levels.
B - Analytes detected in the trip blank.
♦-Denotes higher nominal value of duplicate sample result.
*EPA Commercial Regional Screening Levels

**Table 3-4**
**Buildings 785/786 SSVM System Performance Monitoring**
**Sub-Slab Vapor, Indoor and Outdoor Air Results**

| Sample Location | Sub-slab Vapor Screening Level* (µg/m³) | Indoor Air Screening Level* (µg/m³) | 786VMP-3 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | | | 786VMP0302AA | 786VMP0302AB | 786VMP0302AC | 786VMP0302AD | 786VMP0302AG | 786VMP0302HA | 786VMP0302IA | 786VMP0302JA | 786VMP0302KA | 786VMP0302LA | 786VMP0302NA | 786VMP0302PA | 786VMP0302QA |
| Sample Type | | | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab | sub-slab |
| Sample Date | | | 18-Jan-2011 | 24-Aug-2011 | 24-Oct-2011 | 27-Jan-2012 | 8-Aug-2012 | 6-Mar-2013 | 9-Aug-2013 | 3-Oct-2013 | 29-Jan-2014 | 18-Jul-2014 | 26-Jan-2015 | 1-Sep-2015 | 2-Feb-2016 |
| Sample Depth (ft bgs / ags) | | | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| Sample Collection Duration (hr) | | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| **Volatiles (TO-15) in µg/m³** | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 220,000 | 22,000 | 16 | U | U | U | U | U | U | 0.6 J | U | 1.9 | U | U | U |
| 1,1-dichloroethane | 77 | 7.7 | 1.4 | U | U | U | U | U | U | U | U | 0.57 J | U | U | U |
| 1,2,4-trichlorobenzene | 88 | 9 | U | U | U | U | 0.62 J | U | U | 0.39 J | U | U | U | U | U |
| 1,2,4-trimethylbenzene | 310 | 31 | 13 | 2.4 | 0.8 | 0.33 J | U | U | U | 0.96 | 0.30 J | 6.2 | 0.38 J | U | U |
| 1,2-dichloroethane | 4.7 | 0.47 | U | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,3,5-trimethylbenzene | NA | NA | 9.9 | 0.65 J | U | U | U | U | U | 0.3 J | U | 1.6 | U | U | U |
| 1,3-dichlorobenzene | NA | NA | U | U | U | U | U | U | U | 0.41 J | U | 18 | U | U | U |
| 1,4-dichlorobenzene | 11 | 1.1 | U | U | U | U | U | U | U | U | U | 1.4 | U | U | U |
| 2-chlorotoluene | NA | NA | NA | NA | NA | U | U | U | U | U | U | 0.42 J | U | U | U |
| 2,2,4-trimethylpentane | NA | NA | U | U | 1.4 | 0.24 J | U | U | 1.9 | U | U | 2.3 | U | U | 0.32 J |
| 4-ethyltoluene | NA | NA | 8.1 | 0.60 J | U | U | U | U | U | 0.28 J | U | 2.1 | U | U | U |
| 4-isopropyltoluene | NA | NA | NA | NA | NA | U | U | U | U | 2.2 | U | 0.76 J | U | U | U |
| acetone | 1,400,000 | 140,000 | 50 | 24 | 4.3 | 1.2 J | 94 | 17 | 5.5 J | 9.3 J | 31 J | 44 | 7.8 J | 50 | 13 |
| benzene | 16 | 1.6 | 4.7 | 0.32 J | 4.2 | 0.25 J | 1.0 | 0.7 | U | 0.46 J | 0.82 | 3.5 | 0.7 | 2.8 | 0.77 |
| bromodichloromethane | 3.3 | 0.33 | 2.9 | U | U | U | U | U | U | U | U | U | U | U | U |
| bromomethane | 220 | 22 | U | U | U | U | U | U | U | U | U | U | U | U | U |
| carbon disulfide | 31,000 | 3,100 | 3.1 | 0.95 | U | U | 0.91 J | U | 0.38 J | 3.3 | 0.64 J | 15 | U | 2.1 | U |
| carbon tetrachloride | 20 | 2 | U | U | 0.64 J | 0.48 J | 0.55 J | U | 0.44 J | 0.31 JM | 0.28 J | 0.45 J | 0.49 J | 0.56 J | 0.39 J |
| chlorobenzene | 2,200 | 220 | U | U | U | U | U | U | U | U | U | 3.0 | U | U | U |
| chloroform | 5.3 | 0.53 | 47 | U | U | U | 0.33 J | U | U | 0.41 J | 0.21 J | 1.4 | U | U | U |
| chloromethane | 3,900 | 390 | U | U | U | U | U | 0.2 J | 0.14 J | 0.32 J | U | 0.47 J | U | U | U |
| cis-1,2-dichloroethene | NA | NA | 1.1 | U | U | U | U | U | U | U | U | U | U | U | U |
| cumene | 18,000 | 1,800 | NA | NA | NA | U | U | U | U | U | U | 1.1 | U | U | U |
| cyclohexane | 260,000 | 26,000 | U | U | U | U | U | 3.6 | U | U | U | 3.7 | U | U | 0.28 J |
| ethyl acetate | 3,100 | 310 | U | U | U | U | U | U | NA | U | U | U | U | U | U |
| ethylbenzene | 49 | 4.9 | 9.8 | 1.6 | 1.1 | 0.40 J | 0.34 J | U | U | 0.8 J | 0.31 J | 6.4 | U | 0.71 J | 0.15 J |
| freon 11 (trichlorofluoromethane) | 31,000 | 3,100 | 3.2 | 1.7 | 1.5 | 1.4 | 1.4 J | 1.4 | 1.2 | 1.2 | 1.1 | 2 | 1.4 | 1.4 | 1 J |
| freon 113 (freon TF) | 1,300,000 | 130,000 | 3.4 | 0.78 J | U | 0.54 J | 0.67 J | 0.6 J | 0.59 J | U | 0.69 J | 0.67 J | 0.65 J | 0.63 J | U |
| freon 12 (dichlorodifluoromethane) | 4,400 | 440 | U | 2.8 | 2.6 | 2.7 | 2.7 J | 2.6 | 2.1 J | 0.56 J | 3.1 | 3.5 | 3 | 2.6 | 1.9 J |
| freon 22 | 2,200,000 | 220,000 | NA | NA | NA | 0.97 J | 1.0 J | 0.98 J | U | 0.84 J | 0.86 J | 1.3 J | 1 J | 0.94 J | 0.81 J |
| heptane | NA | NA | 4.7 | 1.2 | 1.9 | 0.40 J | 0.83 J | U | 0.51 J | U | 7.5 | 2.2 | 0.67 J | 22 | 1.3 |
| hexane | 31,000 | 3,100 | U | U | 6.8 | 1.5 | U | 2.9 | U | 0.48 JM | 4.9 | 1.9 | 0.96 | 24 | 1.8 |
| isopropyl alcohol | NA | NA | U | 11 | U | U | 2.8 J | 34 | 2.3 J | 5.5 J | U | 73 | 3.4 J | 1.2 J | U |
| m,p-xylene (sum of isomers) | 4,400 | 440 | 16 | 5.3 | 3.4 | 1.4 J | 0.75 J | U | U | 1.7 J | 0.37 J | 17 | 0.42 J | 0.77 J | 0.36 J |
| methyl butyl ketone | NA | NA | 7.6 | U | U | U | 7.6 | U | U | U | U | U | U | 1.9 J | 0.42 J |
| methyl ethyl ketone | 220,000 | 22,000 | 19 | 6.3 J | U | U | 35 | 3.5 | 0.95 J | 3.6 | 7.4 | 11 | 2.1 | 25 | 4.3 |
| methyl isobutyl ketone | 130,000 | 13,000 | U | U | U | 4.0 | 1.3 J | U | U | 0.75 J | 1.4 J | 2.2 | U | 1.9 J | U |
| methyl methacrylate | NA | NA | NA | NA | NA | U | U | U | U | U | U | 3.3 | U | U | U |
| methyl tert-butyl ether | 31,000 | 3,100 | U | U | U | U | U | U | U | U | U | 1.7 | U | U | U |
| methylene chloride | 12,000 | 1,200 | U | U | U | 0.50 J | U | U | U | 1.4 J | 0.53 J | 1.3 J | 0.63 J | U | U |
| naphthalene | 3.6 | 0.36 | U | U | U | U | 0.87 J | U | U | 18.0 | U | U | U | 0.23 J | U |
| n-Butane | NA | NA | NA | NA | NA | U | U | U | U | 0.33 J | 2.4 | 0.97 J | 0.76 J | 33 | 3.2 |
| n-Propylbenzene | 44,000 | 4,400 | NA | NA | NA | U | U | U | U | U | U | 2.3 | U | U | U |
| o-xylene | 4,400 | 440 | 6.2 J | 1.5 | 0.84 | 0.38 J | 0.24 J | U | U | 0.62 J | 0.19 J | 5.2 | 0.11 J | 0.34 J | U |
| styrene | 44,000 | 4,400 | 4.8 | 0.95 | U | U | U | U | U | 0.27 J | U | 3.0 | U | 0.16 J | U |
| tert-Butyl alcohol | NA | NA | NA | NA | NA | 0.47 J | 150 | U | U | 2.2 J | U | 17 | U | 0.65 J | U |
| tetrachloroethylene (pce) | 470 | 47 | 85 | 2.6 | 1.5 | U | 4.6 | U | 4.2 | U | 0.77 J | 8.5 | U | 1.1 J | U |
| tetrahydrofuran | NA | NA | 36 | U | U | U | U | 11 J | U | 2 J | U | 12 J | 1.3 J | U | U |
| toluene | 220,000 | 22,000 | 16 | 5.2 | 7.7 | 0.62 J | 2.7 | 0.2 J | 0.70 J | 3.2 | 1.0 | 19 | 0.44 J | 2.6 | 0.86 |
| trichloroethylene (tce) | 30 | 3 | 2,200 | 51 | 23 | 1.9 | 36 | 1.8 | 6.5 | 58 | 11 | 200 | 0.24 J | 18 | 0.4 J |
| vinyl chloride | 28 | 2.8 | U | U | U | U | U | U | U | U | U | U | U | U | U |

Notes:
U - Not detected.
J- The analyte was positively identified; the quantitation is an estimation.
M - Lab qualifier for manual integrated compound
NA- Not Available
µg/m³: microgram per cubic meter.
Exceedance of EPA Commercial Regional Screening Levels.
B - Analytes detected in the trip blank.
♦-Denotes higher nominal value of duplicate sample result.
*EPA Commercial Regional Screening Levels

**Table 3-4**
**Buildings 785/786 SSVM System Performance Monitoring**
**Sub-Slab Vapor, Indoor and Outdoor Air Results**

| **Sample Location** | | | **786-IA** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample ID** | **Sub-slab Vapor Screening Level* (µg/m³)** | **Indoor Air Screening Level* (µg/m³)** | **786IA04** | **786IA05** | **786IA06** | **786IA07** | **786IA08** | **786IA09** | **786IA10** | **786IA11** | **786IA12** | **786IA13** | **786IA14** | **786IA1QA** |
| **Sample Type** | | | **Indoor** | **Indoor** | **Indoor** | **Indoor** | **Indoor** | **Indoor** | **Indoor** | **Indoor** | **Indoor** | **Indoor** | **Indoor** | **Indoor** |
| **Sample Date** | | | **24-Aug-2011** | **24-Oct-2011** | **27-Jan-2012** | **8-Aug-2012** | **6-Mar-13** | **9-Aug-13** | **3-Oct-13** | **28-Jan-14** | **17-Jul-14** | **26-Jan-15** | **1-Sep-15** | **2-Feb-16** |
| **Sample Depth (ft bgs / ags)** | | | **5** | **5** | **5** | **5** | **5** | **5** | **5** | **5** | **5** | **5** | **5** | **5** |
| **Sample Collection Duration (hr)** | | | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **8** |
| **Volatiles (TO-15) in µg/m³** | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 220,000 | 22,000 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,1-dichloroethane | 77 | 7.7 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,2,4-trichlorobenzene | 88 | 9 | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,2,4-trimethylbenzene | 310 | 31 | 5.1 | 1.9 | U | 0.59 J | U | U | 2.8 | U | 0.15 J | U | 0.63 J | U |
| 1,2-dichloroethane | 4.7 | 0.47 | U | U | U | 0.44 J | U | U | U | U | U | U | U | U |
| 1,3,5-trimethylbenzene | NA | NA | 2.6 | U | U | U | U | U | 0.78 J | U | U | U | 0.19 J | U |
| 1,3-dichlorobenzene | NA | NA | U | U | U | U | U | U | U | U | U | U | U | U |
| 1,4-dichlorobenzene | 11 | 1.1 | U | U | U | U | U | U | U | U | U | U | U | U |
| 2-chlorotoluene | NA | NA | NA | NA | U | U | U | U | U | U | U | U | U | U |
| 2,2,4-trimethylpentane | NA | NA | 0.81 | U | 0.41 J | 0.80 J | 2.4 | 0.38 J | U | 0.76 J | U | U | 0.44 JM | 0.96 |
| 4-ethyltoluene | NA | NA | 1.2 | 0.60 J | U | U | U | U | 0.74 J | U | U | U | 0.16 J | U |
| 4-isopropyltoluene | NA | NA | NA | NA | U | U | U | U | U | U | U | U | U | U |
| acetone | 1,400,000 | 140,000 | 49 | 12 | 3.3 J | 46 | 21 | 15 | 18 | U | 9.2 J | 6.8 J | 13 | 5.3 J |
| benzene | 16 | 1.6 | 0.91 | 1.3 | 0.75 | 0.47 J | 0.77 | 0.41 J | 0.68 | 0.52 J | 0.22 J | 0.52 J | 1.2 M | U |
| bromodichloromethane | 3.3 | 0.33 | U | U | U | U | U | U | U | U | U | U | U | U |
| bromomethane | 220 | 22 | U | U | U | U | U | U | U | U | 0.12 J | U | U | U |
| carbon disulfide | 31,000 | 3,100 | U | U | U | 1.8 | U | 0.38 J | U | 1.2 J | U | 0.66 J | 0.4 J | U |
| carbon tetrachloride | 20 | 2 | U | U | 0.53 J | 0.43 J | 0.5 J | 0.44 J | 0.4 J | 0.53 J | 0.45 J | 0.55 J | 0.49 J | 0.31 J |
| chlorobenzene | 2,200 | 220 | U | U | U | U | U | U | U | U | U | U | U | U |
| chloroform | 5.3 | 0.53 | U | U | U | 0.19 J | U | U | U | U | U | U | U | U |
| chloromethane | 3,900 | 390 | U | U | 1.2 | 1.3 | U | 0.86 J | 1 | 1.6 | 1.2 | 1.5 | 1 J | 0.97 J |
| cis-1,2-dichloroethene | NA | NA | 0.64 | U | U | U | U | U | U | U | U | U | U | U |
| cumene | 18,000 | 1,800 | NA | NA | U | U | U | U | U | U | U | U | U | U |
| cyclohexane | 260,000 | 26,000 | U | 1.7 | 0.28 JB | 0.35 J | U | 0.18 J | U | U | U | U | 0.21 JM | U |
| ethyl acetate | 3,100 | 310 | U | U | U | U | U | NA | U | U | U | U | U | U |
| ethylbenzene | 49 | 4.9 | 3 | 1.8 | 0.67 J | 1.3 | U | 1.1 | 14 | U | 0.11 J | 0.21 J | 0.3 J | U |
| freon 11 (trichlorofluoromethane) | 31,000 | 3,100 | 1.7 | 1.1 | 1.4 | 1.4 | 1.6 | 1.1 J | 1.2 | 1.4 | 1.3 | 1.4 | 1.2 | 0.96 J |
| freon 113 (freon TF) | 1,300,000 | 130,000 | 0.78 J | U | 0.56 J | 0.61 J | 0.68 J | 0.53 J | 0.49 J | 0.63 J | 0.59 J | 0.66 J | 0.45 J | U |
| freon 12 (dichlorodifluoromethane) | 4,400 | 440 | 2.8 | 2.0 | 2.8 | 2.5 | 3 | 2.0 J | 2.3 J | 3.1 | 2.5 | 3 | 2.4 J | 1.6 J |
| freon 22 | 2,200,000 | 220,000 | NA | NA | U | 1.3 J | 1.1 J | 0.78 J | 0.86 J | 1.1 J | 1.1 J | 1 J | 0.94 J | 0.75 J |
| heptane | NA | NA | 1.7 | 0.96 | 0.48 JB | 0.92 | 1.2 | 0.36 J | U | 0.82 | U | 0.26 J | 0.38 JM | U |
| hexane | 31,000 | 3,100 | U | 2.6 | 1.3 B | 1.5 | 8.2 | 0.56 J | 0.38 J | 0.77 | U | 0.37 J | 0.8 | U |
| isopropyl alcohol | NA | NA | 8.2 | 3.0 | U | 3.0 J | 1.1 J | 2.6 J | 1.8 J | U | 1.8 J | U | U | U |
| m,p-xylene (sum of isomers) | 4,400 | 440 | 11 | 6.2 | 1.8 J | 3.9 | U | 3.3 | 47 | U | 0.30 J | 0.37 J | 1.1 J | U |
| methyl butyl ketone | NA | NA | U | U | U | 0.40 J | U | 0.42 J | U | U | U | U | U | U |
| methyl ethyl ketone | 220,000 | 22,000 | 5.9 | U | 0.76 J | 4.5 B | 3.8 | 3.1 | 7.6 | U | 1.2 J | 1.1 J | 1.6 | 0.87 J |
| methyl isobutyl ketone | 130,000 | 13,000 | U | U | 2.6 | 0.71 J | U | 0.98 J | 2.7 | U | U | U | 0.75 J | U |
| methyl methacrylate | NA | NA | NA | NA | U | U | U | U | U | U | U | U | U | U |
| methyl tert-butyl ether | 31,000 | 3,100 | U | U | U | U | U | U | U | U | U | U | U | U |
| methylene chloride | 12,000 | 1,200 | 2.7 | U | 0.67 J | 1.0 J | 0.69 J | 0.47 J | 0.75 J | 0.68 J | U | 0.7 J | 0.79 J | 0.63 J |
| naphthalene | 3.6 | 0.36 | U | U | U | U | U | 0.86 J | U | U | U | U | 0.21 J | U |
| n-Butane | NA | NA | NA | NA | 2.3 | 7.8 | 3.2 | 1.3 | 1.4 | 2.2 | U | 2.1 | 1.9 | 1.2 J |
| n-Propylbenzene | 44,000 | 4,400 | NA | NA | U | U | U | U | 0.48 J | U | U | U | U | U |
| o-xylene | 4,400 | 440 | 2.7 | 1.7 | 0.51 J | 1.0 | U | 0.80 J | 14 | U | 0.11 J | 0.14 J | 0.45 J | U |
| styrene | 44,000 | 4,400 | 1.8 | U | U | 0.62 J | U | 0.33 J | 0.58 J | U | U | U | U | U |
| tert-Butyl alcohol | NA | NA | NA | NA | U | U | U | 0.56 J | U | U | U | U | U | U |
| tetrachloroethylene (pce) | 470 | 47 | U | U | U | 0.34 J | U | U | U | U | 1.2 J | U | U | U |
| tetrahydrofuran | NA | NA | U | U | U | 1.5 J | U | U | U | U | U | U | U | U |
| toluene | 220,000 | 22,000 | 8.8 | 9.4 | 2.4 B | 7.3 | 0.98 | 4.5 | 9.3 | 0.33 J | 0.52 J | 0.51 J | 1.6 | U |
| trichloroethylene (tce) | 30 | 3 | 2.5 | U | U | U | U | U | U | U | U | U | U | U |
| vinyl chloride | 28 | 2.8 | U | U | U | U | U | U | U | U | U | U | U | U |

Notes:

U - Not detected.

J- The analyte was positively identified; the quantitation is an estimation.

M - Lab qualifier for manual integrated compound

NA- Not Available

µg/m³: microgram per cubic meter.

Exceedance of EPA Commercial Regional Screening Levels.

B - Analytes detected in the trip blank.

♦-Denotes higher nominal value of duplicate sample result.

*EPA Commercial Regional Screening Levels

**Table 3-5**
**Buildings 785/786**
**SSVM Performance Monitoring Influent Results**

| **Sample Location** | **785786-Influent** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Sample ID** | **785786CA01AA** | **785786CA01AB** | **785786CA01AC** | **785786CA01AD** | **785786CA01AG** | **785786CA01AH** | **785786CA01IA** | **785786CA01LA** | **785786CA01MA** | **785786CA01NA** |
| **Sample Type** | **Influent** | **Influent** | **Influent** | **Influent** | **Influent** | **Influent** | **Influent** | **Influent** | **Influent** | **Influent** |
| **Sample Date** | **19-May-2011** | **23-Aug-2011** | **25-Oct-2011** | **24-Jan-2012** | **3-Aug-2012** | **14-Feb-2013** | **7-Aug-2013** | **20-Jan-2015** | **28-Aug-2015** | **1-Feb-2016** |
| **Sample Depth (ft bgs)** | **na** | **na** | **na** | **na** | **na** | **na** | **na** | **na** | **na** | **na** |
| **Sample Collection Duration (hr)** | **quick grab** | **quick grab** | **quick grab** | **quick grab** | **quick grab** | **quick grab** | **quick grab** | **quick grab** | **quick grab** | **quick grab** |
| **Volatiles (TO-15) in μg/m$^3$** | | | | | | | | | | |
| 1,1,1-trichloroethane | 4.8 | 1.4 | 1.6 | 0.32 J | U | U | 0.36 J | U | 0.5 JM | U |
| 1,2,4-trimethylbenzene | 6.9 | 1.7 | 2.8 | 0.26 J | 1.4 J | 0.73 J | 0.74 J | 0.23 J | 0.16 J | U |
| 1,2-dichloroethene | U | U | U | U | U | U | U | 0.36 J | 1.1 J | U |
| 1,3,5-trimethylbenzene | 6.3 | 1.5 | U | U | 0.65 J | U | U | U | U | U |
| 1,3-butadiene | U | U | U | U | U | 0.23 J | U | U | U | U |
| 1,3-dichlorobenzene | U | U | U | U | 0.49 J | U | U | U | U | U |
| 1,4-dioxane | U | U | U | U | U | U | U | U | U | 13 JD |
| 2,2,4-trimethylpentane | 300 | 31 | 33 | 7.9 | 9.5 | 10 | 2.8 | 3.9 | 0.17 J | U |
| 4-ethyltoluene | U | 0.75 | U | U | 0.36 J | U | U | 0.1 J | U | U |
| 4-isopropyltoluene | NA | NA | NA | U | U | U | U | U | U | 2.7 D |
| acetone | 180 | 5.1 | U | 1.2 J | 56 | 110 | 4.3 J | 14 | 17 | 58 D |
| benzene | 1.9 | 0.81 | U | U | 0.51 J | 0.72 J | 0.47 J | 0.42 J | 0.61 J | 0.38 JD |
| carbon disulfide | 6.9 | 0.79 | U | U | 0.70 J | U | U | 1.7 | 4.4 | U |
| carbon tetrachloride | U | U | U | 0.48 J | 0.44 J | 0.45 J | 0.37 J | 1.45 J | 1 J | U |
| chloroethane | U | U | U | U | U | U | U | U | 0.19 J | U |
| chloroform | 59 | 8.1 | 7.8 | 1.6 | 2.8 | U | 1.2 | 0.67 J | 2.5 | U |
| chloromethane | U | U | U | U | 0.45 J | 0.59 J | 0.24 J | U | 1.5 | 0.48 J |
| cis-1,2-dichloroethene | 17 | 4.5 | 3.0 | 0.56 J | 1.6 | U | 1 | 0.36 J | 1.2 M | 0.63 J |
| cumene | NA | NA | NA | U | U | U | U | 0.25 J | U | U |
| cyclohexane | 180 | 28 | U | U | 4.4 | 7.6 | U | 0.24 J | U | U |
| ethylbenzene | 5.9 | 2.9 | 1.7 | 0.30 J | 1.1 J | U | 0.41 J | 0.19 J | 0.29 J | U |
| freon 11 (trichlorofluoromethane) | 1.4 | 1.8 | 1.5 | 1.4 | 1.4 J | 1.5 J | 1.1 | 1.5 | 2.6 | 1 J |
| freon 113 (freon TF) | 0.78 J | 0.78 J | U | 0.52 J | 0.62 J | 0.73 J | 0.52 J | 0.66 J | 1.1 J | U |
| freon 12 (dichlorodifluoromethane) | 2.4 | 2.7 | U | 2.5 | 2.3 J | 3.3 J | 2.3 J | 3 | 5 | 2 J |
| freon 22 | NA | NA | NA | U | U | 1.3 J | U | 1 J | 2.3 | 0.84 J |
| heptane | 130 | 30 | 26 | 3.1 | 2.5 | 10 | 0.15 J | U | U | U |
| hexane | 150 | 13 | U | 1.5 | 5.4 | 22 | 0.20 J | U | 0.24 J | U |
| isopropyl alcohol | U | U | U | U | 9.6 J | 6.8 J | 3.9 J | 1.5 J | 1.1 J | U |
| m,p-xylene (sum of isomers) | 16 | 6.3 | 6.0 | 0.98 J | 3.3 | 1 J | 1.5 J | 0.41 J | 0.87 J | U |
| methyl ethyl ketone | 20 | U | U | 0.27 J | 5.3 B | 2.3 J | 0.66 J | 3.7 | 3.3 | 4.4 |
| methylene chloride | 1.4 | U | U | 0.54 J | 2.0 J | U | 0.55 J | U | 0.73 JM | U |
| naphthalene | U | U | U | U | 2.3 J | U | 0.56 J | U | 0.18 J | U |
| n-butane | NA | NA | NA | 2.8 | 13 | 2.8 | U | 3.6 | 1.1 JM | 0.62 J |
| n-Propylbenzene | NA | NA | NA | U | U | U | U | 0.65 J | U | U |
| o-xylene | 6.5 | 3.4 | 1.9 | 0.30 J | 1.3 J | 0.4 J | 0.47 J | 0.13 J | 0.28 J | U |
| styrene | U | U | U | U | 0.48 J | U | 0.14 J | U | U | U |
| tert-butyl alcohol | NA | NA | NA | U | 1.0 J | U | U | U | 0.46 J | U |
| tetrachloroethylene (pce) | 250 | 52 | 72 | 11 | 22 | 6.6 | 11 | 5 | 6.1 | 1.2 J |
| tetrahydrofuran | 510 | U | U | U | 2.6 J | U | U | 0.62 J | U | U |
| toluene | 5.6 | 3.4 | 3.8 | 0.44 J | 9.5 | 0.97 J | 1.6 | 0.27 J | 0.89 | U |
| trichloroethylene (tce) | 3500 | 520 | 740 | 140 | 250 | 93 | 130 | 72 | 140 | 80 |
| vinyl chloride | U | U | U | U | U | U | U | U | U | U |

Notes:
U - Not detected.
J- The analyte was positively identified; the quantitation is an estimation.
D - The reported value is from a dilution
M - Lab qualifier for manual integrated compound
NA- Not Available
μg/m$^3$: microgram per cubic meter.
B - Analytes detected in the trip blank.