

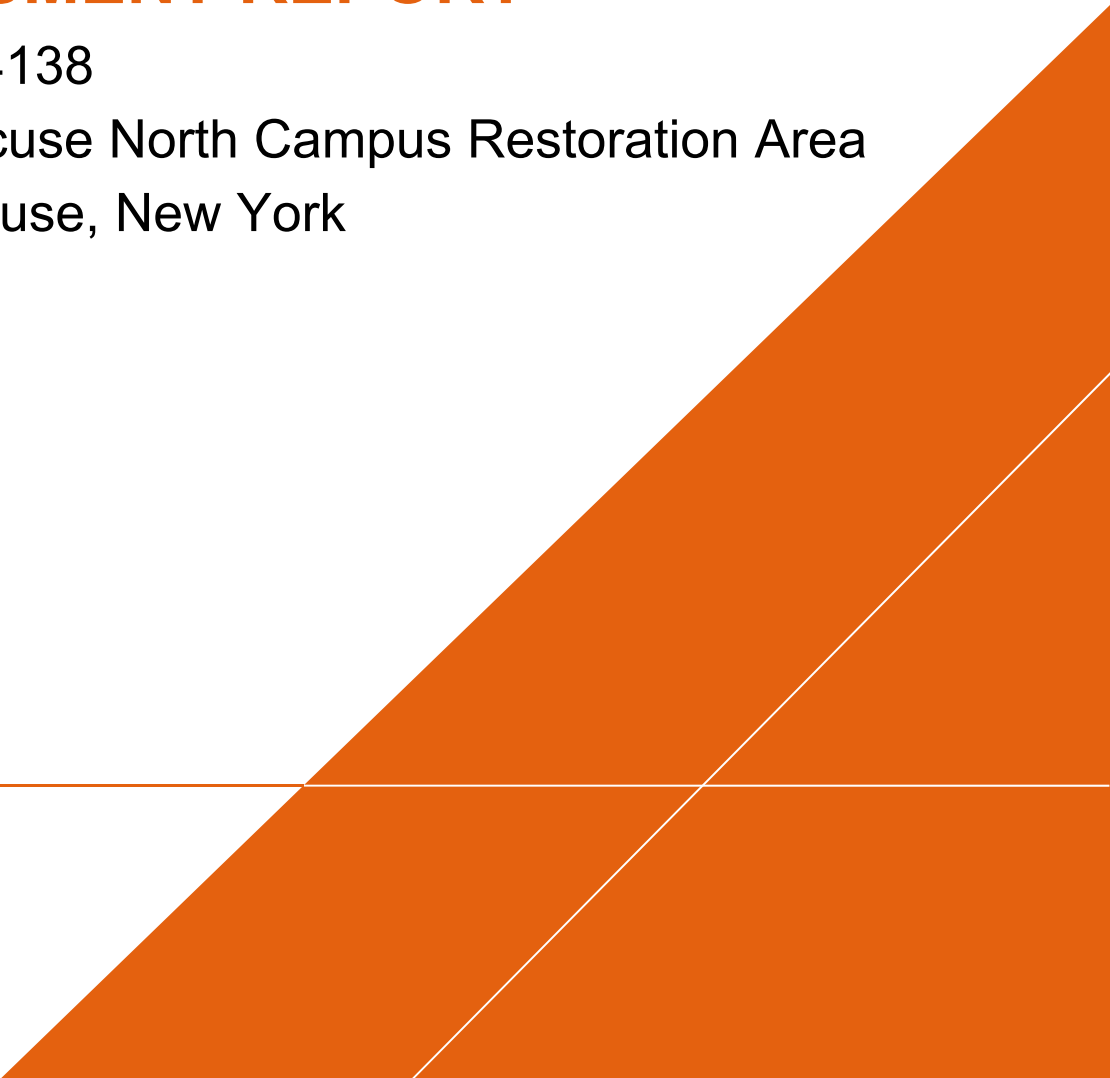
Bristol-Myers Squibb Company

BUILDING 3 VAPOR INTRUSION (VI) ASSESSMENT REPORT

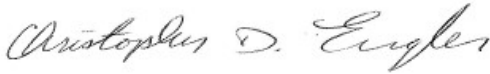
Site #C734138

BMS Syracuse North Campus Restoration Area
East Syracuse, New York

June 2019

A large, solid orange geometric shape, resembling a stylized triangle or a section of a larger triangle, is positioned in the bottom right corner of the page. It is composed of two overlapping triangles, creating a complex, angular form that extends from the bottom edge towards the top right corner.

BUILDING 3 VAPOR INTRUSION (VI) ASSESSMENT REPORT



Christopher Engler
New York State P.E. License No. 069748

I, Christopher Engler, certify that I am currently a New York State registered Professional Engineer and that this Building 3 Vapor Intrusion (VI) Assessment Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Site #C734138
BMS Syracuse North Campus Restoration Area
East Syracuse, New York

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ACRONYMS AND ABBREVIATIONS

µg/m ³	Micrograms per Cubic Meter
Arcadis	Arcadis of New York, Inc.
BASE	Building Assessment Survey and Evaluation
BCA	Brownfield Cleanup Agreement
BDA	Brownfield Development Area
bgs	Below Ground Surface
BMS	Bristol-Myers Squibb Company
COC	Contaminant(s) of Concern
DER-10	NYSDEC Technical Guidance for Site Investigation and Remediation
DUSR	Data Usability Summary Report(s)
eV	Electron Volt
FSAP	Field Sampling and Analysis Plan
HVAC	Heating, Ventilation, and Air Conditioning
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OBG	O'Brien & Gere Engineers, Inc.
PID	Photoionization Detector
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RI	Remedial Investigation
RIWP	Work Plan: Remedial Investigation, BMS Syracuse North Campus Restoration Area, Site No. C734138
RSL	Regional Screening Level
SVI	Soil Vapor Intrusion
SVOC	Semi-Volatile Organic Compound(s)
TIC	Tentatively Identified Compound(s)
USEPA	United States Environmental Protection Agency
VI	Vapor Intrusion
VOC	Volatile Organic Compound(s)

1 INTRODUCTION

1.1 Remedial Investigation Overview

This *Building 3 Vapor Intrusion (VI) Assessment Report* has been developed for the Bristol-Myers Squibb Company (BMS) Syracuse North Campus Restoration Area, which is also referred to as the Brownfield Development Area (BDA). The BDA is part of the BMS Facility located at 6000 Thompson Road in East Syracuse, New York. A site transformation project was implemented in the BDA, resulting in demolition of numerous buildings and conversion of much of the BDA to green space. The location of the BDA and BMS Facility are shown on **Figure 1**.

The BDA is identified by the New York State Department of Environmental Conservation (NYSDEC) as Site No. C734138 and is subject to a Brownfield Cleanup Agreement (BCA; October 2011) between BMS and the NYSDEC. As proposed in the *Work Plan: Remedial Investigation, BMS Syracuse North Campus Restoration Area, Site No. C734138* (O'Brien & Gere Engineers [OBG] 2013a) (RIWP) for the BDA, the remedial investigation (RI) has been conducted in phases.

Phase 1 included a comprehensive evaluation of BDA soil and groundwater for potential contaminants of concern (COC) associated with historical use of the BDA, with sampling locations biased toward areas of known releases and primary chemical use and storage. Phase 1A was conducted in modules and included evaluation of surface soil, the potential VI pathway, and outfall sediment; additional evaluation of groundwater based on the Phase 1 results; and decommissioning of temporary groundwater monitoring wells. The results of the Phase 1 and Phase 1A activities are documented in the *Phase 1/1A Remedial Investigation Data Summary Report* (Arcadis of New York, Inc. [Arcadis] 2016) (Phase 1/1A Report). The results of the Phase 2 investigation of overburden and bedrock groundwater are documented along with the Phase 1/1A results in the Remedial Investigation Report submitted to NYSDEC in September 2018 (Arcadis 2018), and which is currently being modified in response to NYSDEC comments.

1.2 Soil Vapor Intrusion Evaluation Work Plans

Based on the presence of dissolved-phase VOC concentrations in groundwater in the BDA, an evaluation of the potential soil vapor intrusion (SVI) migration pathway was conducted for downgradient or proximal buildings occupied at the time of the Phase 1A investigation. This evaluation included Buildings 3, 7, 22/22A, 23B, and 32A/32D. Building 31 was initially proposed for evaluation but was demolished in early 2016. Buildings 25/25N, 48, 61, 70, and 82 are within the BDA but are not occupied and will not be occupied in the future. As of June 2019, Buildings 7, 25/25N and 22/22A have been demolished and Building 32A/32D has been reoccupied.

The work plans detailing the initial SVI investigation were documented in the following submittals:

- *C734138 Phase 1A RIWP: Soil Vapor Sampling Module* (Arcadis 2015a) (SV Work Plan) as modified by letters from the NYSDEC dated April 7 and 21, 2015; and
- *C734138 Phase 1A Remedial Investigation Work Plan: Soil Vapor Sampling Module Addendum* (SV Addendum) (Arcadis 2015b).

The 2015 SV Addendum was prepared based on comments from the NYSDEC and New York State Department of Health (NYSDOH) on the SV Work Plan. The NYSDEC and NYSDOH approved the SV

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Work Plan and SV Addendum by letter dated December 23, 2015, with conditions. BMS provided responses to the NYSDEC/NYSDOH conditions by letter dated February 12, 2016.

The initial SVI investigation consisted of two (2) rounds of sampling. The first round was conducted in January and March 2016. The results of that sampling were documented in the Phase 1/1A Report. By letter dated October 24, 2016, BMS informed NYSDEC and NYSDOH that it would conduct a second, confirmatory round of SVI sampling during the upcoming heating season. As a result, the second round of VI sampling was conducted in December 2016 with additional groundwater samples from upgradient monitoring wells BDA-1F and BDA-1WT to be collected in the Spring and Fall of 2017.

The 2016-2017 SVI evaluation activities included:

- Initial sampling of soil vapor (where accessible), indoor air (where applicable), and ambient air;
- Confirmatory sampling of soil vapor, indoor air, and ambient air;
- Sampling of groundwater upgradient of Building 3; and
- Supplemental sampling of indoor air in Building 3 (including ambient air).

An indoor air sample (with associated outdoor ambient air sample) was collected in the Building 3 basement (i.e., boiler control room). An elevated water table in proximity to the Building 3 slab elevation precluded collection of sub-slab samples or near building soil vapor samples. Therefore, BMS proposed to use the analytical results from monitoring wells upgradient of Building 3 (BDA-1WT & BDA-1F, shown on **Figure 2**) and compare compounds detected in the groundwater samples results to the compounds identified in the indoor air sample.

A summary of the findings from the 2016 sampling program was submitted to NYSDEC and NYSDOH on March 8, 2017 in a report titled *Soil Vapor Intrusion (SVI) Module Data Summary Report*. The Report concluded that based on the 2016 sampling results no additional sampling would be needed. In May 2017, NYSDOH updated the screening values listed on the Matrix Tables A, B and C. The result of this change was discussed in an October 4, 2017 e-mail to BMS, and during an October 10, 2017 meeting between BMS, NYSDEC and NYSDOH. The agencies expressed concern that indoor air concentrations of trichloroethene (TCE) measured in Building 3 were greater than the NYSDOH revised guidance values (i.e., measured sample concentrations of 0.93 and 1.6 micrograms per cubic meter [$\mu\text{g}/\text{m}^3$] compared to a guidance value for monitoring of $0.2 \mu\text{g}/\text{m}^3$ and a guidance value for mitigation of $1.0 \mu\text{g}/\text{m}^3$). During the October 10, 2017 meeting, BMS indicated that additional sampling of indoor air in Building 3 would be conducted following completion of on-going building renovations in Building 3 and adjoining Building 2, and the onset of the heating season.

The third round of Building 3 indoor and ambient air sampling (one sample each) was conducted on January 17, 2018 after completing the renovation activities but prior to startup of a new HVAC system. The results identified a slight decrease in the TCE concentration versus the previous rounds with a concentration of $0.77 \mu\text{g}/\text{m}^3$ and $0.82 \mu\text{g}/\text{m}^3$ from the parent and duplicate indoor air sample, respectively. However, the result remained above the screening criteria of $0.2 \mu\text{g}/\text{m}^3$ for TCE. As such, in the March 2018 monthly progress report BMS provided to the NYSDEC and NYSDOH an additional work scope and schedule, referenced below:

- *C734138 Phase 1A Remedial Investigation Work Plan: Building 3 VI Mitigation Module* (VI Mitigation Plan) (submitted with the March 2018 BCA Monthly Progress Report) and as modified by letter from NYSDEC/NYSDOH dated May 2, 2018.

BUILDING 3 VI ASSESSMENT REPORT

In the March 2018 monthly progress report BMS proposed the following activities:

- Sealing of floor and wall apertures:
 - Floor drains and clean-outs in the lower level of Building 3 were to be sealed using permanent or removable drain plugs or covers. Multiple 1- to 2-inch diameter conduits penetrating Building 3 basement outer walls were to be permanently sealed with non- or low-VOC sealant materials (e.g., caulk, clay, spray foam).
- Sampling:
 - Sampling and analysis of Building 3 indoor and ambient outdoor air was to be repeated in accordance with the methods and procedures previously used, after completion of the sealing activities and startup of the new HVAC system. This sampling was to be conducted while the HVAC system was operational.
 - At least one week prior to sampling, updated building reconnaissance was to be conducted to document current air movement patterns with the new HVAC system operational. Activities associated with this task included evaluation of air movement between rooms within the building to identify HVAC air mixing and potential system influence on VI pathways. Data collection activities were performed through physical measurements using a hand-held or stationary differential pressure monitor, as well as air movement assessments using hand-held anemometers and visual smoke/puff testing.

This report summarizes the mitigation tasks completed in 2018 in accordance with the March 2018 work scope and the results from the January 2019 sampling event.

1.3 Report Organization

The remainder of this report is organized as follows:

- Section 2 – Building Mitigation and Assessment;
- Section 3 – Sampling and Analysis;
- Section 4 – Results; and
- Section 5 – Findings and Future Actions.

The text is supported by figures and tables summarizing the sampling and analysis results, as well as appendices providing a structure sampling questionnaire and building inventory, laboratory analytical data reports, and data usability summary reports (DUSR).

2 BUILDING MITIGATION

2.1 Building 3 Mitigation

As noted in Section 1.2, several apertures in the floor and exterior walls were identified as potential VI pathways. From August 23, 2018 through August 27, 2018, the floor drains and clean-outs noted as locations A, B and D on **Figure 3** in the basement level of Building 3 were closed off using permanent one way drain valves or removable sealed drain plugs (details shown on Figure 4). The condensate floor sump located outside of the eastern doorway in Building 2 identified as location H on **Figure 3**, was cleaned out and filled with flowable cement (details shown on Figure 4). The wall conduits identified as locations E, F and G on **Figure 3** that penetrated the Building 3 basement exterior walls were permanently sealed with non-VOC hydraulic cement. Lastly, in a vertical drain identified as location C on **Figure 3**, a replacement flexible elbow was installed to replace a broken Y-fitting to mitigate potential venting into the workspace. In June 2018 the building HVAC system was placed in service allowing for air circulation between the ground floor and basement areas. Granulated activated carbon filters were installed in the HVAC system to help assist with indoor air treatment.

2.2 Post Mitigation Building Assessment

Following the installation of the passive mitigation measures noted in Section 2.1 and with the HVAC system in full operation, Arcadis conducted a building airflow assessment on January 11, 2019. This assessment consisted of measuring air movement between rooms and floors within Building 3 to identify HVAC air mixing and potential system influence on VI pathways. Data collection activities were completed using multiple air flow and pressure instruments. Arcadis utilized a Dwyer® anemometer to assess localized air flow readings around doorways, as well as a hand-held Infiltec DM1® digital micromanometer and stationary OmniGuard 4® differential pressure monitor to assess pressure differences between the slab, indoor and ambient air pressures, as well as the differential pressure variation between air ducts and the control room. Lastly, talc powder puff testers were used to confirm air flow direction around doorways. Results from that assessment are presented on **Figure 5** and summarized below:

- As presented on **Figure 5** using air flow arrows, the air flow via an anemometer and puff tester confirmed air flow from the second floor into the basement control room through the stairwell door. Air flow at a less pronounced velocity was migrating out of the room through the basement control room swinging door into Building 2. This data supports the conclusion that the basement at the time of the assessment had a net positive air flow, which indicates a pressurized condition inside the basement (suitable for mitigating vapor intrusion).
- In general, all of the floor drain apertures noted a negative differential pressure relative to the basement control room, indicating air would be forced down into the drain (in the absence of a drain seal), rather than vapors entering (VI) from the drains.

Overall, based on the assessment data collected, VI is less likely to occur in the basement control room due to favorable building air movement and positive air pressure associated with HVAC settings on the preferential pathways, e.g., floor drains.

3 SAMPLING AND ANALYSIS

3.1 Sample Types and Locations

For Building 3, ambient air samples were collected outside buildings when indoor air samples were collected. The sampling locations were replicated to be the same vicinity where indoor and ambient air samples were collected historically and had been approved in the field with NYSDEC staff. The sampling locations are shown on **Figure 6**.

3.2 Building Materials and Products Inventory

On January 22, 2019, prior to indoor air sample collection, a detailed building review and reconnaissance was conducted to: (1) confirm and document specific sample locations (i.e., measured from outside walls); (2) obtain additional information on building layout, uses, and HVAC system configuration and operation; and (3) identify and remove chemical products from the building, if feasible. Chemical products that could not be removed from buildings 48 hours in advance of the sampling were documented. A photoionization detector (PID) equipped with an 11.7 electron volt (eV) lamp was used to screen for the presence of detectable vapor-phase chemicals during the reconnaissance. The documented reconnaissance and chemical inventories are provided in **Appendix A**.

3.3 Indoor and Ambient Air Sampling

Indoor and ambient air samples were collected concurrently during the January 24, 2019 sampling event. All air samples were collected in individually certified clean 6-L Summa[®] canisters placed approximately three to five feet above the ground surface (i.e., at approximate breathing zone height) and collected over an 8-hour period, consistent with previous sampling events. No potential quality control issues were identified during indoor or ambient air sampling.

3.4 Sampling Procedures and Analysis

Field samples and associated quality assurance/quality control (QA/QC) samples were collected in accordance with the NYSDEC-approved *Field Sampling and Analysis Plan* (FSAP; OBG 2013b) and *Quality Assurance Project Plan* (QAPP; OBG 2013c) and the NYSDEC Division of Environmental Remediation *DER-10 Technical Guidance for Site Investigation and Remediation* (DER-10; NYSDEC 2010). All work was performed under the responsible charge of a qualified environmental professional as defined in DER-10.

The indoor air and ambient air sample canisters were provided by Eurofins Air Toxics Laboratories Environmental, LLC, of Folsom, California. After sampling, the canisters were returned to the laboratory by overnight courier, under chain-of-custody, for analysis of VOC in accordance with United States Environmental Protection Agency (USEPA) Method TO-15. Additionally, as feasible, site-specific VOC not included in the laboratory's standard TO-15 compound list were reported by the laboratory as tentatively identified compounds (TIC).

3.5 Data Usability

Upon completion of analysis, the laboratory data packages were validated by Arcadis. Laboratory analytical reports and corresponding DUSR for indoor air and ambient air samples are presented in **Appendix B** for the January sampling event. No sample analytical results were rejected.

4 RESULTS

To evaluate the potential need for additional evaluation or remedial action, indoor and ambient air analytical data was compared to commercial screening values. In accordance with DER-10 (Section 3.14(c)(4)), the analytical data are also compared to residential screening values. The current and reasonably anticipated future use of BMS buildings is commercial/industrial.

- For COC included in the NYSDOH May 2017 Soil Vapor / Indoor Air Matrices, the indoor air and soil vapor guidance values provided in the Matrices are used to identify whether no further action, additional monitoring, or mitigation is needed, regardless of commercial or residential building occupancy.
- The Commercial Indoor Air Screening Level is the USEPA BASE Study 90th percentile value, except for COC included in the NYSDOH Matrices. If a BASE value is not available, the USEPA Industrial Air Regional Screening Level (RSL) using the lower of a target cancer risk of 1×10^{-6} or a target hazard quotient of 1 is used, when available.
- The Residential Indoor Air Screening Level is the NYSDOH Fuel Oil Study Upper Fence value, except for COC included in the NYSDOH Matrices. If a Fuel Oil Study Upper Fence value is not available, the USEPA Residential Air RSL value using the lower of a target cancer risk of 1×10^{-6} or a target hazard quotient of 1 is used, when available. If a USEPA Residential Air RSL value is not available, the USEPA Industrial Air RSL is used, when available.

4.1 Post Mitigation Indoor and Ambient Air Results

Although 35 VOC were detected in either the parent or duplicate air samples from the January 24, 2019 event, only four exceeded either the commercial or residential screening values.

- Trichloroethylene (TCE) was detected at a concentration of $0.59 \mu\text{g}/\text{m}^3$ from the IA-3 parent sample and $0.61 \mu\text{g}/\text{m}^3$ from the duplicate sample. These are the lowest indoor air concentrations for TCE from all 4 rounds collected in Building 3. As presented on **Table 1**, TCE has been detected in indoor air at concentrations ranging from $0.59 \mu\text{g}/\text{m}^3$ to $1.6 \mu\text{g}/\text{m}^3$. The NYSDOH matrix action levels, in the absence of companion soil vapor concentrations, are $0.2 \mu\text{g}/\text{m}^3$ for monitoring and $1.0 \mu\text{g}/\text{m}^3$ for mitigation.
- 1,2,4-Trimethylbenzene was detected in indoor air for the first time at Building 3. The detections of $10 \mu\text{g}/\text{m}^3$ from both the parent and duplicate samples from IA-3 were slightly above referenced background level of $9.5 \mu\text{g}/\text{m}^3$ in commercial settings. Since 1,2,4-Trimethylbenzene was not previously identified in indoor air and not identified in groundwater directly upgradient from Building 3, it was concluded that this one-time detection was likely the result of a transient source such as paint or solvent-based cleaners for which this compound is known to be an ingredient.
- Carbon tetrachloride has been detected in all 4 sampling rounds with almost identical concentrations between the ambient air sample and the indoor air sample. As such the detection in indoor air is considered directly related to background influence from ambient air infiltration.
- Naphthalene was detected at $4.6 \mu\text{g}/\text{m}^3$ from the IA-3 parent sample and at $4.2 \mu\text{g}/\text{m}^3$ in the duplicate sample which is above the Residential Indoor Air Screening level of $0.083 \mu\text{g}/\text{m}^3$ but below the

Commercial Indoor Air Screening level of $5.1 \mu\text{g}/\text{m}^3$. Lower concentrations of naphthalene were detected in two of the previous sampling events. Since naphthalene was not identified in groundwater directly upgradient from Building 3, it was concluded that the detection identified in the indoor air sample was the result of a transient source. Naphthalene is a known ingredient in many paints, oils and fuels and can off gas from clothing or impacted materials long after contact.

4.2 Comparison to Groundwater Upgradient of Building 3

Due to the saturated soil below Building 3 and high-water table next to the building and based on discussion with the NYSDEC and NYSDOH on February 10, 2016, a groundwater sample was collected upgradient of Building 3 in lieu of sub-slab samples and soil vapor sampling. Two wells were installed as shown on **Figure 2**, one screened entirely in the till layer (BDA-1WT) and one screened in the overlying fill (BDA-1F). The wells have been sampled four times since their installation on March 1, 2016. As shown on **Table 2**, TCE ($7 \mu\text{g}/\text{L}$ versus $5 \mu\text{g}/\text{L}$) was the only VOC to exceed the TOGS1.1.1. groundwater screening criteria (September 2019 sampling event from well BDA-1F). The other three compounds (1,2,4-Trimethylbenzene, Carbon tetrachloride and Naphthalene) identified as exceeding indoor air screening levels within Building 3 were not detected in groundwater. As a result, these three compounds detected in indoor air are likely attributed to ingredients within products used in the facility.

4.3 Comparison to Building 3 Chemical Inventory

Based on the January 22, 2019 chemical inventory, no product was directly labelled as containing TCE or 1,2,4-trimethylbenzene. Several products located in the building were labelled as containing oil, petroleum distillates, or mineral spirits, that could include 1,2,4-trimethylbenzene below 1% concentration. Naphthalene (naptha) was confirmed to be an ingredient in at least one product (i.e., Chesterton 730 spragrip®) identified in Building 2 (which is adjacent to Building 3).

5 FINDINGS AND FUTURE MITIGATION

Based on the ongoing use of Building 3 as a boiler control room and for storage, the area usage is classified as commercial/industrial. Additionally, usage of the upgradient land will be managed by a land use deed restriction. Therefore, TCE remains the only compound of concern for which continual monitoring is warranted.

BMS proposes the following additional mitigation measures to reduce TCE exposure to workers:

- Re-calibration of the HVAC system within the Building 3 basement to provide a more positive pressure environment, thereby decreasing the preferential migration of vapors into the work areas.
- Installation of automatic doors closers with weather stripping to aid in maintaining a positive pressure environment in the Building 3 basement.

If additional sampling indicates TCE still exceeds the Commercial/Industrial Indoor Air Screening levels in Building 3, BMS will investigate additional air treatment within the work area.

6 SCHEDULE

BMS will initiate the identified mitigation measures in Section 5 within 30 days of receiving NYSDEC/NYSDOH approval of this report. Upon completion of the proposed mitigation methods, BMS will conduct a post mitigation sampling event and provide the results to NYSDEC/NYSDOH during the subsequent heating season, tentatively identified in November 2019.

7 REFERENCES

- Arcadis. 2015a. C734138 Phase 1A Remedial Investigation Work Plan: Soil Vapor Sampling Module. January 2015.
- Arcadis. 2015b. C734138 Phase 1A Remedial Investigation Work Plan: Soil Vapor Sampling Module Addendum. November 2015.
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- O'Brien & Gere Engineers (OBG). 2013a. Work Plan: Remedial Investigation BMS Syracuse North Campus Restoration Area, Site No. C734138. March 2013.
- OBG. 2013b. Field Sampling and Analysis Plan: BMS Syracuse North Campus Restoration Area, Site No. C734138. March 2013.
- OBG. 2013c. Quality Assurance Project Plan: BMS Syracuse North Campus Restoration Area, Site No. C734138. March 2013.

TABLES



Table 1
Building 3 Indoor Air and Ambient Air Analytical Results

Building 3 VI Assessment Report
Site #C734138: BMS Syracuse North Campus Restoration Area

Date Collected:	CAS Number	Indoor Air Screening Value*		Building 3 - Mar. 2016		Building 3 - Dec. 2016		Building 3 - Jan. 2018		Building 3 - Jan. 2019	
		Commercial (Exceedances Gray Shaded)	Residential (Exceedances Orange Bold)	Ambient AA-3 03/02/16	Indoor IA-3 03/02/16	Ambient AA-3 12/08/16	Indoor IA-3 12/08/16	Ambient AA-3 01/17/18	Indoor IA-3 01/17/18	Ambient AMB-3 01/24/19	Indoor IA-3/DUP 01/24/19
Volatile Organics - TO-15 (ug/m ³)											
1,1,1-Trichloroethane*	71-55-6	3		0.017 J	0.045 J [0.049 J]	0.019 J	0.13 J	0.13 U	0.054 J [0.051 J]	0.14 U	0.039 J [0.039 J]
1,1,2,2-Tetrachloroethane	79-34-5	0.21	0.4	0.18 U	0.20 U [0.20 U]	0.17 U	0.19 U	0.16 U	0.19 U [0.19 U]	0.18 U	0.18 U [0.19 U]
1,1,2-Trichloro-1,2,2-trifluoroethane(Freon 113)	76-13-1	3.5	2.5	0.40 J	0.48 J [0.47 J]	0.56 J	0.60 J	0.52 J	0.57 J [0.55 J]	0.75 J	0.74 J [0.66 J]
1,1,2-Trichloroethane	79-00-5	1.5	0.4	0.14 U	0.16 U [0.16 U]	0.14 U	0.15 U	0.13 U	0.15 U [0.15 U]	0.14 U	0.15 U [0.15 U]
1,1-Dichloroethane	75-34-3	0.7	0.4	0.10 U	0.022 J [0.022 J]	0.10 U	0.052 J	0.097 U	0.035 J [0.036 J]	0.11 U	0.11 U [0.11 U]
1,1-Dichloroethene*	75-35-4	0.2		0.051 U	0.059 U [0.058 U]	0.050 U	0.063	0.048 U	0.066 [0.064]	0.053 U	0.053 U [0.054 U]
1,2,4-Trichlorobenzene	120-82-1	6.8	0.5	4.7 U	5.5 U [5.4 U]	4.7 U	5.2 U	4.4 UJ	5.2 UJ [5.1 UJ]	4.9 U	5.0 U [5.1 U]
1,2,4-Trimethylbenzene	95-63-6	9.5	9.8	0.14 J	0.16 J [0.17 J]	0.62 U	0.18 J	0.20 J	0.34 J [0.37 J]	0.65 U	10 [10]
1,2-Dibromoethane (EDB)	106-93-4	1.5	0.4	0.20 U	0.23 UB [0.22 UB]	0.19 UB	0.22 UB	0.18 U	0.21 U [0.21 U]	0.20 U	0.20 U [0.024 J]
1,2-Dichloro-1,1,2,2-tetrafluoroethane	76-14-2	6.8	0.4	0.10 J	0.10 J [0.11 J]	0.11 J	0.11 J	0.097 J	0.11 J [0.10 J]	0.12 J	0.11 J [0.15 J]
1,2-Dichlorobenzene	95-50-1	1.2	0.5	0.77 U	0.89 U [0.88 U]	0.76 U	0.85 U	0.72 U	0.84 U [0.82 U]	0.80 U	0.80 U [0.82 U]
1,2-Dichloroethane	107-06-2	0.9	0.4	0.10 UB	0.12 UB [0.12 UB]	0.10 UB	0.11 UB	0.056 J	0.054 J [0.058 J]	0.088 J	0.086 J [0.092 J]
1,2-Dichloropropane	78-87-5	1.6	0.4	0.59 U	0.68 U [0.68 U]	0.58 U	0.65 U	0.55 U	0.64 U [0.63 U]	0.61 U	0.62 U [0.63 U]
1,3,5-Trimethylbenzene	108-67-8	3.7	3.9	0.63 U	0.73 U [0.72 U]	0.62 U	0.69 U	0.59 U	0.68 U [0.67 U]	0.65 U	1.9 [2.0]
1,3-Butadiene	106-99-0	3	0.094	0.28 U	0.33 U [0.099 J]	0.28 U	0.31 U	0.26 U	0.31 U [0.30 U]	0.29 U	0.30 U [0.30 U]
1,3-Dichlorobenzene	541-73-1	2.4	0.5	0.77 U	0.89 U [0.88 U]	0.76 U	0.85 U	0.72 U	0.84 U [0.82 U]	0.80 U	0.80 U [0.82 U]
1,4-Dichlorobenzene	106-46-7	5.5	1.2	0.15 UB	0.18 UB [0.18 UB]	0.15 UB	0.17 UB	0.14 U	0.17 UB [0.16 U]	0.16 UJ	0.16 UJ [0.16 UJ]
1,4-Dioxane	123-91-1	2.5	0.56	0.46 U	0.53 U [0.53 U]	0.45 U	0.51 U	0.43 U	0.50 U [0.49 U]	0.48 U	0.48 U [0.49 U]
2,2,4-Trimethylpentane	540-84-1	--	5	3.0 U	3.4 U [3.4 U]	2.9 U	3.3 U	2.8 U	3.2 U [3.2 U]	3.1 U	3.1 U [3.2 U]
2-Hexanone	591-78-6	130	31	2.6 U	3.0 U [3.0 U]	0.42 J	0.83 J	2.4 U	2.8 U [2.8 U]	2.7 U	2.7 U [0.95 J]
3-Chloropropene	107-05-1	2	0.47	2.0 UJ	2.3 UJ [2.3 UJ]	2.0 U	2.2 U	1.9 U	2.2 U [2.1 U]	2.1 U	2.1 U [2.1 U]
4-Ethyltoluene	622-96-8	3.6	--	0.63 UB	0.73 UB [0.72 UB]	0.62 U	0.69 U	0.18 J	0.40 J [0.38 J]	0.65 U	2.3 [2.5]
Acetone	67-64-1	98.9	115	3.6 UB	9.9 [5.4]	6.8	16	4.5	6.4 [6.0]	7.9 J	7.3 J [9.7 J]
Benzene	71-43-2	9.4	13	0.44	0.60 [0.59]	0.36	0.46	0.58	0.66 [0.66]	0.56	0.64 [0.64]
Benzyl chloride (a-chlorotoluene)	100-44-7	6.8	0.057	0.66 U	0.77 U [0.76 U]	0.65 U	0.73 U	0.62 U	0.72 U [0.71 U]	0.69 U	0.69 U [0.71 U]
Bromodichloromethane	75-27-4	0.33	0.076	0.86 U	0.41 J [0.38 J]	0.84 U	0.19 J	0.80 U	0.93 U [0.92 U]	0.89 U	0.90 U [0.92 U]
Bromoform	75-25-2	11	2.6	1.3 U	1.5 U [1.5 U]	1.3 U	1.4 U	1.2 U	1.4 U [1.4 U]	1.4 U	1.4 U [1.4 U]
Bromomethane	74-83-9	1.7	0.5	2.5 U	2.9 U [2.8 U]	2.4 U	2.7 U	2.3 U	2.7 U [2.7 U]	2.6 U	2.6 U [2.7 U]
Carbon disulfide	75-15-0	4.2	730	2.0 UJ	2.3 UJ [2.3 UJ]	2.0 U	2.2 U	1.9 U	2.2 U [2.1 U]	2.1 U	2.0 J [2.1 U]
Carbon tetrachloride*	56-23-5	0.2		0.42	0.42 [0.41]	0.46	0.45	0.38	0.39 [0.39]	0.47	0.47 [0.48]
Chlorobenzene	108-90-7	0.9	0.4	0.59 U	0.68 U [0.68 U]	0.58 U	0.65 U	0.55 U	0.64 U [0.63 U]	0.61 U	0.62 U [0.63 U]
Chloroethane	75-00-3	1.1	0.4	0.17 UJ	0.20 UJ [0.19 UJ]	0.17 U	0.19 U	0.16 U	0.18 U [0.18 U]	0.041 J	0.18 U [0.059 J]
Chloroform	67-66-3	1.1	1.2	0.080 J	1.4 [1.4]	0.086 J	1.4	0.089 J	0.74 [0.74]	0.077 J	0.34 [0.33]
Chloromethane	74-87-3	3.7	4.2	0.91	0.91 [0.90]	0.78	0.79	0.80 J	0.85 J [0.83 J]	0.90 J	0.84 J [0.97 J]
cis-1,2-Dichloroethene*	156-59-2	0.2		0.10 U	0.14 [0.12]	0.10 U	0.29	0.095 U	0.28 [0.30]	0.10 U	0.12 [0.11]
cis-1,3-Dichloropropene	10061-01-5	2.3	0.4	0.58 U	0.67 U [0.67 U]	0.57 U	0.64 U	0.54 U	0.63 U [0.62 U]	0.60 U	0.61 U [0.62 U]
Cyclohexane	110-82-7	26,000	6.3	0.44 U	0.51 U [0.50 U]	0.43 U	0.098 J	0.15 J	0.29 J [0.26 J]	0.46 U	0.46 U [0.47 U]
Dibromochloromethane	124-48-1	--	--	1.1 U	1.3 U [1.2 U]	1.1 U	1.2 U	1.0 U	1.2 U [1.2 U]	1.1 U	1.1 U [1.2 U]
Dichlorodifluoromethane (Freon 12)	75-71-8	16.5	10	2.0	2.2 [2.2]	2.1	2.1	1.9	2.0 [2.0]	2.3 J	2.2 J [2.4 J]
Ethanol	64-17-5	210	1,300	2.5	20 [19]	2.7	66	3.4	72 [68]	5.3 J	51 J [57 J]

See Notes on Page 2 & 3.

Table 1
Building 3 Indoor Air and Ambient Air Analytical Results

Building 3 VI Assessment Report
Site #C734138: BMS Syracuse North Campus Restoration Area

Date Collected:	CAS Number	Indoor Air Screening Value*		Building 3 - Mar. 2016		Building 3 - Dec. 2016		Building 3 - Jan. 2018		Building 3 - Jan. 2019	
		Commercial (Exceedances Gray Shaded)	Residential (Exceedances Orange Bold)	Ambient AA-3 03/02/16	Indoor IA-3 03/02/16	Ambient AA-3 12/08/16	Indoor IA-3 12/08/16	Ambient AA-3 01/17/18	Indoor IA-3 01/17/18	Ambient AMB-3 01/24/19	Indoor IA-3/DUP 01/24/19
Volatile Organics - TO-15 (ug/m3) (cont'd)											
Ethylbenzene	100-41-4	5.7	6.4	0.21	0.19 [0.30]	0.074 J	0.13	0.16	0.20 [0.21]	0.21	2.1 [1.8]
Hexachlorobutadiene	87-68-3	6.8	0.5	6.8 U	7.9 U [7.8 U]	6.7 U	7.5 U	6.4 UJ	7.4 UJ [7.3 UJ]	7.1 U	7.1 U [7.3 U]
Isopropyl alcohol (2-propanol)	67-63-0	250	210	0.42 J	8.9 J [1.5 J]	0.36 J	4.5	1.5 U	3.2 [2.9]	1.3 J	4.6 J [5.3 J]
Isopropylbenzene (cumene)	98-82-8	1,800	0.8	0.63 U	0.73 U [0.72 U]	0.62 U	0.69 U	0.59 U	0.32 J [0.28 J]	0.65 U	0.40 J [0.67 U]
m,p-Xylene	108-38-3	22.2	11	0.35	0.56 [0.58]	0.22 UB	0.30	0.51	0.57 [0.55]	0.65	10 [9.1]
Methyl ethyl ketone (MEK, 2-Butanone)	78-93-3	12	16	0.66 J	1.1 J [0.46 J]	1.8 U	4.3	0.71 J	0.62 J [0.71 J]	1.9 J	1.2 J [2.3]
4-methyl-2-pentanone (MIBK)	108-10-1	6	1.9	0.52 U	0.61 U [0.60 U]	0.19 J	0.30 J	0.49 U	0.57 U [0.56 U]	0.22 J	0.23 J [0.56 U]
Methyl tert-butyl ether	1634-04-4	11.5	14	0.46 U	0.53 U [0.53 U]	0.45 U	0.51 U	0.013 J	0.011 J [0.013 J]	0.48 U	0.48 U [0.49 U]
Methylene chloride*	75-09-2	3		0.30 J	1.0 U [0.29 J]	0.88 UB	0.98 UB	0.33 J	0.64 J [0.42 J]	0.82 J	0.64 J [0.58 J]
Naphthalene	91-20-3	5.1	0.083	0.34 U	0.39 U [0.38 U]	0.33 UB	0.23 J	0.31 UB	0.24 J [0.36 UB]	0.35 UB	4.6 J [4.2 J]
n-Heptane	142-82-5	1,800	18	0.52 U	0.61 U [0.60 U]	0.52 UB	0.58 UB	0.21 J	0.36 J [0.70]	0.54 U	0.82 [0.99]
n-Hexane	110-54-3	10.2	14	0.45 U	0.52 U [0.52 U]	0.44 UB	0.50 UB	0.46	0.66 [1.0]	0.76	0.61 [0.71]
n-Propylbenzene	103-65-1	4,400	1.5	0.63 U	0.73 U [0.72 U]	0.62 U	0.69 U	0.59 U	0.68 U [0.12 J]	0.65 U	1.2 [1.2]
o-Xylene	95-47-6	7.9	7.1	0.13	0.21 [0.22]	0.084 J	0.12	0.22	0.24 [0.23]	0.32	4.1 [3.8]
Styrene	100-42-5	1.9	1.4	0.54 U	0.63 U [0.63 U]	0.072 J	0.13 J	0.51 U	0.59 U [0.58 U]	0.57 U	0.57 U [0.58 U]
Tetrachloroethene (PCE)*	127-18-4	3		0.039 J	0.077 J [0.081 J]	0.044 J	0.11 J	0.075 J	0.14 J [0.18 U]	0.067 J	0.18 J [0.17 J]
Tetrahydrofuran	109-99-9	8,800	0.8	1.9 U	2.2 U [0.57 J]	1.8 U	0.52 J	1.8 U	2.0 U [2.0 U]	2.0 U	2.0 U [2.0 U]
Toluene	108-88-3	43	57	0.87	1.5 [1.6]	0.41	0.77	0.82	1.0 [0.90]	0.81	5.0 [4.5]
trans-1,2-Dichloroethene	156-60-5	--	--	0.51 UJ	0.024 J [0.027 J]	0.50 U	0.56 UB	0.48 U	0.23 J [0.22 J]	0.53 U	0.53 U [0.54 U]
trans-1,3-Dichloropropene	10061-02-6	1.3	0.25	0.58 U	0.67 U [0.67 U]	0.57 U	0.64 U	0.54 U	0.63 U [0.62 U]	0.60 U	0.61 U [0.62 U]
Trichloroethene (TCE)*	79-01-6	0.2		0.043 J	0.93 [0.93]	0.14 UB	1.6	0.036 J	0.77 [0.82]	0.033 J	0.59 [0.61]
Trichlorofluoromethane (Freon 11)	75-69-4	18.1	12	1.0	1.2 [1.1]	1.2	1.2	1.0	1.2 [1.0]	1.4	1.2 [1.2]
Vinyl chloride*	75-01-4	0.2		0.033 U	0.038 U [0.038 U]	0.032 U	0.018 J	0.031 U	0.036 U [0.035 U]	0.034 U	0.034 U [0.035 U]
Volatile Organics-TIC (ppbv)											
1,2,3-Trimethylbenzene	526-73-8	260	2.5	NR	NR	NR	NR	NR	NR	NR	0.89 JN [1.2 JN]
Pentane	109-66-0	4,400	1,000	NR	1.8 JN [2 JN]	NR	NR	0.79 JN	1.6 JN [1.9 JN]	NR	0.93 JN [1.6 JN]

Notes:

1. Samples were collected by Arcadis and analyzed by Eurofins Air Toxics Laboratories Environmental, LLC of Folsom, CA.
2. * = constituent included in the NYSDOH May 2017 Soil Vapor / Indoor Air Matrices - indoor air guidance values listed guidance maybe used to identify whether to conduct additional monitoring or mitigation.
3. The Commercial Indoor Air Screening Level is the USEPA BASE Study 90th percentile value, when available (except for * constituents included in the NYSDOH Matrices). If a BASE value is not available, the USEPA Industrial Air Regional Screening Level (RSL) using the lower of a target cancer risk of 1×10^{-6} or a target hazard quotient of 1 is used, when available.
4. The Residential Indoor Air Screening Level is the NYSDOH Fuel Oil Study Upper Fence value (except for * constituents included in the NYSDOH Matrices). If a Fuel Oil Study Upper Fence value is not available, the USEPA Residential Air RSL value using the lower of a target cancer risk of 1×10^{-6} or a target hazard quotient of 1 is used, when available. If a USEPA Residential Air RSL value is not available, the USEPA Industrial Air RSL is used, when available.
5. Non-numerical values in the "CAS Number" column are a surrogate identification because no actual CAS number is available.
6. Analytes detected in sample are shown in black font and analytes that are not detected are shown in gray font.
7. Field duplicate sample results are presented in brackets, [].
8. The data has been validated.

Table 1
Building 3 Indoor Air and Ambient Air Analytical Results

Building 3 VI Assessment Report
Site #C734138: BMS Syracuse North Campus Restoration Area

Notes (cont'd):

9. Designations:
- a) *Italic font* = Sample MDL exceeds the constituent's lower indoor air screening value.
 - b) **Black bold font** = Result detected above constituent's lower indoor air screening value.
 - c) **Gray shading** = Result detected above constituent's higher indoor air screening value.
10. Abbreviations:
- = Screening Value not available based on inquiry described in Notes 3 and 4.
 - $\mu\text{g}/\text{m}^3$ = Micrograms per cubic meter.
 - CAS = Chemical Abstracts Service.
 - MDL = Method detection limit.
 - NR = Not reported as a TIC.
11. Qualifier Definitions:
- B = Analyte was detected in the blank and sample.
 - J = Estimated value. Result is greater than the MDL but less than the RL.
 - N = The analysis indicates the presence of a compound which there is presumptive evidence to make a tentative identification.
 - U = Analyte not detected at listed reporting detection limit.
- RL = Reporting limit.
RSL = Regional screening level.
TIC = Tentatively identified compound.
ppbv = Parts per billion by volume.

Table 2
Upgradient Groundwater Results

Building 3 VI Assessment Report
Site #C734138: BMS Syracuse North Campus Restoration Area

Location ID: Date Collected: Sample Name:	CAS Number	TOGS 1.1.1 Groundwater Standard/Guidance Value	BDA-1F				BDA-1WT				
			04/12/16 BDA-1F	07/17/17 BDA-1F	12/08/17 BDA-1F	09/28/18 BDA-1F	04/12/16 BDA-1WT	07/17/17 BDA-1WT	12/08/17 BDA-1WT	09/27/18 BDA-1WT	
			04122016	07172017	12082017	09282018	04122016	07172017	12082017	09272018	
Volatile Organics - USEPA SW-846 Method 8260C (µg/L)											
1,1,1-Trichloroethane	71-55-6	5	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
1,1,2,2-Tetrachloroethane	79-34-5	5	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	5	10 U [10 U]	10 U	10 U	10 U [10 U]	10 U	10 U	10 U	10 U	
1,1,2-Trichloroethane	79-00-5	1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
1,1-Dichloroethane	75-34-3	5	2.0 [2.0]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
1,1-Dichloroethene	75-35-4	5	2.0 [1.0]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
1,2,3-Trichlorobenzene	87-61-6	5	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U	
1,2,4-Trichlorobenzene	120-82-1	5	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U	
1,2,4-Trimethylbenzene	95-63-6	5	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U	
1,2-Dibromo-3-chloropropane	96-12-8	0.04	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U	
1,2-Dibromoethane	106-93-4	0.0006	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
1,2-Dichlorobenzene	95-50-1	3	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U	
1,2-Dichloroethane	107-06-2	0.6	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
1,2-Dichloropropane	78-87-5	1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
1,3,5-Trimethylbenzene	108-67-8	5	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U	
1,3-Dichlorobenzene	541-73-1	3	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U	
1,4-Dichlorobenzene	106-46-7	3	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U	
1,4-Dioxane	123-91-1	--	250 U [250 U]	250 U	250 U	250 U [250 U]	250 U	250 U	250 U	250 U	
2-Hexanone	591-78-6	50	10 U [10 U]	10 U	10 U	10 U [10 U]	10 U	10 U	10 U	10 U	
2-Nitropropane	79-46-9	--	10 U [10 U]	10 U	10 U	10 U [10 U]	10 U	10 U	10 U	10 U	
Acetone	67-64-1	50	20 U [20 U]	20 U	20 U	2.0 J [2.0 J]	20 U	20 U	20 U	0.90 J	
Acetonitrile	75-05-8	--	100 U [100 U]	100 U	100 U	100 U [100 U]	100 U	100 U	100 U	100 U	
Benzene	71-43-2	1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
Bromochloromethane	74-97-5	5	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U	
Bromodichloromethane	75-27-4	50	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
Bromoform	75-25-2	50	4.0 U [4.0 U]	4.0 U	4.0 U	4.0 U [4.0 U]	4.0 U	4.0 U	4.0 U	4.0 U	
Bromomethane	74-83-9	5	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
Carbon disulfide	75-15-0	60	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U	
Carbon tetrachloride	56-23-5	5	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
Chlorobenzene	108-90-7	5	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
Chlorodifluoromethane	75-45-6	5	5.0 U [5.0 U]	5.0 U	5.0 UJ	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 UJ	5.0 U	
Chloroethane	75-00-3	5	0.90 J [0.90 J]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
Chloroform	67-66-3	7	1.0 U [1.0 U]	1.0 U	1.0 U	0.70 J [0.60 J]	1.0 U	1.0 U	1.0 U	1.0 U	
Chloromethane	74-87-3	5	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
cis-1,2-Dichloroethene	156-59-2	5	2.0 [2.0]	1.0	0.70 J	0.70 J [0.70 J]	1.0 U	1.0 U	1.0 U	1.0 U	
cis-1,3-Dichloropropene	10061-01-5	0.4	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
Cyclohexane	110-82-7	--	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U	
Cyclohexanone	108-94-1	--	100 U [100 U]	100 U	100 UJ	100 U [100 U]	100 U	100 U	100 UJ	100 U	
Dibromochloromethane	124-48-1	50	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
Dichlorodifluoromethane	75-71-8	5	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	
Ethyl acetate	141-78-6	--	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U	
Ethyl ether	60-29-7	--	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U	
Ethylbenzene	100-41-4	5	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	

See Notes on Page 2 & 3.

Table 2
Upgradient Groundwater Results

Building 3 VI Assessment Report
Site #C734138: BMS Syracuse North Campus Restoration Area

Location ID: Date Collected: Sample Name:	CAS Number	TOGS 1.1.1 Groundwater Standard/Guidance Value	BDA-1F				BDA-1WT			
			04/12/16 BDA-1F 04122016	07/17/17 BDA-1F 07172017	12/08/17 BDA-1F 12082017	09/28/18 BDA-1F 09282018	04/12/16 BDA-1WT 04122016	07/17/17 BDA-1WT 07172017	12/08/17 BDA-1WT 12082017	09/27/18 BDA-1WT 09272018
Volatile Organics - USEPA SW-846 Method 8260C (µg/L) (cont'd)										
Isobutanol	78-83-1	--	250 U [250 U]	250 U	250 U	250 U [250 U]	250 U	250 U	250 U	250 U
Isopropylbenzene	98-82-8	5	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U
m,p-Xylene	179601-23-1	5	1.0 U [1.0 U]	1.0 U	1.0 U	5.0 U [5.0 U]	1.0 U	1.0 U	1.0 U	5.0 U
Methyl acetate	79-20-9	--	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U
Methyl ethyl ketone (MEK, 2-butanone)	78-93-3	50	10 U [10 U]	10 U	10 U	10 U [10 U]	10 U	10 U	10 U	10 U
Methyl isobutyl ketone (MIBK, 4-methyl-2-pentanone)	108-10-1	† (50)	10 U [10 U]	10 U	10 U	10 U [10 U]	10 U	10 U	10 U	10 U
Methyl tert-butyl ether	1634-04-4	10	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U
Methylcyclohexane	108-87-2	†	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	75-09-2	5	4.0 U [4.0 U]	4.0 U	1.0	0.90 J [0.90 J]	4.0 U	4.0 U	1.0 U	1.0 U
Naphthalene	91-20-3	10	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U
n-Butanol	71-36-3	50	250 U [250 U]	250 U	250 U	250 U [250 U]	250 U	250 U	250 U	250 U
n-Butylbenzene	104-51-8	5	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U
n-Heptane	142-82-5	--	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U
n-Hexane	110-54-3	--	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U
o-Xylene	95-47-6	5	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U
p-Isopropyltoluene	99-87-6	5	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U
sec-Butylbenzene	135-98-8	5	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	100-42-5	5	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U
tert-Butylbenzene	98-06-6	5	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U
Tertiary butyl alcohol	75-65-0	--	20 U [20 U]	20 U	20 U	50 U [50 U]	20 U	20 U	20 U	50 U
Tetrachloroethene	127-18-4	5	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U
Tetrahydrofuran	109-99-9	50	10 U [10 U]	10 U	10 U	10 U [10 U]	10 U	10 U	10 U	10 U
Toluene	108-88-3	5	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	5	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	0.4	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	79-01-6	5	14 [13]	11	5.0	7.0 [6.0]	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	75-69-4	5	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	2	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	1330-20-7	5	1.0 U [1.0 U]	1.0 U	1.0 U	5.0 U [5.0 U]	1.0 U	1.0 U	1.0 U	5.0 U

Notes:

- Results compared to NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1, Ambient Water Quality Standards and Guidance Values.
- Samples were collected by Arcadis.
- Samples were analyzed by TestAmerica Laboratories of Buffalo/Amherst, New York or Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA.
- Analytes detected in sample are shown in black font and analytes that are not detected are shown in gray font.
- Field duplicate sample results are presented in brackets, [].
- The compounds 3-methylphenol and 4-methylphenol cannot be chromatographically separated, and therefore are reported as 3&4-methylphenol.
- Data have been validated.
- Designations:
 - Bold font with gray shading = Result detected at or above NYSDEC TOGS 1.1.1. or a default screening value for purposes of this report.
 - Italic font = Sample MDL exceeds NYSDEC TOGS 1.1.1 value. Note that, for some analytes the MDL was at or below the TOGS 1.1.1 value, while the RL was above the TOGS 1.1.1 value.
 - † = Not determined to be a POC at this time based on review of TOGS Part 1(B)(2) Steps 1 through 3.
 - () = Value in parenthesis and gray font indicate a default screening value being used for purposes of this report.

Table 2
Upgradient Groundwater Results

Building 3 VI Assessment Report
Site #C734138: BMS Syracuse North Campus Restoration Area

Notes (cont'd):

9. Abbreviations:

-- = Substance not regulated by the POC Groundwater Standard (TOGS 1.1.1, Table 3).

µg/L = Micrograms per liter.

CAS = Chemical Abstracts Service.

NYSDEC = New York State Department of Environmental Conservation.

VOC = Volatile organic compound.

10. Qualifier Definitions:

J = Estimated value. Result is greater than the MDL but less than the RL.

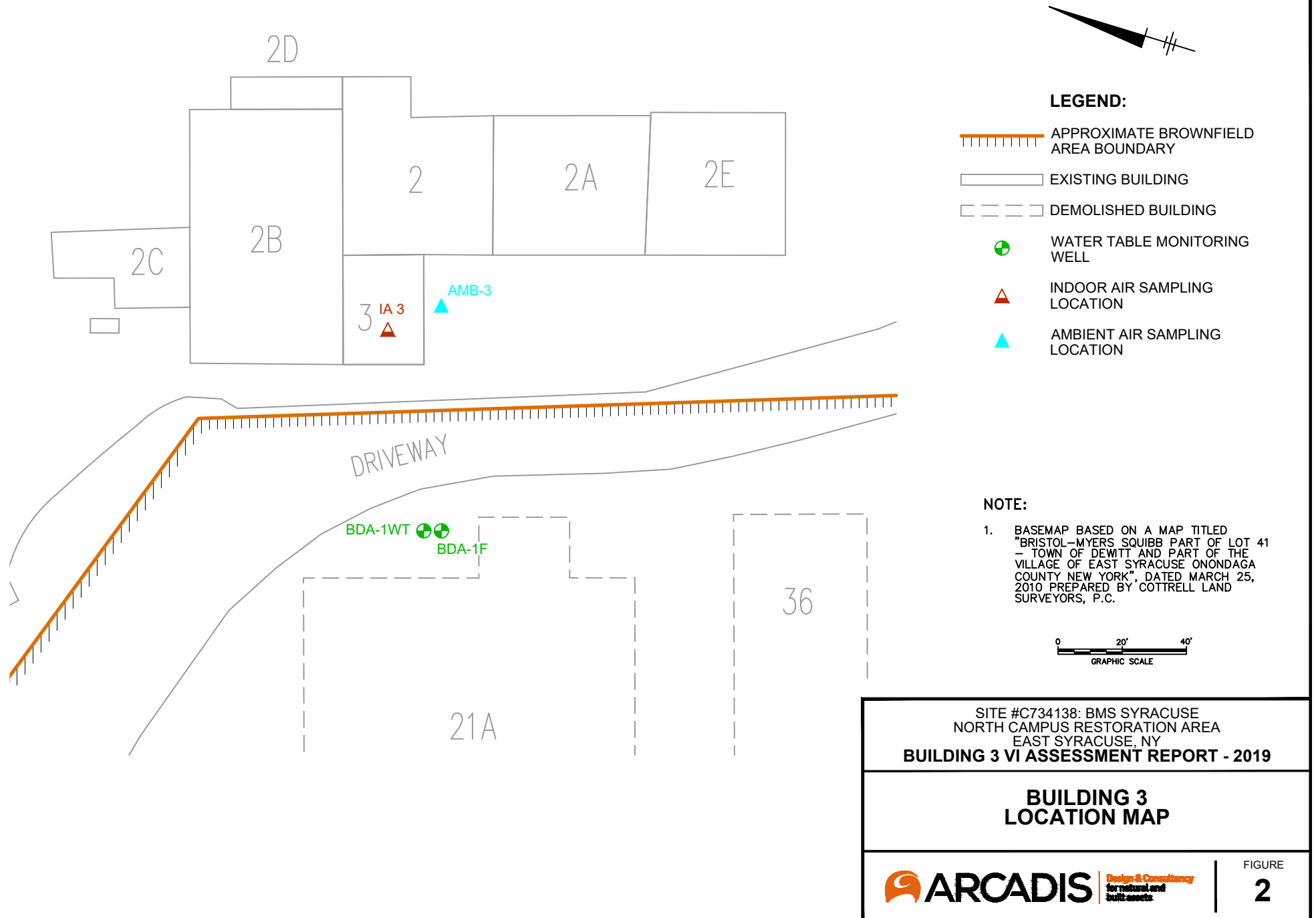
U = Analyte not detected at listed reporting limit.

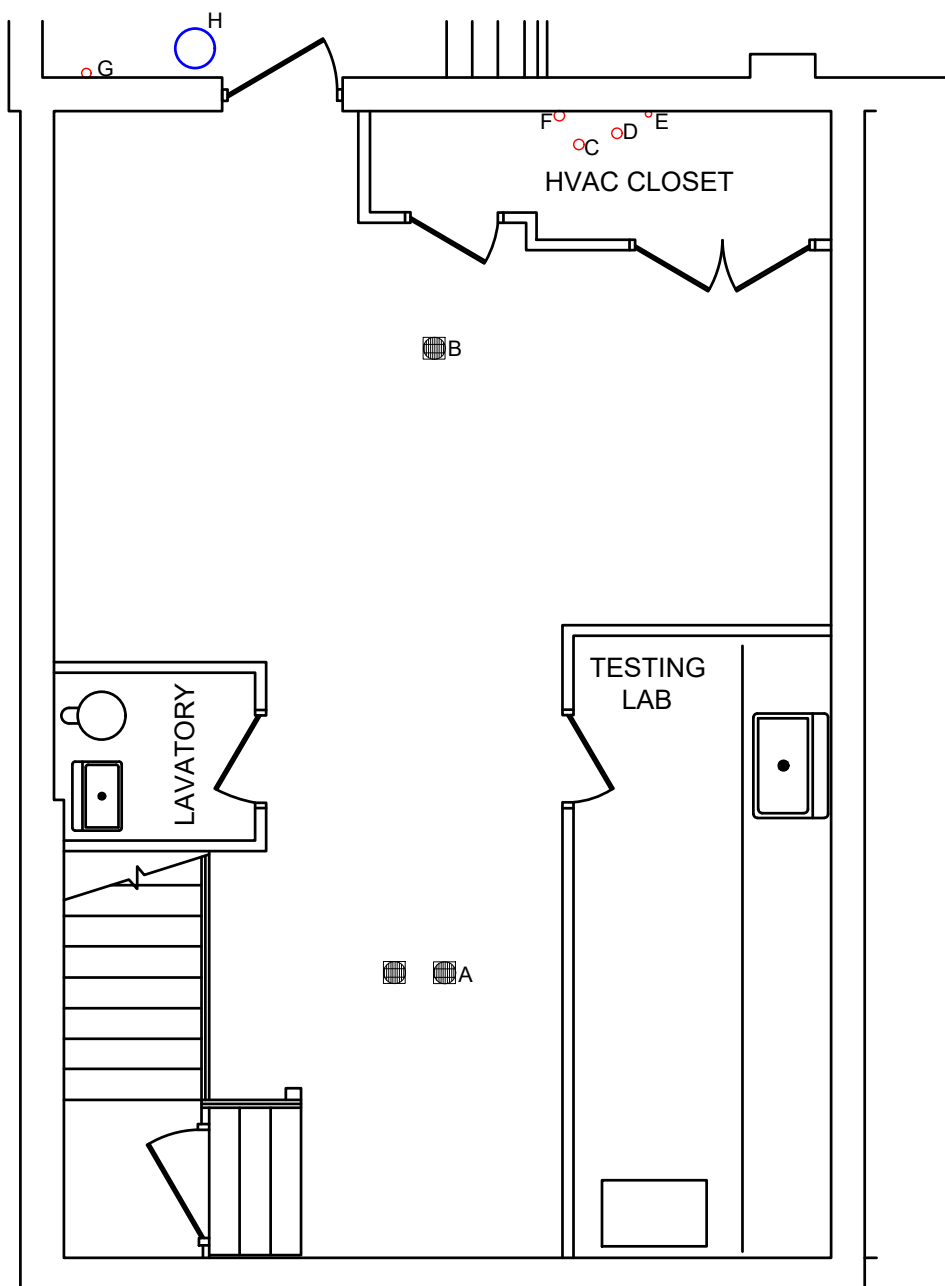
FIGURES



FIGURE
1

XREFS:
BMS-X-BASE





BUILDING 3 BASEMENT FLOOR PLAN

LEGEND:

EXISTING BUILDING FLOOR

DRAIN

CONDENSATE FLOOR SUMP

WALL CONDUIT OR PIPE

Location A:
Installed 3" bushing and flush plug.

Location B:
Installed 6" drain valve.

Location C:
Installed 4" cap on vertical pipe clean-out.

Location D:
Installed 4" drain valve.

Location E:
Abandoned 1-3/4" wall conduit.

Location F:
Fill/Sealed around 4" wall drain pipe.

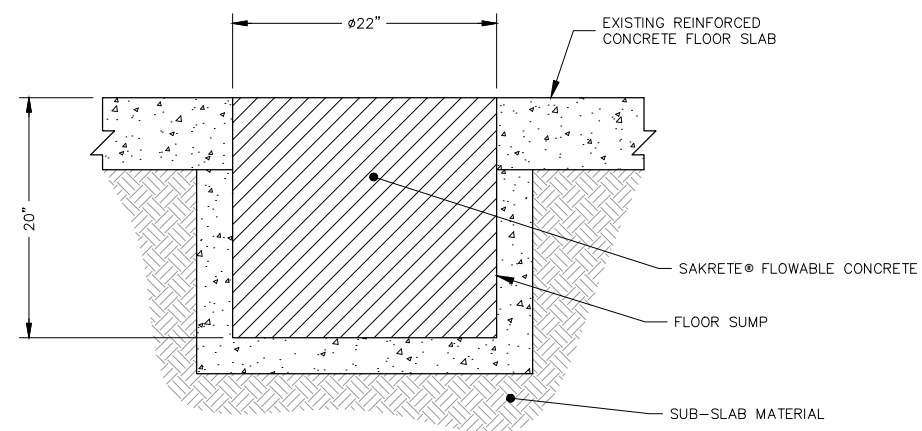
Location G:
Abandoned 4" wall conduit.

Location H:
Abandoned 22"W x20"D floor sump.

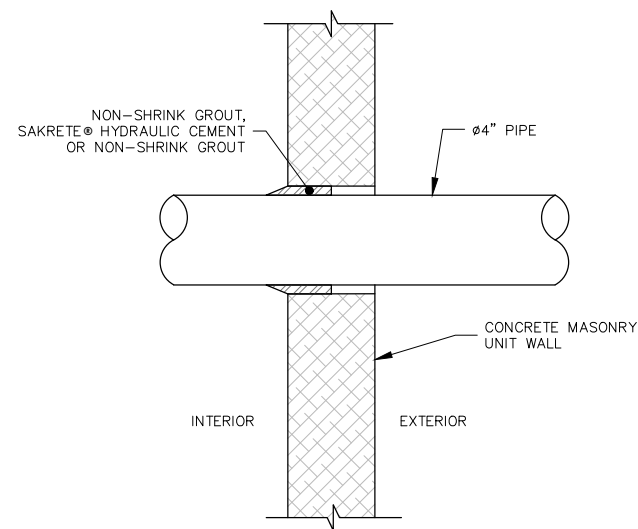
NOTE: SEE SPECIFICATIONS FOR DETAILS.

SITE #C734138: BRISTOL-MYERS SQUIBB SYRACUSE
NORTH CAMPUS RESTORATION AREA
EAST SYRACUSE, NY
BUILDING 3 VI ASSESSMENT REPORT - 2019

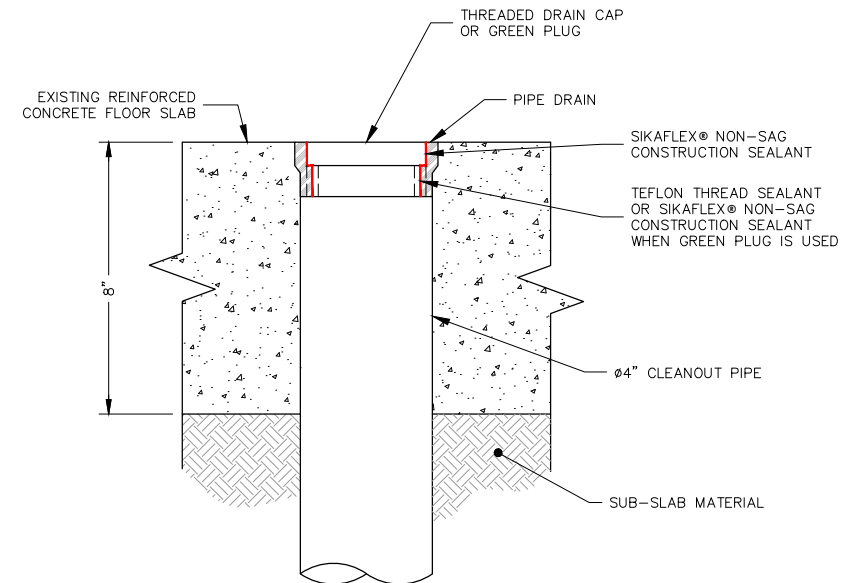
**BUILDING 3 VI MITIGATION
LOCATIONS - 2018**



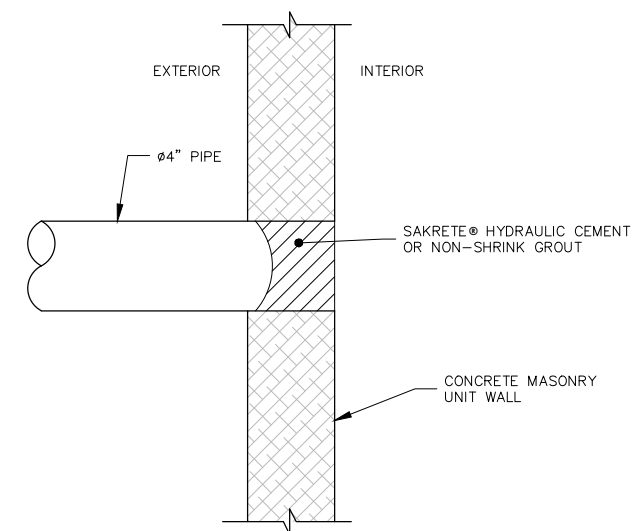
SUMP SEALING DETAIL 1
NOT TO SCALE



BLOCK WALL PENETRATION DETAIL 3
NOT TO SCALE



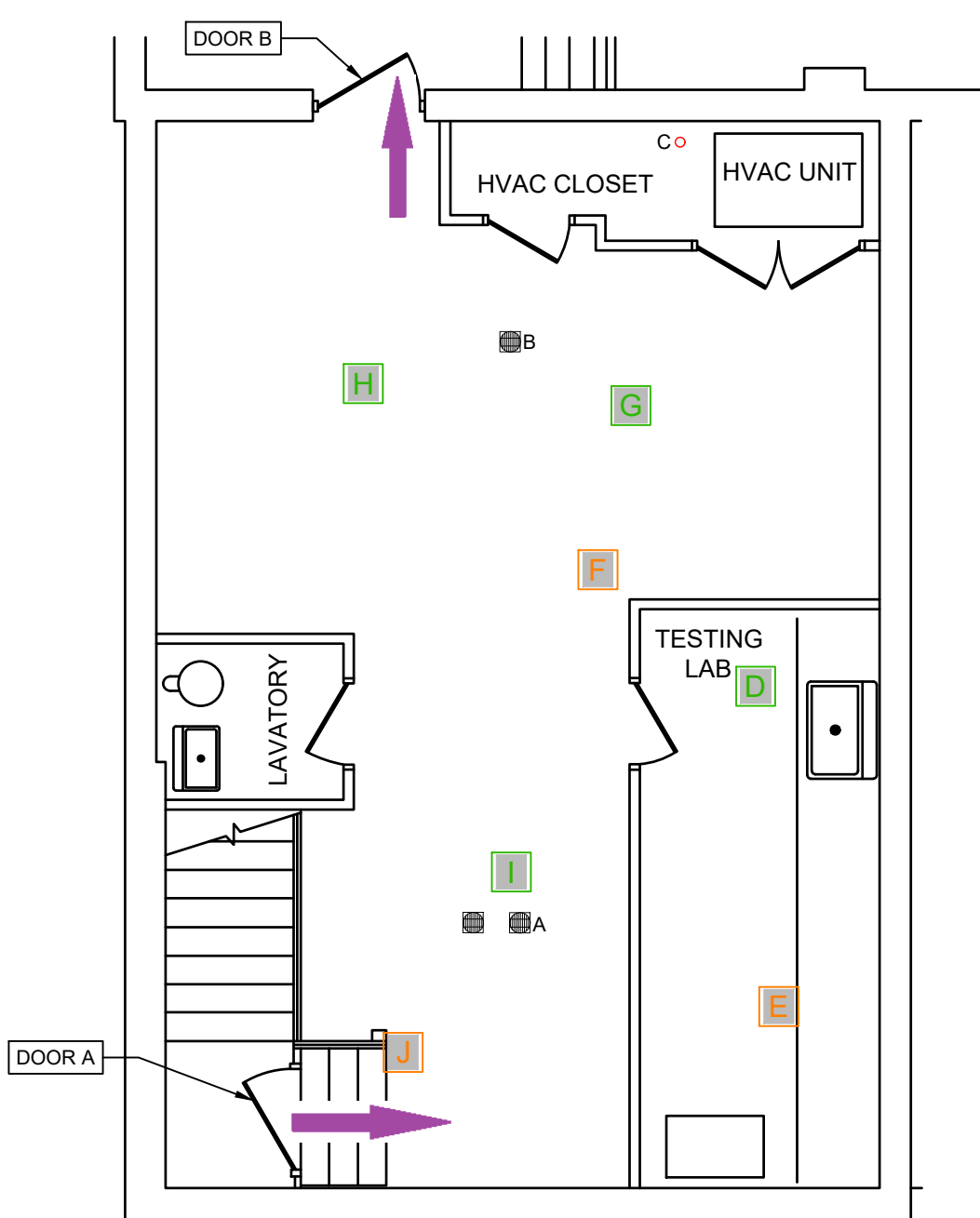
VERTICAL PIPE CLEAN-OUT DETAIL 2
NOT TO SCALE



JOINT SEALING DETAIL 4
NOT TO SCALE

SITE #C734138: BRISTOL-MYERS SQUIBB SYRACUSE
NORTH CAMPUS RESTORATION AREA
EAST SYRACUSE, NY
BUILDING 3 VI ASSESSMENT REPORT - 2019

**BUILDING 3 VI MITIGATION
DETAILS**



BUILDING 3 BASEMENT FLOOR PLAN

LEGEND:

 EXISTING BUILDING

 FLOOR DRAIN

 HVAC RETURN VENT

 HVAC SUPPLY VENT

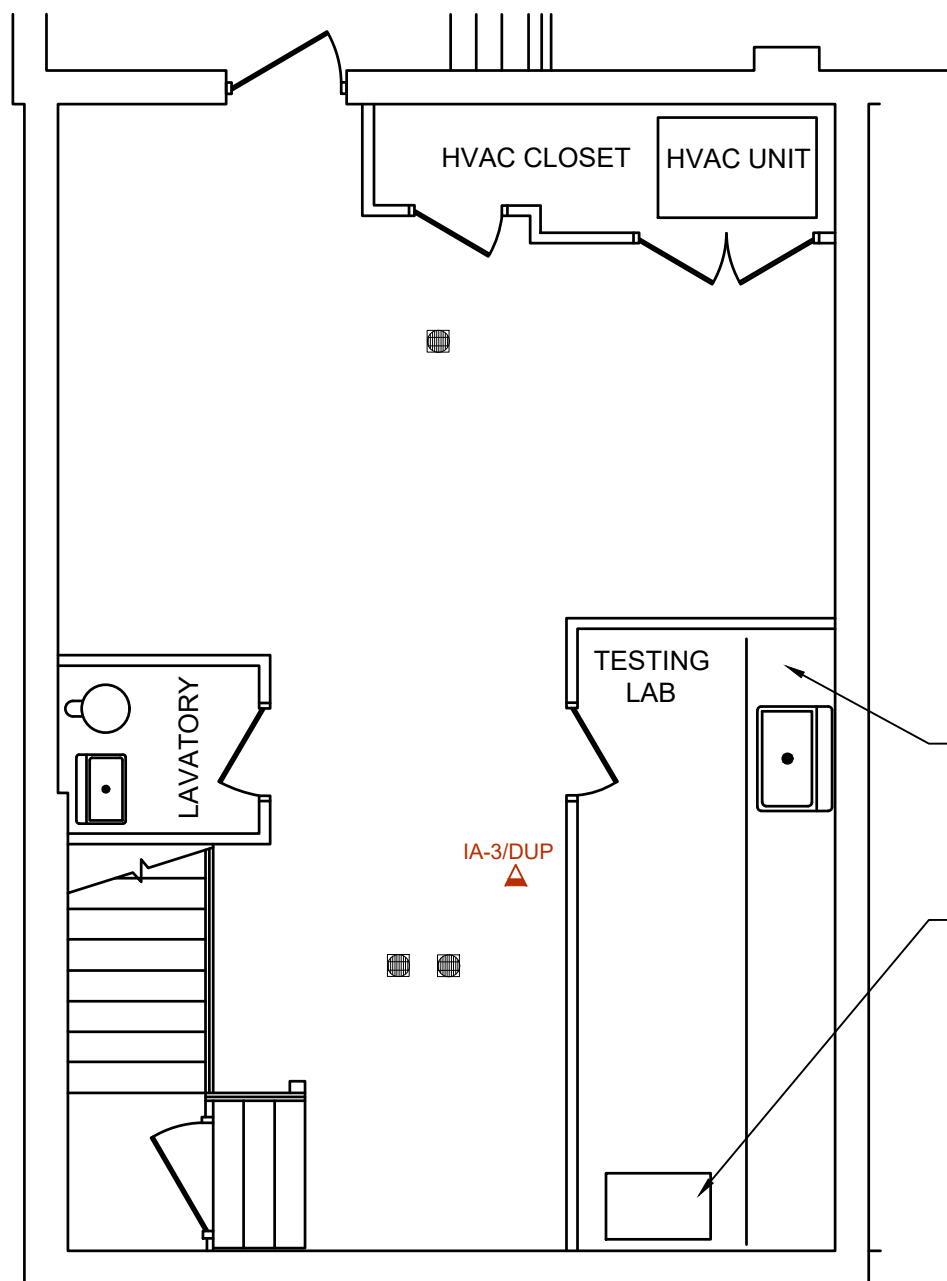
 AIR FLOW DIRECTION

Differential Pressure (in.WC) Relative to
Indoor Air (1/11/19):

Location A: -0.002	Door A: +0.016
Location B: -0.006	Door B: -0.002
Location C: +0.004	From First Floor: +0.017
Location D: +0.160	From Ambient Air: +0.018 -> +0.060
Location E: -0.029	
Location F: -0.212	Air Velocity (FPM):
Location G: -0.012	Flow In- Door A: 387
Location H: +0.020	Floor Out- Door B: 65-105
Location I: +0.111	
Location J: +0.001	

SITE #C734138: BRISTOL-MYERS SQUIBB SYRACUSE
NORTH CAMPUS RESTORATION AREA
EAST SYRACUSE, NY
BUILDING 3 VI ASSESSMENT REPORT - 2019

**BUILDING 3 POST MITIGATION
MEASUREMENTS - JANUARY 2019**



LEGEND:

- ▲ AMBIENT AIR SAMPLE LOCATION
- ▲ INDOOR AIR SAMPLING LOCATION



FLOOR DRAIN

EXISTING BUILDING

NOTES:

1. BUILDING 3 FLOOR PLAN PROVIDED BY BRISTOL-MYERS SQUIBB.
2. THE AMBIENT AIR SAMPLING LOCATION WAS SELECTED BASED ON WIND DIRECTION

SITE #C734138: BRISTOL-MYERS SQUIBB SYRACUSE
NORTH CAMPUS RESTORATION AREA
EAST SYRACUSE, NY
BUILDING 3 VI ASSESSMENT REPORT - 2019

**BUILDING 3 VI SAMPLING
LOCATIONS - JANUARY 2019**

BUILDING 3 BASEMENT FLOOR PLAN

APPENDIX A

Structure Sampling Questionnaire and Building Inventory Forms



Structure Sampling Questionnaire



Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Site Name: Bristol-Myers Squibb Site Code: _____ Operable Unit: _____
Building Code: Industrial Building Name: Building 3
Address: 6000 Thompson Rd Apt/Suite No: _____
City: East Syracuse State: NY Zip: 13057 County: Onondaga

Contact Information

Preparer's Name: Daniel Zuck Phone No: 516-369-2741
Preparer's Affiliation: Arcadis of NY Inc. Company Code: _____
Purpose of Investigation: Soil Vapor Investigation Date of Inspection: 1/22/2019
Contact Name: Anne Locke Affiliation: MANAGER
Phone No: 315-432-2660 Alt. Phone No: _____ Email: anne.locke@bms.com
Number of Occupants (total): 5-10 Number of Children: 0
☒ Occupant Interviewed? ☐ Owner Occupied? ☐ Owner Interviewed?
Owner Name (if different): Bristol-Myers Squibb Owner Phone: NA
Owner Mailing Address: 6000 Thompson Rd

Building Details

Bldg Type (Res/Com/Ind/Mixed): COMMERCIAL/MIXED Bldg Size (S/M/L): MEDIUM
If Commercial or Industrial Facility, Select Operations: MULTI-USE BUILDING
If Residential Select Structure Type: _____
Number of Floors: 2 Approx. Year Construction: 1910 ☒ Building Insulated? ☐ Attached Garage?
Describe Overall Building 'Tightness' and Airflows(e.g., results of smoke tests):
Building has multiple air handlers and has older windows and doors. Ambient air infiltration can be detected at building access locations.

Foundation Description

Foundation Type: BASEMENT-PARTIAL Foundation Depth (bgs): 8 Unit: FEET
Foundation Floor Material: POURED CONCRETE Foundation Floor Thickness: 7 Unit: INCHES
Foundation Wall Material: CONCRETE BLOCK Foundation Wall Thickness: _____
☒ Floor penetrations? Describe Floor Penetrations: Floor drains but have drain plugs
☐ Wall penetrations? Describe Wall Penetrations: None visible
Basement is: PARTIALLY FINISHED Basement is: DRY ☐ Sumps/Drains? Water In Sump?: N/A
Describe Foundation Condition (cracks, seepage, etc.) : Appears solid but coved by tile.
☐ Radon Mitigation System Installed? ☐ VOC Mitigation System Installed? ☐ Mitigation System On?

Heating / Cooling / Ventilation Systems

Heating System: FORCED AIR Heat Fuel Type: GAS ☒ Central A/C Present?

Vented Appliances

Water Heater Fuel Type: ELECTRIC Clothes Dryer Fuel Type: NO CLOTHES DRYER
Water Htr Vent Location: OUTSIDE Dryer Vent Location: NONE



Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

PRODUCT INVENTORY

Building Name: Building 3 Bldg Code: Industrial Date: 1/22/2019

Bldg Address: 6000 Thompson Rd Apt/Suite No:

Bldg City/State/Zip: East Syracuse NY, 13057

Make and Model of PID: ppbRAE 2000 Date of Calibration: 1/22/2019

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
	See attached inventory forms			See attached inventory forms		☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? ☐ Yes ☐ No Were there any elevated PID readings taken on site? ☐ Yes ☐ No ☒ Products with COC?



Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Site Name: Bristol-Myers Squibb Site Code: _____ Operable Unit: _____

Building Code: Industrial Building Name: Building 3

Address: 6000 Thompson Rd Apt/Suite No: _____

City: East Syracuse State: NY Zip: 13057 County: Onondaga

Factors Affecting Indoor Air Quality

Frequency Basement/Lowest Level is Occupied?: ALMOST NEVER Floor Material: CEMENT

☐ Inhabited? ☒ HVAC System On? ☒ Bathroom Exhaust Fan? ☒ Kitchen Exhaust Fan?

Alternate Heat Source: NONE ☐ Is there smoking in the building?

☒ Air Fresheners? Description/Location of Air Freshener: Bathrooms

☒ Cleaning Products Used Recently?: Description of Cleaning Products: Lysol and other disinfectants

☐ Cosmetic Products Used Recently?: Description of Cosmetic Products: _____

☐ New Carpet or Furniture? Location of New Carpet/Furniture: _____

☒ Recent Dry Cleaning? Location of Recently Dry Cleaned Fabrics: Various staff use dry cleaned clothing

☐ Recent Painting/Staining? Location of New Painting: _____

☐ Solvent or Chemical Odors? Describe Odors (if any): _____

☒ Do Any Occupants Use Solvents At Work? If So, List Solvents Used: Various for pipe fittings

☐ Recent Pesticide/Rodenticide? Description of Last Use: _____

Describe Any Household Activities (chemical use,/storage, unvented appliances, hobbies, etc.) That May Affect Indoor Air Quality:

The building is the boiler and maintenance area for the facility. The water testing area has an exhaust fan, as well as a bathroom with cleaners. The cleaning products in the stock room have been identified, marked out, and listed on the inventory forms.

☐ Any Prior Testing For Radon? If So, When?: _____

☒ Any Prior Testing For VOCs? If So, When?: _____

Sampling Conditions

Weather Conditions: RAINY Outdoor Temperature: 32 °F

Current Building Use: MULTI-USE BUILDING Barometric Pressure: 29.1 and rising in(hg)

Product Inventory Complete? ☐ Yes ☒ Building Questionnaire Completed?



Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Building Code: Industrial Address: 6000 Thompson Rd East Syracuse, NY 13057

Sampling Information

Sampler Name(s): Daniel Zuck Sampler Company Code: _____
Sample Collection Date: 1/24/2019 Date Samples Sent To Lab: 1/24/2019
Sample Chain of Custody Number: 1901510 Outdoor Air Sample Location ID: AA-3

SUMMA Canister Information

Sample ID:	<u>AA-3</u>	<u>IA-3</u>	<u>DUP-011718</u>		
Location Code:	<u>See Attached Map</u>	<u>See Attached</u>	<u>See Attached</u>		
Location Type:	<u>OUTDOOR</u>	<u>BASEMENT</u>	<u>BASEMENT</u>		
Canister ID:	<u>N1902</u>	<u>00333</u>	<u>00346</u>		
Regulator ID:	<u>23272</u>	<u>23334</u>	<u>23650</u>		
Matrix:	<u>Ambient Outdoor</u>	<u>Indoor Air</u>	<u>Indoor Air</u>		
Sampling Method:	<u>SUMMA AIR SAMPLI</u>	<u>SUMMA AIR SA</u>	<u>SUMMA AIR SA</u>		

Sampling Area Info

Slab Thickness (inches):					
Sub-Slab Material:					
Sub-Slab Moisture:					
Seal Type:					
Seal Adequate?:	☐	☐	☐	☐	☐

Sample Times and Vacuum Readings

Sample Start Date/Time:	<u>01/24/2019 8:40</u>	<u>01/24/2019</u>	<u>01/24/2019</u>		
Vacuum Gauge Start:	<u>-30</u>	<u>-31</u>	<u>-30</u>		
Sample End Date/Time:	<u>01/24/2019 16:</u>	<u>01/24/2019</u>	<u>01/24/2019</u>		
Vacuum Gauge End:	<u>-5</u>	<u>-5</u>	<u>-5</u>		
Sample Duration (hrs):	<u>8</u>	<u>8</u>	<u>8</u>		
Vacuum Gauge Unit:	<u>in(hg)</u>	<u>in(hg)</u>	<u>in(hg)</u>		

Sample QA/QC Readings

Vapor Port Purge:	☐	☐	☐	☐	☐
Purge PID Reading:					
Purge PID Unit:					
Tracer Test Pass:	☐	☐	☐	☐	☐

Sample start and end times should be entered using the following format: MM/DD/YYYY HH:MM



Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

LOWEST BUILDING LEVEL LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the lowest building level .
The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image

See Attached Building Figure

Design Sketch

Design Sketch Guidelines and Recommended Symbolology

- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch.
- Measure the distance of all sample locations from identifiable features, and include on the layout sketch.
- Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sketch.
- Identify the locations of the following features on the layout sketch, using the appropriate symbols:

B or F	Boiler or Furnace	o	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	xxxxxxx	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	#####	Areas of broken-up concrete
WS	Wood Stoves	● SS-1	Location & label of sub-slab samples
W/D	Washer / Dryer	● IA-1	Location & label of indoor air samples
S	Sumps	● OA-1	Location & label of outdoor air samples
@	Floor Drains	● PFET-1	Location and label of any pressure field test holes.



Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

FIRST FLOOR BUILDING LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the first floor of the building.
The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image

See Attached Building Figure

Design Sketch

Design Sketch Guidelines and Recommended Symbology

- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch.
 - Measure the distance of all sample locations from identifiable features, and include on the layout sketch.
 - Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sketch.
 - Identify the locations of the following features on the layout sketch, using the appropriate symbols:
- | | | | |
|---------------|-------------------|----------|--|
| B or F | Boiler or Furnace | o | Other floor or wall penetrations (label appropriately) |
| HW | Hot Water Heater | xxxxxxx | Perimeter Drains (draw inside or outside outer walls as appropriate) |
| FP | Fireplaces | ##### | Areas of broken-up concrete |
| WS | Wood Stoves | ● SS-1 | Location & label of sub-slab samples |
| W/D | Washer / Dryer | ● IA-1 | Location & label of indoor air samples |
| S | Sumps | ● OA-1 | Location & label of outdoor air samples |
| @ | Floor Drains | ● PFET-1 | Location and label of any pressure field test holes. |



Structure Sampling Questionnaire and Building Inventory
New York State Department of Environmental Conservation

OUTDOOR PLOT LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the outdoor plot of the building as well as the surrounding area. The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image

See Attached Building Figure

Design Sketch

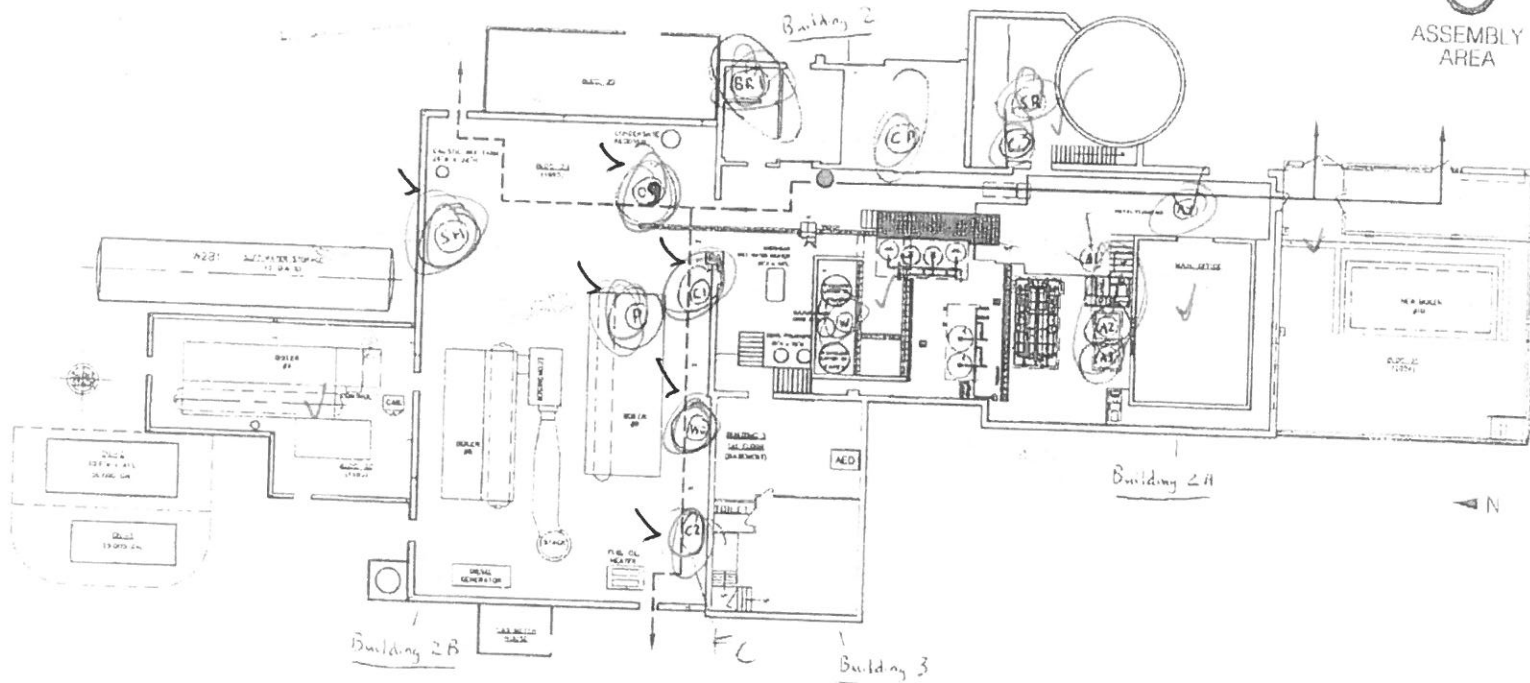
Design Sketch Guidelines and Recommended Symbology

- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch.
 - Measure the distance of all sample locations from identifiable features, and include on the layout sketch.
 - Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sketch.
 - Identify the locations of the following features on the layout sketch, using the appropriate symbols:
- | | | | |
|---------------|-------------------|----------|--|
| B or F | Boiler or Furnace | o | Other floor or wall penetrations (label appropriately) |
| HW | Hot Water Heater | xxxxxxx | Perimeter Drains (draw inside or outside outer walls as appropriate) |
| FP | Fireplaces | ##### | Areas of broken-up concrete |
| WS | Wood Stoves | ● SS-1 | Location & label of sub-slab samples |
| W/D | Washer / Dryer | ● IA-1 | Location & label of indoor air samples |
| S | Sumps | ● OA-1 | Location & label of outdoor air samples |
| @ | Floor Drains | ● PFET-1 | Location and label of any pressure field test holes. |

Building Inventory Forms

EVACUATION PLAN EXIT ROUTES

(A)
ASSEMBLY
AREA



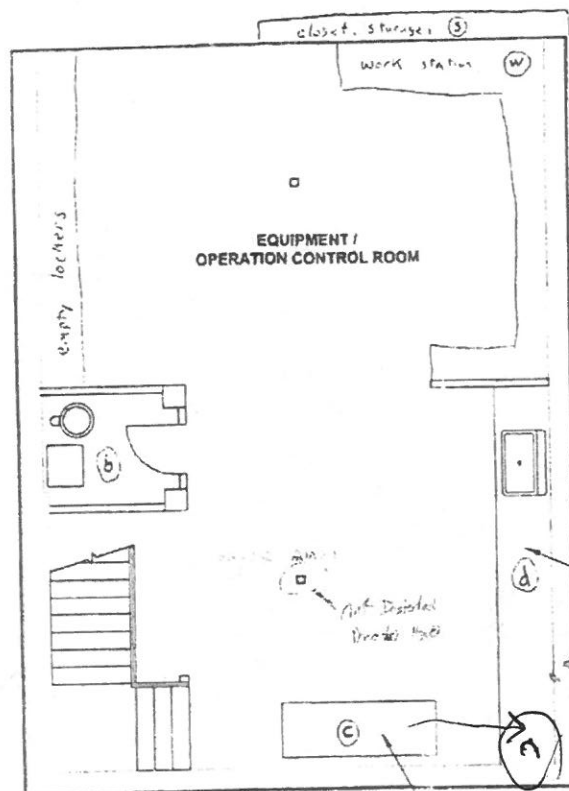
BLDG. 2 BOILER HOUSE
1ST FLOOR
EXIT ROUTES

YOU ARE HERE = ●
PRIMARY = —
ALTERNATE = - - -

FIRST AID = FA
AUTOMATED EXTERNAL DEFIBRILLATOR = AED
FOR ALL EMERGENCIES CALL 2300

B-2-9504
Rev 0
COCR 2115103

CONSULTING ENGINEER: ARCADIS ENVIRONMENTAL & INFRASTRUCTURE, INC. 1000 WEST 10TH AVENUE, SUITE 200, DENVER, CO 80202
 PROJECT: NORTH CAMPUS RESTORATION AREA, BUILDING 3, FIRST FLOOR PLAN AND PROPOSED SAMPLE LOCATIONS
 DATE: 10/1/2013



BUILDING 3

LEGEND:

- EXISTING BUILDING
- PROPOSED SUB-SLAB SOIL VAPOR SAMPLING LOCATION
- PROPOSED INDOOR AIR SAMPLING LOCATION
- PROPOSED SOIL BORING
- PROPOSED SOIL VAPOR SAMPLING LOCATION
- PROPOSED AMBIENT AIR SAMPLE LOCATION
- FLOOR DRAIN

NOTES:

1. BUILDING 3 FLOOR PLAN PROVIDED BY BRISTOL-MYERS SQUIBB
2. THE ACTUAL AMBIENT AIR SAMPLING LOCATION WILL BE SELECTED IN THE FIELD SUCH THAT IT IS NEAR A HEATING, VENTILATION, AND AIR CONDITIONING SYSTEM INTAKE FOR THE BUILDING

O Product Inventory Area



SITE #0734138 BMS SYRACUSE
NORTH CAMPUS RESTORATION AREA
EAST SYRACUSE, NY

**BUILDING 3
FIRST FLOOR PLAN AND
PROPOSED SAMPLE LOCATIONS**

ARCADIS

Structure Sampling Questionnaire and Building Inventory
New York State Department of Environmental Conservation

④

8/1/22/19

PRODUCT INVENTORY

Building Name: Building 2 (Floor 1)

Bldg Code:

Date: 2/29/2016

Bldg Address:

Apt/Suite No:

Bldg City/State/Zip:

Make and Model of PID: 117 ev pro RAE 3000

Date of Calibration:

[illegible]

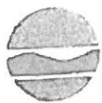
* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete?

Were there any elevated PID readings taken on site?

☐ Products with COC?



Structure Sampling Questionnaire and Building Inventory
New York State Department of Environmental Conservation

✓ 1/22/19

PRODUCT INVENTORY

Building Name: Building 2A (Flr. 1)

Bldg Code: _____

Date: 2/24/2016

Bldg Address: _____

Apt/Suite No: _____

Bldg City/State/Zip: _____

Make and Model of PID: 11.7 eV ppb RAE 3000

Date of Calibration: _____

(ppm)

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
B2A-A1	Downstream 501 concentrate	55 gal.	UO	101-7885 -7886 -7887 -7888	0.00	✓
1/22 ✓ B2A-A3	Sodium Bisulfite	60 gal.	U		0.00	✓
1/22 ✓ B2A-A2	Antiscalant	30 gal.	U	-7889 -7890 -7891	0.00	✓
B2A-A4	City Rings	55 gal.	U	-7892	0.00	✓
1/22 ✓ B2A-SR	Intercool R-1731	55 gal.	U	(side room) -7894 -7895	0.00	✓
1/22 ✓	Intercool R-4441	55 gal.	U	(side room) -7896 -7897	0.00	✓
B2A-SR	Resin Cleaner	3 gal.	U	-7898 -7899	0.00	✓
	MALE-2195			-7900		
	Stabizex ST 70	3 gal.	U	-7901	0.00	✓
	Biosphere 3010	5 gal.	UO	-7902 -7903	0.00	✓
1/22 ✓	Biosphere 261T	5 gal.	UO	-7904 -7905	0.00	✓
1/22 ✓	Alkafarm Vinyl AKFI	1 gal	U	MA 20161202 -163801		✓
	Mu-Lugen Cat-Blue LT	32 oz	UO	MA		✓
	4143-24					
1/22 ✓	CF-20 Co.1 Flush	1 gal	UO	MA		✓
	70-500					
1/22 ✓	Shuman Williams Pro	5 gal	U	Ethylbenzene	-164322	✓
1/22 ✓	Included Enamel 654W151	5 gal	U			✓
1/22 ✓	Shuman Williams Pro	5 gal	U	MA	-164331	✓
	Floor Coating BPA					
	Full Seal Airgrade 95	32 oz	U	MA	-164617	✓

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? ☐

Were there any elevated PID readings taken on site? ☐

Products with COC? ☐

1/22 ✓



PRODUCT INVENTORY

Bldg Code:

Date: 2/29/2016

Bldg Address:

Apt/Suite No:

Bldg City/State/Zip:

Make and Model of PID: 11,7 cu pte RHE 300

Date of Calibration:

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
B2B-C2 Mid	C-4 Refrigeration oil	1 gal.	u	101-7936	0.00	✓
Mid	liquid scale 1/4-Carbon dissolver 4330-28	x2 1 gal.	u	7937 -7938 7939	0.00	✓
Mid	Nu-Clear, thread cutting (Ridgid) oil	1 gal.	u	-7940 -7941	0.00	✓
B. Room	gear oil Tribology T-1050	1 gal.	u	(Bilubite) -7942 -7943	0.00	✓
Mid	Methanol (Spray Bottle)	0.5 L	u	-7944 -7945	0.00	✓
↓	Royal Purple, synthetic ultra performance grease	10 x7 14 oz.	u	-7946 7947	0.00	✓
	Synthetic polyol ester refrigeration lubricant	x3 1 gal.	u	Emkimate 4315-00 -7948 -7949	0.00	✓
Mid 2	32 Polyol Ester refrigeration lubricant	1 gal.	u	-7950 -7951	0.00	✓
Mid 2	Virginia AION depressing solvent	x2 1 gal. x4 x6 x6	u	Acetone, tetrachloroethylene -7952 -7953	0.00	✓
Mid 1	Perma Frost, Synthetic	1 gal.	u	-7954 -7955	0.00	✓
KCP	Full solv orange 45	1 gal.	u	-7956 -7959	0.00	✓
B. Room	Synthetic Tubercast Edmure BK	5 gal.	u	-7960 -7961	0.00	✓
B. Room	Trine oil Refrigeration-22	2.5 gal.	u	-7962 -7963	0.00	✓
B. Room	Industrial Enamel HS	5 gal.	u	BS 4 VZ 401 6401-15000 -7964 -7965	0.00	✓
B. Room	Pro Max 200 Paint 6501-75417	1 gal.	u	-7966 -7967	0.00	✓
✓ B. Room	168 (oil) ? (oil lab)	1 gal.	u	-7968 -7969	0.00	✓

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Product Inventory Complete?

Were there any elevated PID readings taken on site?

Products with COC?



Structure Sampling Questionnaire and Building Inventory
New York State Department of Environmental Conservation

1/22/19 ✓

PRODUCT INVENTORY

Building Name: Building 2B (Floor 1) Bldg Code: _____ Date: 2/24/2016
Bldg Address: _____ Apt/Suite No: _____
Bldg City/State/Zip: _____
Make and Model of PID: 11.7 eV ppb RAE 3000 Date of Calibration: _____

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
EB	B3F1-E	Indicator Liquid	2x	500ml	7781	7782
EB	B2A-E1	Prosper 2647	4x	5gal	7404	7405
1/22	✓ B2B-C1	C5-A, lubricant	2x 8oz	U	-7406 -7407	0.00
		Ant-seizing lubricant	11.5oz	U	-7408 -7409	0.00
		Polyurethane foam	10oz	U	-7410 -7411	0.00
1/22	✓	Surface Prep, degreaser	16oz	U	-7415 -7416	0.00
1/22	✓	Loctite 567, thread sealant	250ml	U	-7417 -7418	0.00
1/22	✓ B2B-WO	Waste oil	55gal	U	-7419 -7420	0.00
1/22	✓ B2B-C2	AB150 Aromatic Benzene	1gal	U	-7421 -7422	0.00
1/22	✓	CF-20, coil flush cleaner	1gal	U	-7423	0.00
1/22	✓	Industrial Enamel 45	1gal	U	-7424 -7425	0.00
		Weld-on 711	1gal	U	-7426 -7427	0.00
1/22	✓	Weld-on 412 purple primer	0.5 gal	U	-7428 -7429	0.00
1/22	✓	Weld-on PC-64 primer	1 gal	U	-7430 -7431	0.00
1/22	✓	Swagelok sharp, leak detector	0.25 oz	U	-7432 -7433	0.00
1/22	✓	Mobil Synthetic Grease	14oz	U	-7434 -7435	0.00

* Describe the condition of the product containers as Unopened (UO), Used (U), or Deteriorated (D)

** Photographs of the front and back of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? ☐ Were there any elevated PID readings taken on site? ☐ Products with COC? ☐

Building Name: Building 28 (Floor 1)

Date: 2/29/2016

1/22/19 ✓

Make and Model of PID: 117 ev per RAE 3000

Location	Description	Photo	Size	Condition	PID Reading (ppm)
✓ B2B-CZ mid 2	730 SPRAGRIP	101-7970	10.2	U	0.00
✓	mid 2 STEEL-IT, anti-rust	-7971	10.2	U	0.00
	Ti-flaw, lubricant	-7972	10.2	U	0.00
✓	mid 2 Lynx-Tack, adhesive	-7973	10.2	U	0.00
✓	TOP Rust Tough, Krylon (1100-579)	-7974	15.02	U	0.00
✓	TOP Enamel, Duxon, Rustoleum	-7975	15.02	U	0.00
✓	Fly Insect Killer, Ortho	-7976	18.02	U	0.00
✓	rust-cleam, 720 clear	-7977	18.02	U	0.00
✓	Paint Marking, precision, white	-7978	18.02	U	0.00
1/22 ✓	mid 1 723 Sparacel, penetrating oil	-7979	10.02	U	0.00 ✓
✓	mid 2 Ti-flaw, lubricant	-7980	12.02	U	0.00
✓	TOP T.F.E. lubricant	-7981	10.5 02.	U	0.00
✓	Pin and chain brushing tube	-7982	12.02	U	0.00
✓	Ran-Tack, adhesive spray	-7983	12.02	U	0.00
✓	Loctite, Penetrant	-7984	6.02	U	0.00
✓	Berol, mol. spray oil #3	-8000	18.02	U	0.00
1/22	Bottom isc-heat, Fuel cleaner	-8001	12.02	U	0.00
1/22	TOP Transmision Fluid, type-F	-8002	1.02	U	0.00 ✓
1/22	mid Vacuum Pump oil	-8003	1.02	U	0.00 ✓
1/22 ✓	B2B-SH Sodium Hydroxide 50%	-8004	55 gal.	U	0.00 ✓
1/22 ✓	B2B-09 oxygen storage, ALIC 1720	-8005	~55 gal.	U	0.00 ✓
	B2B-P Clear PVC Primer	-8006	1.02	U	0.00
	WH Weather medium	-8007	16.02	U	0.00
	Clear PVC cement	-8008	1.02	U	0.00
	body plastic cement	-8009	1.02	U	0.00
	Reck's Seal (5) Fire threat sealant	-8010	1.02	U	0.00
1/22 ✓	B2B-C1 Loctite - Adhesive and Anti-Seize (7000)	-8011	16.02	U	0.00

yes (noted in)

Not checked

Ref: 1516202
152557



Structure Sampling Questionnaire and Building Inventory
New York State Department of Environmental Conservation



1/22/19 ✓

PRODUCT INVENTORY

Building Name: Building 2 (Floor 2) Bldg Code: _____ Date: 11/29/17

Bldg Address: _____ Apt/Suite No: _____

Bldg City/State/Zip: _____

Make and Model of PID: 11.7 eV ppb RAE 3000 Date of Calibration: _____

	Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	(ppm)		img #
						PID Reading	COC Y/N	
1/22	B2-C2	Weld on - PC-64 Primer cleaner	32oz	U	img - 3988 - 3989	0.15		✓
1/22	↓	Hercules - Plastic pipe cement	32oz	U	Acetone, cyclohexanone, n-butyl ethyl ketone, tetrahydrofuran	0.02	-3990 -3991	✓
1/22	↓	Hercules Primer Purple	32oz	U	"	0.02	-3992 -3993	✓
1/22	↓	Hercules Primer Clear	32oz ²	U	"	0.03	-3994 -3995	✓
1/22	B2-C1	Leak lock joint sealant compound	4oz	U		0.0	4008 4009	✓
1/22	↓	Faucet + Valve stem lubricant	4oz	U		0.0	4010 4011	✓
1/22	↓	Loctite RC680 retaining compound	1.7oz	U		0.0	4012 4013	✓
1/22	↓	Loctite 262 Thread locker	1.7oz	U		0.0	4012 4013	✓
1/22	↓	Tech spray (tube) Heat Shrink compound	4oz	U		0.0	4014 4015	✓
1/22	↓	Surface prep 77	16oz	U	pyrophosphate, butoxyethanol	0.0	4016 4017	✓
1/22	↓	Teflon Industrial Lube	12oz	U		0.0	4016 4017	✓
1/22	B2-BR	Alpha HP ^(spray) cleaner	24oz	U	SDS #MS0800296	0.0	4018 4019	✓
1/22	↓	Pantell wipes	270 count	U	Benzalkonium Chloride	0.0	4020 4021	✓
1/22	↓	Dawn Ultra soap	9oz	U		0.0	4022 4023	✓
	B2A-A3	Dantherm SR-1	55g/l	U		0.0	4024	
	B2A-A1	Antiscatant (contaminant)						

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Product Inventory Complete? ☐ Were there any elevated PID readings taken on site? ☐ Products with COC? ☐



Structure Sampling Questionnaire and Building Inventory
New York State Department of Environmental Conservation

1/22/19

PRODUCT INVENTORY

Building Name: Building 2 Floor 1 Bldg Code: _____ Date: 11/29/17
Bldg Address: _____ Apt/Suite No: _____
Bldg City/State/Zip: _____
Make and Model of PID: 11.7 cu ppb RAE 3000 Date of Calibration: _____

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
B2-A1	CWTA 200 Foam Control Agent	4gal	U		0.0	4025 (✓)
	ST-270 ?	4gal	U		0.0	4026 (✓)
	Starbrex-ST70	4gal	U	Sodium hypochlorite	0.0	4027 4028 (✓)
	Permatreat PC-141T	4gal	U		0.0	4029 4030 (✓)
B2-A1	3D Tracer 301465	4gal ^{x5}	U		0.0	4031 (✓)
	Naleo 7341 (10% fall)	5gal ^{x4}	U		0.0	4032 (✓)
1/22 B2-C3 TOP	Flex Seal spray can	14oz ^{x8}	1XU/7XUO	Toluene	0.0	4033 4034 (✓)
1/22 B2 C3 TOP	Stop Gap! white lightning	12oz	UO		0.0	4035 4036 (✓)
1/22	Sprayon Lubricant #711	11oz	U	2-Butoxyethanol	0.0	4037 4038 (✓)
1/22	Sprayon Chain + Pin Brushing lube #202	11oz	U		0.0	4039 4040 N/A (✓)
1/22	Cut-spray: Pan spray leak sealer	16oz	U		0.0	4041 4042 (✓)
1/22	CRL Contact cleaner 2000	13oz	U		0.0	4043 4044 (✓)
1/22	TFE Lubricant 6078	10.5oz ^{x4}	U	Xylene, Acetone, Cyclohexane, Dimethyl ether, hydrocarbon propyl	0.0	4045 4046 (✓)
1/22	Crown: Spray contact adhesive	14oz	U	Acetone, heptane, cyclohexane	0.0	4047 4048 (✓)
1/22	CRL electrical grade lube	11oz	U		0.0	4049 4050 4051 (✓)
1/22	Industrial chisel Rustolone Precision lube	17oz ^{x4}	U	Xylene, Toluene, Acetone	0.0	4052 4053 (✓)

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

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Product Inventory Complete? ☐ Were there any elevated PID readings taken on site? ☐ Products with COC? ☐



Structure Sampling Questionnaire and Building Inventory
New York State Department of Environmental Conservation

U 1/22/19

PRODUCT INVENTORY

Building Name: Building 2 Floor 1

Bldg Code: _____

Date: 11/29/17

Bldg Address: _____

Apt/Suite No: _____

Bldg City/State/Zip: _____

Make and Model of PID: 11.7 ev Pro RAE 3000

Date of Calibration: _____

	Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
1/22	B2-C3 TOP	Rustoleum enamel	15oz x4	U	Xylol + Acetone	0.0	4054 4052 ✓
1/22	B2-C3 TOP	Krylon - Rust Tough	15oz x4	U		0.0	4056 4057 ✓
	B2-C3 MID	ORTHO Flying Insect Killer	18oz	U	Tetramethrin, xylol	0.0	4058 4059 ✓
		LOCQUIC Pest Repellent	6oz	D/U	1,1,1-Trichloroethane	0.012	4060 4061 ✓
1/22		Chatterton 723 sprayable penetrating oil	12oz	U		0.00	4062 4063 ✓
1/22		Tri-flow industrial lubricant	12oz	U		0.0	4064 4065 ✓
1/22		Spray on Anti-Seize Lubricant	11oz	U	heptane	0.0	4066 4067 ✓
1/22		Steel it, anti-rust spray	14oz	U	Xylol	0.0	4068 4069 ✓
1/22		Lynx-Tack spray adhesive	10oz	U	Isobutane, Acetone	0.0	4070 4071 ✓
1/22		Rustoleum clear seal	13oz	U	Toluol and Xylol	0.0	4073 4074 ✓
1/22		Bemol: Mol spray #3	12oz	U	Butane	0.0	4075 4076 ✓
1/22		Ram Track spray adhesive	12oz	U	Methylene chloride	0.0	4077 4078 ✓
1/22		Virginia Varnish 0.1		U	Paraffine Petroleum 0.1	0.0	4080 4081 ✓
1/22		Chatterton 730 Spray	12oz	U	heptane + Naphtha	0.0	4082 4083 ✓
1/22	↓	Spray-on red insulating finish	15oz x12	U	Xylol, Toluene, Acetone, propylene, butane	0.0	4084 4085 ✓
1/22	B2-C3 MID	E-Z WELD 914 PPR (cleaner)	8oz	U	Acetone	0.0	4088 4089 ✓

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

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Product Inventory Complete? ☐

Were there any elevated PID readings taken on site? ☐

☐ Products with COC?



Structure Sampling Questionnaire and Building Inventory
New York State Department of Environmental Conservation

U

11/22/19 ✓

PRODUCT INVENTORY

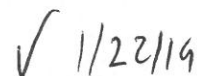
Building Name: B2 F1 Bldg Code: _____ Date: 11/29/17
Bldg Address: _____ Apt/Suite No: _____
Bldg City/State/Zip: _____
Make and Model of PID: 11.7 ev Pro RAE 3000 Date of Calibration: _____

	Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
1/22	B2-C3 Mid	E-Z Weld 908 Multi-purpose cement	8 oz	U	Acetone, Cyclohexane, Tetrahydrofuran	0.0 4090 4091	✓
1/22		Hercules PVC Primer clear	16 oz	U	Tetrahydrofuran, cyclohexanone	0.0 4092 4093	✓
1/22		E-Z Weld purple primer	16 oz	U	Tetrahydrofuran, cyclohexanone	0.0 4094 4095	✓
1/22		Cantex Low VOC wood + solvent	16 oz	U	" "	5.1 0.21 4096 4097	✓
		Wet-Weld PVC Blue Cement	16 oz	U	Tetrahydrofuran, Cyclohexanone, Acetone	0.0 4098 4099	✓
1/22		Carlton clear primer	32 oz	U	Cyclohexanone, Tetrahydrofuran, Acetone	10.1 4101 4102	✓
1/22		NAPA 10W-30 motor oil	32 oz	U		0.0 4103 4104	✓
1/22	✓	Shurwin Williams white enamel	8.5 124 oz	U	Ethyl benzene	0.0 4105 4106	✓
1/22	B2-C3 Bottom	Flex Seal Liquid	124 oz ^{x2}	U	Toluene	0.0 4109 4110	✓
1/22		Shurwin Williams exterior Acrylic latex	118 oz	U		0.0 4111 4112	✓
1/22		Premium Enviro Pac hydraulic oil HF-101	1 gal	U		0.0 4113 4114	✓
1/22		Sunny Side low odor mineral spirits	1 gal ^{x2} 1 gal	U		0.0 4115 4116	✓
1/22	✓	Shurwin Williams A-100 Acrylic latex	5.70 oz	U		0.0 4117 4118	✓
1/22	B2-SR	Diversey Slide cleaner	1 gal ^{x2} 1 gal	U		0.0 4119 4120	✓
1/22	B2-SR	Gorx handwash	1.25 L	UO		0.0 4121 4122	✓
1/22	B2-SR	Nalco Trac 107	55 gal	U		0.0 4123	✓

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

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Product Inventory Complete? ☐ Were there any elevated PID readings taken on site? ☐ Products with COC? ☐



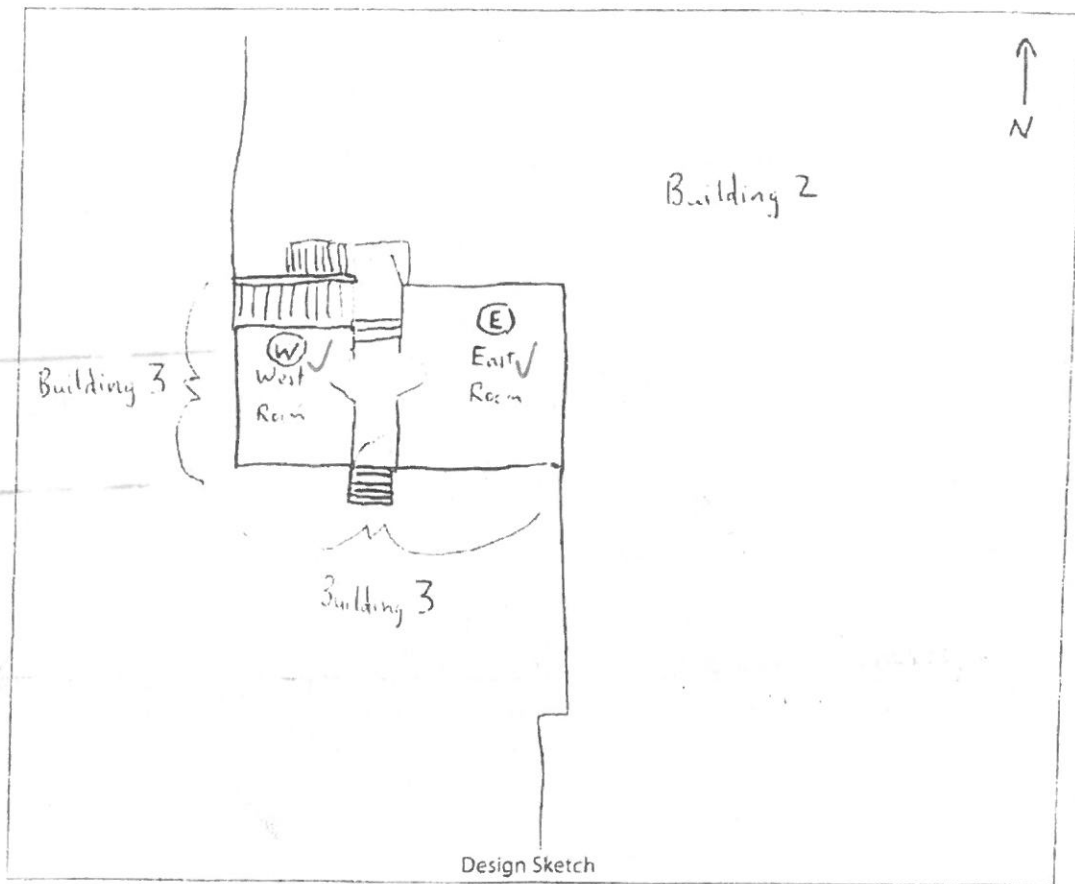


Structure Sampling Questionnaire and Building Inventory
New York State Department of Environmental Conservation

FIRST FLOOR BUILDING LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the first floor of the building.
The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image



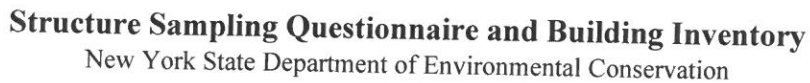
Design Sketch

Design Sketch Guidelines and Recommended Symbology

- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch.
- Measure the distance of all sample locations from identifiable features, and include on the layout sketch.
- Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sketch.
- Identify the locations of the following features on the layout sketch, using the appropriate symbols

B or F	Boiler or Furnace	□	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	xxxxxxx	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	#####	Areas of broken-up concrete
WS	Wood Stoves	● SS-1	Location & label of sub-slab samples
W/D	Washer / Dryer	● IA-1	Location & label of indoor air samples
S	Sumps	● OA-1	Location & label of outdoor air samples
@	Floor Drains	● PFET-1	Location and label of any pressure field test holes

○ : Product Inventory Area



Building Name: Building 3 Building 2 Bldg Code: Industrial Date: 1/22/2019

Bldg Address: 6000 Thompson Rd Apt/Suite No: _____

Bldg City/State/Zip: East Syracuse NY, 13057

Make and Model of PID: ppbRAE 2000 Date of Calibration: 1/22/2019

(ppm)

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? ☒ Yes

Were there any elevated PID readings taken on site? ☒ Yes

☒ Products with COC?

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Building 3

1/22/19

Page #3/4



Structure Sampling Questionnaire and Building Inventory New York State Department of Environmental Conservation

PRODUCT INVENTORY

Building Name: Building 3 (Floor 2) Bldg Code: _____ Date: 2/29/2016
Bldg Address: _____ Apt/Suite No: _____
Bldg City/State/Zip: _____
Make and Model of PID: 11.7 EU 220 RAE 3000 Date of Calibration: _____

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
1/22 ✓ BSF1-A	Total Alkalinity Indicator	500ml	U	101-7832	0.00	✓
1/22 ✓	phenolphthalein Indicator	20ml x4	U	-7833 -7834	0.00	✓
1/22 ✓	Total Alkalinity Indicator	500ml x4	U	-7835	0.00	✓
1/22 ✓	pH Indicator (universal color)	75ml	U	-7836	0.00	✓
1/22 ✓	TDS-1 Indicator liquid	500ml x2	U	-7837	0.00	✓
1/22 ✓	Bleach-Rite disinfectant	1 qt.	U	Sodium hypochlorite -7838	0.00	✓
1/22 ✓	Tough cut Orange Amine lotion, hand, soap/cleaner	1 gal.	U	propan-2-ol, hydrazine, Tull...	0.00	✓
1/22 ✓	Boiler water samples	2x 2L	U	-7840	0.00	✓
1/22 ✓	66% Sulfuric Acid	2.5L	U	-7841	0.00	✓
1/22 ✓	Fisher Chemical Hydrochloric Acid A1445-212	2.5L x2	U	-7842 -7843	0.00	✓
1/22 ✓	Fisher Chemical Nitric Acid A2004X-212	2.5L	U	-7844 -7845	0.00	✓
1/22 ✓	Commercial grade house cleaner Rotokleen	1 gal.	U	-7846 -7847	0.00	✓
1/22 ✓ BSF1-C	NIST TDS/conductivity solution # 442-30	32 oz	U	SO4 + 1/2 O	20161202 093027	✓
1/22 ✓	NALCO 960-50920 SOLU Batch Tracer 2 CAL SOL	0.5L x2	UO	MA	20161202 103609	✓
1/22 ✓	NALCO Total Alkalinity Indicator 960-50871.74	500ml	U	MA	0.	✓
1/22 ✓	NALCO ORP Standard 200V 460-50932A.75	1L x2	U	MA	0.	✓

* Describe the condition of the product containers as Unopened (UO), Used (U), or Deteriorated (D)

** Photographs of the front and back of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? ☐ Were there any elevated PID readings taken on site? ☐ Products with COC? ☐

1 & 8



Structure Sampling Questionnaire and Building Inventory
New York State Department of Environmental Conservation

1/22/19

Page # 1/4

PRODUCT INVENTORY

Building Name: Building 3, (Floor 1) Bldg Code: _____ Date: 2/24/2016
Bldg Address: _____ Apt/Suite No: _____
Bldg City/State/Zip: _____
Make and Model of PID: 11.7 cV ppb RAE 3000 Date of Calibration: _____

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading (ppm)	COC Y/N?
1/22 ✓ B3F1-C	Indicator Liquid SOLN TDS-1	2X 500mL	U	460-50234	102-7781 -7782	0.00
1/22 ✓	Total Hardness Buffer H-2 460-50275	(2) 1L	U		-7783	0.00
1/22 ✓	Reagent Standard SOLN 3000 460-50277	2X 2L	U		-7785	0.00
✓	Buffer, SOLN pH pH: 10.4, 7	2X 2L	U	460-50406 -50407 -50408	-7786 -7787 -7788	0.00
✗	Indicator Liquid, SOLN P Indicator	1L	U		-7789 -7790	0.00
1/22 ✓	Reagent, SOLN ST-2A Dropwise Sulfite	2X 1L	U	460-5614A	-7791	0.00
1/22 ✓	Reagent Standard, TRASAR 3 Cal sol 1L Nex Guard	2X 1L	U	50980	-7792	0.00
✓	Reagent, total hardness buffer, H-2	2 gal	U		-7793	0.00
1/22 ✓	Titrating Solution, SOLN H-1 High Range Titrant	1L & 2 gal	U	460-50274	-7794	0.00
✓	Titrating Solution, SOLN H-2 Sulfuric Acid	1 gal	U	460-50226	-7795	0.00
1/22 ✓	Conductivity Standard (5000 µS/cm)	2X (500mL) 500mL	U	Ashland #84122	-7796	0.00
✓	phenolphthalein Indicator Solution	500mL	U	Ashland #50639	-7797	0.00
1/22 ✓	ROSS, Reference Electrode Filling Solution	60mL	U	Orion 810007 Thermo Scientific	-7798 -7799	0.00
1/22 ✓	Protocal 6446	65mL	U		-7800 -7802	0.00
✓ B3F2-b	Cool, within a cleaner 04996	1 qt	U		-7803 -7804	0.00
✓ B3F2-b	Alphal-HP, glass cleaner	1 qt	U		-7805	0.00

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? ☐ Were there any elevated PID readings taken on site? ☐ Products with COC? ☐

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Structure Sampling Questionnaire and Building Inventory
New York State Department of Environmental Conservation

✓

PRODUCT INVENTORY

Building Name: Building 3, (Floor 2)

Bldg Code: _____

Date: 2/24/2016

Bldg Address: _____

Apt/Suite No: _____

Bldg City/State/Zip: _____

Make and Model of PID: 11.7 eV PID RAE 300

Date of Calibration: _____

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	(ppm)		COC Y/N?
					PID Reading		
1/22 ✓ B3F2-E	Paint spray, executive bottle - metal (PA100061)	12 oz.	U	acetone, xylene, ethylbenzene, propane, butane	-7844 -7851 -7852	0.00	✓
1/22 ✓	York 0.1 1/2" x 1/2" #011-00712-000	5 gal.	UO		-7851 -7852	0.00	✓
1/22 ✓	Alkaline foam concentrate	4X 1 gal.	3 u	sodium hydroxide, surfactants	-7853 -7854 -7855	0.00	✓
1/22 ✓	Synthetic centrifugal oil 100 WSA	5 gal.	U	benzene, alkyl derivatives	-7856 -7857	0.00	✓
1/22 ✓	Oil 600 22, refrigeration oil (TIRMA)	2.5 gal.	U		-7858 -7859	0.00	✓
1/22 ✓	C-3, refrigeration oil	3X 1 gal.	UO	ethane, propane, isobutane, refrigerant	-7860 -7861	0.00	✓
1/22 ✓	Intercool VFE-C	1 gal.	U		-7862 -7863 -7864	0.00	✓
1/22 ✓	Bright Dyes, Fluorescent Red	8X 1 gal.	8 u		-7865 -7866	0.00	✓
MA	Neptune, bromide feeder	5 gal.	?		-7867 -7868	0.00	✓
MA	Tel-Tel, 100% gel desiccant	5 gal.	U	dehydrating agent - desiccant	-7869 -7870	0.00	✓
B3F2-W	Dust-off	12 oz.	U		101-7456 -7457	0.00	✓
							✓
							✓
							✓
							✓
							✓
							✓
							✓

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? ☐

Were there any elevated PID readings taken on site? ☐

Products with COC? ☐

3439

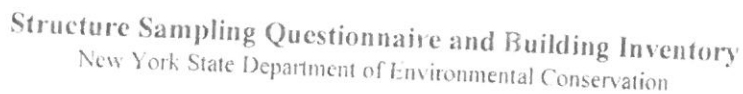
Building # 3

Date: 12/2/16

Inventory Technician: D. Zuck

PRODUCT INVENTORY FORM

[illegible]



Building Name: B3 Floor 1 + Floor 2 Bldg Code: _____ Date: 11/29/17

Bldg Address: _____ Date: 11/29/17

Bldg City/State/Zip: _____ Apt/Suite No: _____

Make and Model of PID: 11.7 cu Pro RAE 3000 Date of Calibration: _____

[illegible]

** Photographs of the **front and back** of product containers can only be taken if the container is **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? ☐ Were there any elevated PID readings taken on site? ☐ Products with COC? ☐



Structure Sampling Questionnaire and Building Inventory
New York State Department of Environmental Conservation

PRODUCT INVENTORY

Building Name: Building 3 Bldg Code: Industrial Date: 1/22/2019
Bldg Address: 6000 Thompson Rd Apt/Suite No: _____
Bldg City/State/Zip: East Syracuse NY, 13057
Make and Model of PID: ppbRAE 2000 Date of Calibration: 1/22/2019

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
B3-F2E	1 Sunny Side paint thinner	1 gal	U		0.1	7215 7216
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? ☐ Yes ☐ No Were there any elevated PID readings taken on site? ☐ Yes ☐ No ☒ Products with COC?

APPENDIX B

Laboratory Report and Data Usability Summary Report



Laboratory Report

2/8/2019

Mr. David Wright
Arcadis U.S., Inc.
One Lincoln Center
110 West Fayette St., Suite 300
Syracuse NY 13202

Project Name: BMS SVI
Project #: B0087363.0031
Workorder #: 1901510

Dear Mr. David Wright

The following report includes the data for the above referenced project for sample(s) received on 1/28/2019 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Rachel Selenis at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Rachel Selenis
Project Manager

WORK ORDER #: 1901510

Work Order Summary

CLIENT:	Mr. David Wright Arcadis U.S., Inc. One Lincoln Center 110 West Fayette St., Suite 300 Syracuse, NY 13202	BILL TO:	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
PHONE:	315-446-9120	P.O. #	B0087363.0028
FAX:		PROJECT #	B0087363.0031 BMS SVI
DATE RECEIVED:	01/28/2019	CONTACT:	Rachel Selenis
DATE COMPLETED:	02/08/2019		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	IA-3	Modified TO-15	4.7 "Hg	1.9 psi
01B	IA-3	Modified TO-15	4.7 "Hg	1.9 psi
01C	IA-3	Modified TO-15	4.7 "Hg	1.9 psi
02A	DUP-012419	Modified TO-15	5.1 "Hg	2 psi
02B	DUP-012419	Modified TO-15	5.1 "Hg	2 psi
02C	DUP-012419	Modified TO-15	5.1 "Hg	2 psi
03A	AMB-3	Modified TO-15	4.3 "Hg	2.1 psi
03B	AMB-3	Modified TO-15	4.3 "Hg	2.1 psi
04A	Lab Blank	Modified TO-15	NA	NA
04B	Lab Blank	Modified TO-15	NA	NA
04C	Lab Blank	Modified TO-15	NA	NA
05A	CCV	Modified TO-15	NA	NA
05B	CCV	Modified TO-15	NA	NA
05C	CCV	Modified TO-15	NA	NA
06A	LCS	Modified TO-15	NA	NA
06AA	LCSD	Modified TO-15	NA	NA
06B	LCS	Modified TO-15	NA	NA
06BB	LCSD	Modified TO-15	NA	NA
06C	LCS	Modified TO-15	NA	NA
06CC	LCSD	Modified TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 02/08/19

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Arcadis U.S., Inc.
Workorder# 1901510

Three 6 Liter Summa Canister (SIM Certified) samples were received on January 28, 2019. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	$\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD	For Full Scan: 30% RSD with 4 compounds allowed out to $< 40\%$ RSD For SIM: Project specific; default criteria is $\leq 30\%$ RSD with 10% of compounds allowed out to $< 40\%$ RSD
Daily Calibration	$\pm 30\%$ Difference	For Full Scan: $\leq 30\%$ Difference with four allowed out up to $\leq 40\%$.; flag and narrate outliers For SIM: Project specific; default criteria is $\leq 30\%$ Difference with 10% of compounds allowed out up to $\leq 40\%$.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

According to the Chain of Custody (COC), sample AMB-3 was collected on 01/24/19. However, the date on the sample tag reflects a collection date of 01/22/19. Therefore the date on the COC was used to calculate the sample holding time.

Analytical Notes

The results for sample fractions "A" and "B" in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. All The canisters used for this project have been certified to the Reporting Limit for the target analytes included in this workorder. Concentrations that are below the level at which the canister was certified may be false positives.

Due to poor sensitivity at the time of the Method Detection Limit (MDL) study, the reporting limit for Ethanol was raised from 0.50 ppbv to 1.0 ppbv.

Specific analytes that are requested by the client to be reported as tentatively identified compounds (TICs) are determined by searching for each compound's characteristic spectra. If no chromatographic peak displaying the compound specific spectra exists, then the TIC is reported as not detected. Please note that the laboratory has not evaluated the stability of any heretofore tentatively identified compound in the vapor phase or for efficiency of recovery through the analytical system.

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page.

Definition of Data Qualifying Flags

Nine qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

CN - See case narrative explanation

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	IA-3	Date/Time Analyzed:	2/6/19 01:21 PM
Lab ID:	1901510-01A	Dilution Factor:	1.34
Date/Time Collected:	1/24/19 04:37 PM	Instrument/Filename:	msdv.i / v020608
Media:			

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2,4-Trichlorobenzene	120-82-1	1.4	4.0	5.0	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.46	0.59	0.66	10
1,2-Dichlorobenzene	95-50-1	0.33	0.72	0.80	Not Detected
1,2-Dichloropropane	78-87-5	0.57	0.57	0.62	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.52	0.59	0.66	1.9
1,3-Butadiene	106-99-0	0.17	0.27	0.30	Not Detected
1,3-Dichlorobenzene	541-73-1	0.32	0.72	0.80	Not Detected
1,4-Dioxane	123-91-1	0.28	0.43	0.48	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.92	2.5	3.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	0.60	1.6	2.0	1.2 J
2-Hexanone	591-78-6	0.64	2.2	2.7	Not Detected
2-Propanol	67-63-0	0.54	1.3	1.6	4.6
3-Chloropropene	107-05-1	1.0	1.7	2.1	Not Detected
4-Ethyltoluene	622-96-8	0.44	0.59	0.66	2.3
4-Methyl-2-pentanone	108-10-1	0.19	0.49	0.55	0.23 J
Acetone	67-64-1	1.0	1.3	1.6	7.3
alpha-Chlorotoluene	100-44-7	0.39	0.62	0.69	Not Detected
Bromodichloromethane	75-27-4	0.42	0.81	0.90	Not Detected
Bromoform	75-25-2	0.45	1.2	1.4	Not Detected
Bromomethane	74-83-9	1.2	2.1	2.6	Not Detected
Carbon Disulfide	75-15-0	0.46	1.7	2.1	2.0 J
Chlorobenzene	108-90-7	0.33	0.56	0.62	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.44	0.55	0.61	Not Detected
Cumene	98-82-8	0.35	0.59	0.66	0.40 J

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	IA-3	Date/Time Analyzed:	2/6/19 01:21 PM
Lab ID:	1901510-01A	Dilution Factor:	1.34
Date/Time Collected:	1/24/19 04:37 PM	Instrument/File Name:	msdv.i / v020608
Media:			

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Cyclohexane	110-82-7	0.29	0.42	0.46	Not Detected
Dibromochloromethane	124-48-1	0.59	1.0	1.1	Not Detected
Ethanol	64-17-5	1.2	1.2	2.5	51
Freon 11	75-69-4	0.35	0.68	0.75	1.2
Freon 113	76-13-1	0.46	0.92	1.0	0.74 J
Heptane	142-82-5	0.46	0.49	0.55	0.82
Hexachlorobutadiene	87-68-3	2.0	5.7	7.1	Not Detected
Hexane	110-54-3	0.35	0.42	0.47	0.61
Methylene Chloride	75-09-2	0.32	0.42	0.93	0.64 J
Propylbenzene	103-65-1	0.30	0.59	0.66	1.2
Styrene	100-42-5	0.36	0.51	0.57	Not Detected
Tetrahydrofuran	109-99-9	1.0	1.6	2.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.36	0.55	0.61	Not Detected

D: Analyte not within the DoD scope of accreditation.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS#	Match	LOD	Amount ppbv
2-Nitropropane	79-46-9	NA		Not Detected
4-Chlorotoluene	106-43-4	NA		Not Detected
Acetonitrile	75-05-8	NA		Not Detected
Benzaldehyde	100-52-7	NA		Not Detected
Benzene, 1,2,3-trimethyl-	526-73-8	81%		0.89 NJ
bis(2-Chloroethyl) Ether	111-44-4	NA		Not Detected

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	IA-3	Date/Time Analyzed:	2/6/19 01:21 PM
Lab ID:	1901510-01A	Dilution Factor:	1.34
Date/Time Collected:	1/24/19 04:37 PM	Instrument/Filename:	msdv.i / v020608
Media:	6 Liter Summa Canister (SIM Certified)		

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS#	Match	LOD	Amount ppbv
Cyclohexene	110-83-8	NA		Not Detected
Epichlorohydrin	106-89-8	NA		Not Detected
Ethyl Acetate	141-78-6	NA		Not Detected
Isobutanol	78-83-1	NA		Not Detected
Isopropyl ether	108-20-3	NA		Not Detected
Methacrylonitrile	126-98-7	NA		Not Detected
Methyl Acetate	79-20-9	NA		Not Detected
N,N-Dimethyl Aniline	121-69-7	NA		Not Detected
n-Butanol	71-36-3	NA		Not Detected
Nitrobenzene	98-95-3	NA		Not Detected
Pentane	109-66-0	80%		0.93 NJ
Propylene	115-07-1	NA		Not Detected
Pyridine	110-86-1	NA		Not Detected

J = Estimated value.

NJ =The identification is based on presumptive evidence; estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	96
4-Bromofluorobenzene	460-00-4	70-130	86
Toluene-d8	2037-26-5	70-130	98

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	IA-3	Date/Time Analyzed:	2/6/19 01:21 PM
Lab ID:	1901510-01B	Dilution Factor:	1.34
Date/Time Collected:	1/24/19 04:37 PM	Instrument/File Name:	msdv.i / v020608sim
Media:	6 Liter Summa Canister (SIM Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.032	0.044	0.15	0.039 J
1,1,2,2-Tetrachloroethane	79-34-5	0.047	0.055	0.18	Not Detected
1,1,2-Trichloroethane	79-00-5	0.040	0.044	0.15	Not Detected
1,1-Dichloroethane	75-34-3	0.030	0.032	0.11	Not Detected
1,1-Dichloroethene	75-35-4	0.022	0.032	0.053	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.023	0.062	0.20	Not Detected
1,2-Dichloroethane	107-06-2	0.024	0.032	0.11	0.086 J
1,4-Dichlorobenzene	106-46-7	0.059	0.059	0.16	Not Detected
Benzene	71-43-2	0.023	0.026	0.21	0.64
Carbon Tetrachloride	56-23-5	0.079	0.079	0.17	0.47
Chloroethane	75-00-3	0.032	0.088	0.18	Not Detected
Chloroform	67-66-3	0.016	0.039	0.13	0.34
Chloromethane	74-87-3	0.027	0.069	1.4	0.84 J
cis-1,2-Dichloroethene	156-59-2	0.025	0.032	0.11	0.12
Ethyl Benzene	100-41-4	0.022	0.035	0.12	2.1
Freon 114	76-14-2	0.062	0.062	0.19	0.11 J
Freon 12	75-71-8	0.036	0.040	3.3	2.2 J
m,p-Xylene	108-38-3	0.033	0.035	0.23	10
Methyl tert-butyl ether	1634-04-4	0.024	0.029	0.48	Not Detected
o-Xylene	95-47-6	0.039	0.039	0.12	4.1
Tetrachloroethene	127-18-4	0.016	0.054	0.18	0.18 J
Toluene	108-88-3	0.021	0.030	0.10	5.0
trans-1,2-Dichloroethene	156-60-5	0.034	0.034	0.53	Not Detected
Trichloroethene	79-01-6	0.019	0.043	0.14	0.59

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	IA-3	Date/Time Analyzed:	2/6/19 01:21 PM
Lab ID:	1901510-01B	Dilution Factor:	1.34
Date/Time Collected:	1/24/19 04:37 PM	Instrument/Filename:	msdv.i / v020608sim
Media:	6 Liter Summa Canister (SIM Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	75-01-4	0.026	0.026	0.034	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	100
4-Bromofluorobenzene	460-00-4	70-130	94
Toluene-d8	2037-26-5	70-130	96

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	IA-3	Date/Time Analyzed:	2/6/19 06:13 PM
Lab ID:	1901510-01C	Dilution Factor:	1.34
Date/Time Collected:	1/24/19 04:37 PM	Instrument/Filename:	msd20.i / 20020612sim
Media:	6 Liter Summa Canister (SIM Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Naphthalene	91-20-3	0.065	0.14	0.35	4.6

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	104
4-Bromofluorobenzene	460-00-4	70-130	97
Toluene-d8	2037-26-5	70-130	98

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	DUP-012419	Date/Time Analyzed:	2/6/19 01:59 PM
Lab ID:	1901510-02A	Dilution Factor:	1.37
Date/Time Collected:	1/24/19 12:00 AM	Instrument/Filename:	msdv.i / v020609
Media:			

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2,4-Trichlorobenzene	120-82-1	1.4	4.1	5.1	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.47	0.61	0.67	10
1,2-Dichlorobenzene	95-50-1	0.34	0.74	0.82	Not Detected
1,2-Dichloropropane	78-87-5	0.59	0.59	0.63	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.54	0.61	0.67	2.0
1,3-Butadiene	106-99-0	0.18	0.27	0.30	Not Detected
1,3-Dichlorobenzene	541-73-1	0.32	0.74	0.82	Not Detected
1,4-Dioxane	123-91-1	0.29	0.44	0.49	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.94	2.6	3.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	0.61	1.6	2.0	2.3
2-Hexanone	591-78-6	0.66	2.2	2.8	0.95 J
2-Propanol	67-63-0	0.55	1.3	1.7	5.3
3-Chloropropene	107-05-1	1.1	1.7	2.1	Not Detected
4-Ethyltoluene	622-96-8	0.45	0.61	0.67	2.5
4-Methyl-2-pentanone	108-10-1	0.19	0.50	0.56	Not Detected
Acetone	67-64-1	1.1	1.3	1.6	9.7
alpha-Chlorotoluene	100-44-7	0.40	0.64	0.71	Not Detected
Bromodichloromethane	75-27-4	0.43	0.83	0.92	Not Detected
Bromoform	75-25-2	0.46	1.3	1.4	Not Detected
Bromomethane	74-83-9	1.2	2.1	2.7	Not Detected
Carbon Disulfide	75-15-0	0.47	1.7	2.1	Not Detected
Chlorobenzene	108-90-7	0.34	0.57	0.63	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.45	0.56	0.62	Not Detected
Cumene	98-82-8	0.36	0.61	0.67	Not Detected

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	DUP-012419	Date/Time Analyzed:	2/6/19 01:59 PM
Lab ID:	1901510-02A	Dilution Factor:	1.37
Date/Time Collected:	1/24/19 12:00 AM	Instrument/Filename:	msdv.i / v020609
Media:			

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Cyclohexane	110-82-7	0.30	0.42	0.47	Not Detected
Dibromochloromethane	124-48-1	0.60	1.0	1.2	Not Detected
Ethanol	64-17-5	1.2	1.2	2.6	57
Freon 11	75-69-4	0.36	0.69	0.77	1.2
Freon 113	76-13-1	0.47	0.94	1.0	0.66 J
Heptane	142-82-5	0.47	0.50	0.56	0.99
Hexachlorobutadiene	87-68-3	2.0	5.8	7.3	Not Detected
Hexane	110-54-3	0.35	0.43	0.48	0.71
Methylene Chloride	75-09-2	0.32	0.43	0.95	0.58 J
Propylbenzene	103-65-1	0.31	0.61	0.67	1.2
Styrene	100-42-5	0.36	0.52	0.58	Not Detected
Tetrahydrofuran	109-99-9	1.0	1.6	2.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.37	0.56	0.62	Not Detected

D: Analyte not within the DoD scope of accreditation.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS#	Match	LOD	Amount ppbv
2-Nitropropane	79-46-9	NA		Not Detected
4-Chlorotoluene	106-43-4	NA		Not Detected
Acetonitrile	75-05-8	NA		Not Detected
Benzaldehyde	100-52-7	NA		Not Detected
Benzene, 1,2,3-trimethyl-	526-73-8	95%		1.2 NJ
bis(2-Chloroethyl) Ether	111-44-4	NA		Not Detected

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	DUP-012419	Date/Time Analyzed:	2/6/19 01:59 PM
Lab ID:	1901510-02A	Dilution Factor:	1.37
Date/Time Collected:	1/24/19 12:00 AM	Instrument/Filename:	msdv.i / v020609
Media:	6 Liter Summa Canister (SIM Certified)		

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS#	Match	LOD	Amount ppbv
Cyclohexene	110-83-8	NA		Not Detected
Epichlorohydrin	106-89-8	NA		Not Detected
Ethyl Acetate	141-78-6	NA		Not Detected
Isobutanol	78-83-1	NA		Not Detected
Isopropyl ether	108-20-3	NA		Not Detected
Methacrylonitrile	126-98-7	NA		Not Detected
Methyl Acetate	79-20-9	NA		Not Detected
N,N-Dimethyl Aniline	121-69-7	NA		Not Detected
n-Butanol	71-36-3	NA		Not Detected
Nitrobenzene	98-95-3	NA		Not Detected
Pentane	109-66-0	80%		1.6 NJ
Propylene	115-07-1	NA		Not Detected
Pyridine	110-86-1	NA		Not Detected

J = Estimated value.

NJ =The identification is based on presumptive evidence; estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	94
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	100

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	DUP-012419	Date/Time Analyzed:	2/6/19 01:59 PM
Lab ID:	1901510-02B	Dilution Factor:	1.37
Date/Time Collected:	1/24/19 12:00 AM	Instrument/File Name:	msdv.i / v020609sim
Media:	6 Liter Summa Canister (SIM Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.032	0.045	0.15	0.039 J
1,1,2,2-Tetrachloroethane	79-34-5	0.048	0.056	0.19	Not Detected
1,1,2-Trichloroethane	79-00-5	0.040	0.045	0.15	Not Detected
1,1-Dichloroethane	75-34-3	0.031	0.033	0.11	Not Detected
1,1-Dichloroethene	75-35-4	0.023	0.032	0.054	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.023	0.063	0.21	0.024 J
1,2-Dichloroethane	107-06-2	0.024	0.033	0.11	0.092 J
1,4-Dichlorobenzene	106-46-7	0.060	0.060	0.16	Not Detected
Benzene	71-43-2	0.024	0.026	0.22	0.64
Carbon Tetrachloride	56-23-5	0.081	0.081	0.17	0.48
Chloroethane	75-00-3	0.032	0.090	0.18	0.059 J
Chloroform	67-66-3	0.016	0.040	0.13	0.33
Chloromethane	74-87-3	0.027	0.071	1.4	0.97 J
cis-1,2-Dichloroethene	156-59-2	0.026	0.032	0.11	0.11
Ethyl Benzene	100-41-4	0.023	0.036	0.12	1.8
Freon 114	76-14-2	0.064	0.064	0.19	0.15 J
Freon 12	75-71-8	0.036	0.041	3.4	2.4 J
m,p-Xylene	108-38-3	0.034	0.036	0.24	9.1
Methyl tert-butyl ether	1634-04-4	0.025	0.030	0.49	Not Detected
o-Xylene	95-47-6	0.040	0.040	0.12	3.8
Tetrachloroethene	127-18-4	0.016	0.056	0.18	0.17 J
Toluene	108-88-3	0.022	0.031	0.10	4.5
trans-1,2-Dichloroethene	156-60-5	0.034	0.034	0.54	Not Detected
Trichloroethene	79-01-6	0.019	0.044	0.15	0.61

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	DUP-012419	Date/Time Analyzed:	2/6/19 01:59 PM
Lab ID:	1901510-02B	Dilution Factor:	1.37
Date/Time Collected:	1/24/19 12:00 AM	Instrument/Filename:	msdv.i / v020609sim
Media:	6 Liter Summa Canister (SIM Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	75-01-4	0.026	0.026	0.035	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	99
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	99

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	DUP-012419	Date/Time Analyzed:	2/6/19 06:58 PM
Lab ID:	1901510-02C	Dilution Factor:	1.37
Date/Time Collected:	1/24/19 12:00 AM	Instrument/Filename:	msd20.i / 20020613sim
Media:	6 Liter Summa Canister (SIM Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Naphthalene	91-20-3	0.067	0.14	0.36	4.2

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	102
4-Bromofluorobenzene	460-00-4	70-130	97
Toluene-d8	2037-26-5	70-130	98

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	AMB-3	Date/Time Analyzed:	2/6/19 02:36 PM
Lab ID:	1901510-03A	Dilution Factor:	1.33
Date/Time Collected:	1/24/19 04:40 PM	Instrument/Filename:	msdv.i / v020610
Media:			

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2,4-Trichlorobenzene	120-82-1	1.3	3.9	4.9	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.46	0.59	0.65	Not Detected
1,2-Dichlorobenzene	95-50-1	0.33	0.72	0.80	Not Detected
1,2-Dichloropropane	78-87-5	0.57	0.57	0.61	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.52	0.59	0.65	Not Detected
1,3-Butadiene	106-99-0	0.17	0.26	0.29	Not Detected
1,3-Dichlorobenzene	541-73-1	0.31	0.72	0.80	Not Detected
1,4-Dioxane	123-91-1	0.28	0.43	0.48	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.92	2.5	3.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	0.59	1.6	2.0	1.9 J
2-Hexanone	591-78-6	0.64	2.2	2.7	Not Detected
2-Propanol	67-63-0	0.53	1.3	1.6	1.3 J
3-Chloropropene	107-05-1	1.0	1.7	2.1	Not Detected
4-Ethyltoluene	622-96-8	0.44	0.59	0.65	Not Detected
4-Methyl-2-pentanone	108-10-1	0.19	0.49	0.54	0.22 J
Acetone	67-64-1	1.0	1.3	1.6	7.9
alpha-Chlorotoluene	100-44-7	0.39	0.62	0.69	Not Detected
Bromodichloromethane	75-27-4	0.42	0.80	0.89	Not Detected
Bromoform	75-25-2	0.44	1.2	1.4	Not Detected
Bromomethane	74-83-9	1.2	2.1	2.6	Not Detected
Carbon Disulfide	75-15-0	0.46	1.6	2.1	Not Detected
Chlorobenzene	108-90-7	0.32	0.55	0.61	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.44	0.54	0.60	Not Detected
Cumene	98-82-8	0.34	0.59	0.65	Not Detected

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	AMB-3	Date/Time Analyzed:	2/6/19 02:36 PM
Lab ID:	1901510-03A	Dilution Factor:	1.33
Date/Time Collected:	1/24/19 04:40 PM	Instrument/Filename:	msdv.i / v020610
Media:			

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Cyclohexane	110-82-7	0.29	0.41	0.46	Not Detected
Dibromochloromethane	124-48-1	0.59	1.0	1.1	Not Detected
Ethanol	64-17-5	1.2	1.2	2.5	5.3
Freon 11	75-69-4	0.35	0.67	0.75	1.4
Freon 113	76-13-1	0.46	0.92	1.0	0.75 J
Heptane	142-82-5	0.46	0.49	0.54	Not Detected
Hexachlorobutadiene	87-68-3	2.0	5.7	7.1	Not Detected
Hexane	110-54-3	0.34	0.42	0.47	0.76
Methylene Chloride	75-09-2	0.32	0.42	0.92	0.82 J
Propylbenzene	103-65-1	0.30	0.59	0.65	Not Detected
Styrene	100-42-5	0.35	0.51	0.57	Not Detected
Tetrahydrofuran	109-99-9	1.0	1.6	2.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.36	0.54	0.60	Not Detected

D: Analyte not within the DoD scope of accreditation.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS#	Match	LOD	Amount ppbv
1,2,3-Trimethylbenzene	526-73-8	NA		Not Detected
2-Nitropropane	79-46-9	NA		Not Detected
4-Chlorotoluene	106-43-4	NA		Not Detected
Acetonitrile	75-05-8	NA		Not Detected
Benzaldehyde	100-52-7	NA		Not Detected
bis(2-Chloroethyl) Ether	111-44-4	NA		Not Detected

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	AMB-3	Date/Time Analyzed:	2/6/19 02:36 PM
Lab ID:	1901510-03A	Dilution Factor:	1.33
Date/Time Collected:	1/24/19 04:40 PM	Instrument/Filename:	msdv.i / v020610
Media:	6 Liter Summa Canister (SIM Certified)		

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS#	Match	LOD	Amount ppbv
Cyclohexene	110-83-8	NA		Not Detected
Epichlorohydrin	106-89-8	NA		Not Detected
Ethyl Acetate	141-78-6	NA		Not Detected
Isobutanol	78-83-1	NA		Not Detected
Isopropyl ether	108-20-3	NA		Not Detected
Methacrylonitrile	126-98-7	NA		Not Detected
Methyl Acetate	79-20-9	NA		Not Detected
N,N-Dimethyl Aniline	121-69-7	NA		Not Detected
n-Butanol	71-36-3	NA		Not Detected
Nitrobenzene	98-95-3	NA		Not Detected
Pentane	109-66-0	NA		Not Detected
Propylene	115-07-1	NA		Not Detected
Pyridine	110-86-1	NA		Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	102
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	98

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	AMB-3	Date/Time Analyzed:	2/6/19 02:36 PM
Lab ID:	1901510-03B	Dilution Factor:	1.33
Date/Time Collected:	1/24/19 04:40 PM	Instrument/File name:	msdv.i / v020610sim
Media:	6 Liter Summa Canister (SIM Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.031	0.044	0.14	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.047	0.055	0.18	Not Detected
1,1,2-Trichloroethane	79-00-5	0.039	0.044	0.14	Not Detected
1,1-Dichloroethane	75-34-3	0.030	0.032	0.11	Not Detected
1,1-Dichloroethene	75-35-4	0.022	0.032	0.053	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.022	0.061	0.20	Not Detected
1,2-Dichloroethane	107-06-2	0.024	0.032	0.11	0.088 J
1,4-Dichlorobenzene	106-46-7	0.058	0.058	0.16	Not Detected
Benzene	71-43-2	0.023	0.025	0.21	0.56
Carbon Tetrachloride	56-23-5	0.078	0.078	0.17	0.47
Chloroethane	75-00-3	0.031	0.088	0.18	0.041 J
Chloroform	67-66-3	0.016	0.039	0.13	0.077 J
Chloromethane	74-87-3	0.026	0.069	1.4	0.90 J
cis-1,2-Dichloroethene	156-59-2	0.025	0.032	0.10	Not Detected
Ethyl Benzene	100-41-4	0.022	0.035	0.12	0.21
Freon 114	76-14-2	0.062	0.062	0.18	0.12 J
Freon 12	75-71-8	0.035	0.039	3.3	2.3 J
m,p-Xylene	108-38-3	0.033	0.035	0.23	0.65
Methyl tert-butyl ether	1634-04-4	0.024	0.029	0.48	Not Detected
Naphthalene	91-20-3	0.066	0.14	0.35	0.24 J
o-Xylene	95-47-6	0.039	0.039	0.12	0.32
Tetrachloroethene	127-18-4	0.016	0.054	0.18	0.067 J
Toluene	108-88-3	0.021	0.030	0.10	0.81
trans-1,2-Dichloroethene	156-60-5	0.033	0.033	0.53	Not Detected

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	AMB-3	Date/Time Analyzed:	2/6/19 02:36 PM
Lab ID:	1901510-03B	Dilution Factor:	1.33
Date/Time Collected:	1/24/19 04:40 PM	Instrument/Filename:	msdv.i / v020610sim
Media:	6 Liter Summa Canister (SIM Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	79-01-6	0.018	0.043	0.14	0.033 J
Vinyl Chloride	75-01-4	0.025	0.025	0.034	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	99
4-Bromofluorobenzene	460-00-4	70-130	104
Toluene-d8	2037-26-5	70-130	101

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	Lab Blank	Date/Time Analyzed:	2/6/19 12:30 PM
Lab ID:	1901510-04A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdv.i / v020607a
Media:			

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2,4-Trichlorobenzene	120-82-1	1.0	3.0	3.7	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.34	0.44	0.49	Not Detected
1,2-Dichlorobenzene	95-50-1	0.25	0.54	0.60	Not Detected
1,2-Dichloropropane	78-87-5	0.43	0.43	0.46	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.39	0.44	0.49	Not Detected
1,3-Butadiene	106-99-0	0.13	0.20	0.22	Not Detected
1,3-Dichlorobenzene	541-73-1	0.24	0.54	0.60	Not Detected
1,4-Dioxane	123-91-1	0.21	0.32	0.36	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.69	1.9	2.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	0.44	1.2	1.5	Not Detected
2-Hexanone	591-78-6	0.48	1.6	2.0	Not Detected
2-Propanol	67-63-0	0.40	0.98	1.2	Not Detected
3-Chloropropene	107-05-1	0.78	1.2	1.6	Not Detected
4-Ethyltoluene	622-96-8	0.33	0.44	0.49	Not Detected
4-Methyl-2-pentanone	108-10-1	0.14	0.37	0.41	Not Detected
Acetone	67-64-1	0.79	0.95	1.2	Not Detected
alpha-Chlorotoluene	100-44-7	0.29	0.46	0.52	Not Detected
Bromodichloromethane	75-27-4	0.31	0.60	0.67	Not Detected
Bromoform	75-25-2	0.33	0.93	1.0	Not Detected
Bromomethane	74-83-9	0.88	1.6	1.9	Not Detected
Carbon Disulfide	75-15-0	0.35	1.2	1.6	Not Detected
Chlorobenzene	108-90-7	0.24	0.41	0.46	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.33	0.41	0.45	Not Detected
Cumene	98-82-8	0.26	0.44	0.49	Not Detected

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	Lab Blank	Date/Time Analyzed:	2/6/19 12:30 PM
Lab ID:	1901510-04A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/File name:	msdv.i / v020607a
Media:			

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Cyclohexane	110-82-7	0.22	0.31	0.34	Not Detected
Dibromochloromethane	124-48-1	0.44	0.77	0.85	Not Detected
Ethanol	64-17-5	0.88	0.88	1.9	Not Detected
Freon 11	75-69-4	0.26	0.50	0.56	Not Detected
Freon 113	76-13-1	0.34	0.69	0.77	Not Detected
Heptane	142-82-5	0.34	0.37	0.41	Not Detected
Hexachlorobutadiene	87-68-3	1.5	4.3	5.3	Not Detected
Hexane	110-54-3	0.26	0.32	0.35	Not Detected
Methylene Chloride	75-09-2	0.24	0.31	0.69	Not Detected
Propylbenzene	103-65-1	0.23	0.44	0.49	Not Detected
Styrene	100-42-5	0.27	0.38	0.42	Not Detected
Tetrahydrofuran	109-99-9	0.76	1.2	1.5	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.27	0.41	0.45	Not Detected

D: Analyte not within the DoD scope of accreditation.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS#	Match	LOD	Amount ppbv
1,2,3-Trimethylbenzene	526-73-8	NA		Not Detected
2-Nitropropane	79-46-9	NA		Not Detected
4-Chlorotoluene	106-43-4	NA		Not Detected
Acetonitrile	75-05-8	NA		Not Detected
Benzaldehyde	100-52-7	NA		Not Detected
bis(2-Chloroethyl) Ether	111-44-4	NA		Not Detected

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	Lab Blank	Date/Time Analyzed:	2/6/19 12:30 PM
Lab ID:	1901510-04A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdv.i / v020607a
Media:	NA - Not Applicable		

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS#	Match	LOD	Amount ppbv
Cyclohexene	110-83-8	NA		Not Detected
Epichlorohydrin	106-89-8	NA		Not Detected
Ethyl Acetate	141-78-6	NA		Not Detected
Isobutanol	78-83-1	NA		Not Detected
Isopropyl ether	108-20-3	NA		Not Detected
Methacrylonitrile	126-98-7	NA		Not Detected
Methyl Acetate	79-20-9	NA		Not Detected
N,N-Dimethyl Aniline	121-69-7	NA		Not Detected
n-Butanol	71-36-3	NA		Not Detected
Nitrobenzene	98-95-3	NA		Not Detected
Pentane	109-66-0	NA		Not Detected
Propylene	115-07-1	NA		Not Detected
Pyridine	110-86-1	NA		Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	102
4-Bromofluorobenzene	460-00-4	70-130	109
Toluene-d8	2037-26-5	70-130	98

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	Lab Blank	Date/Time Analyzed:	2/6/19 12:30 PM
Lab ID:	1901510-04B	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdv.i / v020607sima
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.024	0.033	0.11	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.035	0.041	0.14	Not Detected
1,1,2-Trichloroethane	79-00-5	0.030	0.033	0.11	Not Detected
1,1-Dichloroethane	75-34-3	0.022	0.024	0.081	Not Detected
1,1-Dichloroethene	75-35-4	0.017	0.024	0.040	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.017	0.046	0.15	Not Detected
1,2-Dichloroethane	107-06-2	0.018	0.024	0.081	Not Detected
1,4-Dichlorobenzene	106-46-7	0.044	0.044	0.12	0.057 J
Benzene	71-43-2	0.017	0.019	0.16	Not Detected
Carbon Tetrachloride	56-23-5	0.059	0.059	0.12	Not Detected
Chloroethane	75-00-3	0.024	0.066	0.13	Not Detected
Chloroform	67-66-3	0.012	0.029	0.098	Not Detected
Chloromethane	74-87-3	0.020	0.052	1.0	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.019	0.024	0.079	Not Detected
Ethyl Benzene	100-41-4	0.017	0.026	0.087	Not Detected
Freon 114	76-14-2	0.047	0.047	0.14	Not Detected
Freon 12	75-71-8	0.027	0.030	2.5	Not Detected
m,p-Xylene	108-38-3	0.025	0.026	0.17	0.026 J
Methyl tert-butyl ether	1634-04-4	0.018	0.022	0.36	Not Detected
Naphthalene	91-20-3	0.050	0.10	0.26	0.063 J
o-Xylene	95-47-6	0.029	0.029	0.087	Not Detected
Tetrachloroethene	127-18-4	0.012	0.041	0.14	Not Detected
Toluene	108-88-3	0.016	0.023	0.075	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.025	0.025	0.40	Not Detected

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	Lab Blank	Date/Time Analyzed:	2/6/19 12:30 PM
Lab ID:	1901510-04B	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdv.i / v020607sima
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	79-01-6	0.014	0.032	0.11	Not Detected
Vinyl Chloride	75-01-4	0.019	0.019	0.026	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	107
Toluene-d8	2037-26-5	70-130	99

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	Lab Blank	Date/Time Analyzed:	2/6/19 11:48 AM
Lab ID:	1901510-04C	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd20.i / 20020606sima
Media:	NA - Not Applicable		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Naphthalene	91-20-3	0.049	0.10	0.26	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	107
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	100

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	CCV	Date/Time Analyzed:	2/6/19 09:44 AM
Lab ID:	1901510-05A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdv.i / v020603
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,2,4-Trichlorobenzene	120-82-1	102
1,2,4-Trimethylbenzene	95-63-6	106
1,2-Dichlorobenzene	95-50-1	83
1,2-Dichloropropane	78-87-5	101
1,3,5-Trimethylbenzene	108-67-8	97
1,3-Butadiene	106-99-0	81
1,3-Dichlorobenzene	541-73-1	78
1,4-Dioxane	123-91-1	89
2,2,4-Trimethylpentane	540-84-1	89
2-Butanone (Methyl Ethyl Ketone)	78-93-3	95
2-Hexanone	591-78-6	112
2-Propanol	67-63-0	127
3-Chloropropene	107-05-1	121
4-Ethyltoluene	622-96-8	87
4-Methyl-2-pentanone	108-10-1	111
Acetone	67-64-1	113
alpha-Chlorotoluene	100-44-7	98
Bromodichloromethane	75-27-4	96
Bromoform	75-25-2	96
Bromomethane	74-83-9	113
Carbon Disulfide	75-15-0	96
Chlorobenzene	108-90-7	90
cis-1,3-Dichloropropene	10061-01-5	104
Cumene	98-82-8	90

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	CCV	Date/Time Analyzed:	2/6/19 09:44 AM
Lab ID:	1901510-05A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdv.i / v020603
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Cyclohexane	110-82-7	90
Dibromochloromethane	124-48-1	92
Ethanol	64-17-5	129
Freon 11	75-69-4	97
Freon 113	76-13-1	92
Heptane	142-82-5	100
Hexachlorobutadiene	87-68-3	94
Hexane	110-54-3	106
Methylene Chloride	75-09-2	88
Propylbenzene	103-65-1	84
Styrene	100-42-5	103
Tetrahydrofuran	109-99-9	103
trans-1,3-Dichloropropene	10061-02-6	102

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	103
4-Bromofluorobenzene	460-00-4	70-130	91
Toluene-d8	2037-26-5	70-130	104

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	CCV	Date/Time Analyzed:	2/6/19 09:44 AM
Lab ID:	1901510-05B	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdv.i / v020603sim
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	94
1,1,2,2-Tetrachloroethane	79-34-5	81
1,1,2-Trichloroethane	79-00-5	88
1,1-Dichloroethane	75-34-3	90
1,1-Dichloroethene	75-35-4	98
1,2-Dibromoethane (EDB)	106-93-4	94
1,2-Dichloroethane	107-06-2	82
1,4-Dichlorobenzene	106-46-7	71
Benzene	71-43-2	85
Carbon Tetrachloride	56-23-5	88
Chloroethane	75-00-3	84
Chloroform	67-66-3	88
Chloromethane	74-87-3	89
cis-1,2-Dichloroethene	156-59-2	90
Ethyl Benzene	100-41-4	102
Freon 114	76-14-2	94
Freon 12	75-71-8	92
m,p-Xylene	108-38-3	98
Methyl tert-butyl ether	1634-04-4	111
Naphthalene	91-20-3	127
o-Xylene	95-47-6	101
Tetrachloroethene	127-18-4	90
Toluene	108-88-3	87
trans-1,2-Dichloroethene	156-60-5	87

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	CCV	Date/Time Analyzed:	2/6/19 09:44 AM
Lab ID:	1901510-05B	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdv.i / v020603sim
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Trichloroethene	79-01-6	86
Vinyl Chloride	75-01-4	94

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	97
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	99

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	CCV	Date/Time Analyzed:	2/6/19 09:04 AM
Lab ID:	1901510-05C	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd20.i / 20020602sim
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Naphthalene	91-20-3	96

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	93
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	101

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	LCS	Date/Time Analyzed:	2/6/19 10:28 AM
Lab ID:	1901510-06A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdv.i / v020604
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,2,4-Trichlorobenzene	120-82-1	122
1,2,4-Trimethylbenzene	95-63-6	118
1,2-Dichlorobenzene	95-50-1	97
1,2-Dichloropropane	78-87-5	99
1,3,5-Trimethylbenzene	108-67-8	112
1,3-Butadiene	106-99-0	97
1,3-Dichlorobenzene	541-73-1	92
1,4-Dioxane	123-91-1	94
2,2,4-Trimethylpentane	540-84-1	89
2-Butanone (Methyl Ethyl Ketone)	78-93-3	99
2-Hexanone	591-78-6	127
2-Propanol	67-63-0	117
3-Chloropropene	107-05-1	115
4-Ethyltoluene	622-96-8	101
4-Methyl-2-pentanone	108-10-1	121
Acetone	67-64-1	131 Q
alpha-Chlorotoluene	100-44-7	110
Bromodichloromethane	75-27-4	98
Bromoform	75-25-2	103
Bromomethane	74-83-9	122
Carbon Disulfide	75-15-0	105
Chlorobenzene	108-90-7	100
cis-1,3-Dichloropropene	10061-01-5	108
Cumene	98-82-8	104

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	LCS	Date/Time Analyzed:	2/6/19 10:28 AM
Lab ID:	1901510-06A	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdv.i / v020604
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Cyclohexane	110-82-7	94
Dibromochloromethane	124-48-1	95
Ethanol	64-17-5	131 Q
Freon 11	75-69-4	103
Freon 113	76-13-1	104
Heptane	142-82-5	99
Hexachlorobutadiene	87-68-3	104
Hexane	110-54-3	117
Methylene Chloride	75-09-2	93
Propylbenzene	103-65-1	97
Styrene	100-42-5	110
Tetrahydrofuran	109-99-9	107
trans-1,3-Dichloropropene	10061-02-6	105

Q = Exceeds Quality Control limits.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	100

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	LCSD	Date/Time Analyzed:	2/6/19 11:10 AM
Lab ID:	1901510-06AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdv.i / v020605
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,2,4-Trichlorobenzene	120-82-1	119
1,2,4-Trimethylbenzene	95-63-6	122
1,2-Dichlorobenzene	95-50-1	94
1,2-Dichloropropane	78-87-5	96
1,3,5-Trimethylbenzene	108-67-8	109
1,3-Butadiene	106-99-0	101
1,3-Dichlorobenzene	541-73-1	87
1,4-Dioxane	123-91-1	91
2,2,4-Trimethylpentane	540-84-1	96
2-Butanone (Methyl Ethyl Ketone)	78-93-3	104
2-Hexanone	591-78-6	127
2-Propanol	67-63-0	141 Q
3-Chloropropene	107-05-1	121
4-Ethyltoluene	622-96-8	100
4-Methyl-2-pentanone	108-10-1	118
Acetone	67-64-1	128
alpha-Chlorotoluene	100-44-7	112
Bromodichloromethane	75-27-4	96
Bromoform	75-25-2	105
Bromomethane	74-83-9	121
Carbon Disulfide	75-15-0	107
Chlorobenzene	108-90-7	99
cis-1,3-Dichloropropene	10061-01-5	110
Cumene	98-82-8	98

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	LCSD	Date/Time Analyzed:	2/6/19 11:10 AM
Lab ID:	1901510-06AA	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/File name:	msdv.i / v020605
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Cyclohexane	110-82-7	101
Dibromochloromethane	124-48-1	96
Ethanol	64-17-5	137 Q
Freon 11	75-69-4	108
Freon 113	76-13-1	102
Heptane	142-82-5	99
Hexachlorobutadiene	87-68-3	102
Hexane	110-54-3	119
Methylene Chloride	75-09-2	92
Propylbenzene	103-65-1	95
Styrene	100-42-5	108
Tetrahydrofuran	109-99-9	112
trans-1,3-Dichloropropene	10061-02-6	105

Q = Exceeds Quality Control limits.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	102
4-Bromofluorobenzene	460-00-4	70-130	100
Toluene-d8	2037-26-5	70-130	99

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	LCS	Date/Time Analyzed:	2/6/19 10:28 AM
Lab ID:	1901510-06B	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdv.i / v020604sim
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	100
1,1,2,2-Tetrachloroethane	79-34-5	90
1,1,2-Trichloroethane	79-00-5	93
1,1-Dichloroethane	75-34-3	96
1,1-Dichloroethene	75-35-4	102
1,2-Dibromoethane (EDB)	106-93-4	99
1,2-Dichloroethane	107-06-2	84
1,4-Dichlorobenzene	106-46-7	81
Benzene	71-43-2	88
Carbon Tetrachloride	56-23-5	75
Chloroethane	75-00-3	94
Chloroform	67-66-3	92
Chloromethane	74-87-3	102
cis-1,2-Dichloroethene	156-59-2	89
Ethyl Benzene	100-41-4	110
Freon 114	76-14-2	106
Freon 12	75-71-8	106
m,p-Xylene	108-38-3	108
Methyl tert-butyl ether	1634-04-4	121
Naphthalene	91-20-3	196 Q
o-Xylene	95-47-6	114
Tetrachloroethene	127-18-4	93
Toluene	108-88-3	92
trans-1,2-Dichloroethene	156-60-5	102

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	LCS	Date/Time Analyzed:	2/6/19 10:28 AM
Lab ID:	1901510-06B	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdv.i / v020604sim
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Trichloroethene	79-01-6	90
Vinyl Chloride	75-01-4	103

Q = Exceeds Quality Control limits.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	100

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	LCSD	Date/Time Analyzed:	2/6/19 11:10 AM
Lab ID:	1901510-06BB	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdv.i / v020605sim
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	99
1,1,2,2-Tetrachloroethane	79-34-5	91
1,1,2-Trichloroethane	79-00-5	93
1,1-Dichloroethane	75-34-3	96
1,1-Dichloroethene	75-35-4	103
1,2-Dibromoethane (EDB)	106-93-4	98
1,2-Dichloroethane	107-06-2	84
1,4-Dichlorobenzene	106-46-7	81
Benzene	71-43-2	89
Carbon Tetrachloride	56-23-5	75
Chloroethane	75-00-3	94
Chloroform	67-66-3	92
Chloromethane	74-87-3	102
cis-1,2-Dichloroethene	156-59-2	89
Ethyl Benzene	100-41-4	110
Freon 114	76-14-2	106
Freon 12	75-71-8	105
m,p-Xylene	108-38-3	108
Methyl tert-butyl ether	1634-04-4	121
Naphthalene	91-20-3	195 Q
o-Xylene	95-47-6	114
Tetrachloroethene	127-18-4	93
Toluene	108-88-3	92
trans-1,2-Dichloroethene	156-60-5	103

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	LCSD	Date/Time Analyzed:	2/6/19 11:10 AM
Lab ID:	1901510-06BB	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msdv.i / v020605sim
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Trichloroethene	79-01-6	91
Vinyl Chloride	75-01-4	102

Q = Exceeds Quality Control limits.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	100
Toluene-d8	2037-26-5	70-130	100

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	LCS	Date/Time Analyzed:	2/6/19 09:49 AM
Lab ID:	1901510-06C	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd20.i / 20020603sim
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Naphthalene	91-20-3	115

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	93
4-Bromofluorobenzene	460-00-4	70-130	100
Toluene-d8	2037-26-5	70-130	101

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	LCSD	Date/Time Analyzed:	2/6/19 10:28 AM
Lab ID:	1901510-06CC	Dilution Factor:	1.00
Date/Time Collected:	NA - Not Applicable	Instrument/Filename:	msd20.i / 20020604sim
Media:	NA - Not Applicable		

Compound	CAS#	%Recovery
Naphthalene	91-20-3	123

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	93
4-Bromofluorobenzene	460-00-4	70-130	100
Toluene-d8	2037-26-5	70-130	100

* % Recovery is calculated using unrounded analytical results.

Data Usability Summary Report

Bristol-Myers Squibb
Thompson Road Investigation

Data Usability Summary Report

Syracuse, NY

Volatile Organic Compound (VOC) analysis

SDGs # 1901510

Analyses Performed By:
Eurofins Air Toxics
Folsom, CA

Report #32062R
Review Level: Tier III
Project: B0087363.0031.00002



DATA REVIEW REPORT

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Groups (SDGs) # 1901510 for samples collected in association with the with the Bristol-Myers Squibb Thompson Road Site. The review was conducted as a Tier III evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

SDG Number	Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis				
						VOC	SVOC	PCB	MET	MISC
1901510	IA-3 01242019	1901510-01	GS	01/24/2019		X				
	DUP-012419	1901510-02	GS	01/24/2019	IA-3	X				
	AMB-3 01242019	1901510-03	GS	01/24/2019		X				

DATA REVIEW REPORT

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:

QA - Quality Assurance

DATA REVIEW REPORT

List of Acronyms

%D: Percent Difference

%R: Percent Recovery

AC: Acceptable

ALC/GLY: Alcohols/Glycols

BAL: Blank Action Level

CCV: Continuing Calibration Verification

CRDL: Contract Required Detection Limit

D: Dilution

EIS: Extractable Internal Standard

FB: Field Blank

FD: Field Duplicate

ALD: Aldehydes

GC/ECD: Gas Chromatograph/Electron Capture Detector

GC/MS: Gas Chromatograph/Mass spectrometer

HT: Holding Time

ICP: Inductively Coupled Plasma

ICS: Interference Control Sample

ICV: Initial Calibration Verification

ISTD: Internal Standards

LabDup: Laboratory Duplicate

LCS: Lab Control Sample

LCSD: Lab Control Sample Duplicate

LL: Lower Control Limit

MB: Method Blank

MDL: Method Detection Limit

MET: Metals

MS: Matrix Spike

MSD: Matrix Spike Duplicate

N/A: Not Applicable

NC: Not Compliant

DATA REVIEW REPORT

List of Acronyms, Continued

PAH: Polyaromatic Hydrocarbon

PCB: Polychlorinated Biphenyl

PEST: Pesticide

PFAS: Per- and Polyfluoroalkyl Substances

QA: Quality Assurance

QC: Quality Control

RB: Rinse Blank

RL: Reporting Limit

RPD: Relative Percent Difference

RRF: Relative Response Factor

RSD: Relative Standard Deviation

RT: Retention Time

SDG: Sample Delivery Group

SerDil: Serial Dilution

SIM: Single Ion Monitoring

SOP: Standard Operating Procedure

SSTD: Surrogate Standards

SVOC: Semivolatile Organic Compound

TB: Trip Blank

TIC: Tentatively Identified Compound

TOC: Total Organic Carbon

TOTDIS: Total and Dissolved

UL: Upper Control Limit

USEPA: United States Environmental Protection Agency

VOC: Volatile Organic Compound

DATA REVIEW REPORT

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) Method TO-15 and TO-15 Modified (SIM). Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999, USEPA Region II SOP HW-31- Validating Air Samples Volatile Organic Analysis of Ambient Air In Canister by Method TO-15 of October 2006, New York State DEC Analytical Method ASP 2005 TO-15 (QA/QC Criteria R9 TO-15), NYSDEC Modifications to R9 TO-15 QA/QC Criteria October 2009.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
 - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
 - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
 - E The compound was quantitated above the calibration range.
 - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
 - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
 - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
 - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
 - UB Compound considered non-detect at the listed value due to associated blank contamination.
 - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
 - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and

DATA REVIEW REPORT

provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

DATA REVIEW REPORT

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation	Return Cannister Pressure
EPA TO-15 and TO-15 Modified (SIM)	Air	30 days from collection to analysis	Ambient Temperature	< -1" Hg

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B) of data. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Sample Locations	Analytes	Sample Result	Qualification
AMB-3	Naphthalene	Detected sample results <RL and <BAL	"UB" at the RL

Note:

RL Reporting limit

3. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable, and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

DATA REVIEW REPORT

4. Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) and an RRF value greater than control limit (0.05).

4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (30%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Sample Locations	Initial/Continuing	Compound	Criteria
IA-3 01242019 DUP-012419 AMB-3 01242019	ICV %RSD	1,4-Dichlorobenzene	30.4%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01 ¹	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01 ¹	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 15% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R

DATA REVIEW REPORT

Initial/Continuing	Criteria	Sample Result	Qualification
		Detect	J
Continuing Calibration	%D >20% (increase in sensitivity)	Non-detect	No Action
		Detect	J
	%D >20% (decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

¹ RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

5. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit a percent recovery within the established acceptance limits of 70% to 130%.

All surrogate recoveries were within control limits.

6. Internal Standard Performance

Internal standard performance criteria insure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

7. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the established acceptance limits of 70% to 130%.

Sample locations associated with LCS/LCSD analysis exhibiting recoveries outside of the control limits presented in the following table.

Sample Locations	Compound	LCS Recovery	LCSD Recovery
IA-3 01242019	Acetone	>UL	AC
DUP-012419	Ethanol	>UL	>UL

DATA REVIEW REPORT

Sample Locations	Compound	LCS Recovery	LCSD Recovery
AMB-3 01242019	2-Propanol	AC	>UL
	Naphthalene	>UL	>UL

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS/LCSD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

9. Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
IA-3 /DUP-012419	1,2,4-Trimethylbenzene	10	10	AC
	1,3,5-Trimethylbenzene	1.9	2.0	AC
	2-Butanone (Methyl Ethyl Ketone)	1.2 J	2.3	AC
	2-Hexanone	2.7 U	0.95 J	AC
	2-Propanol	4.6	5.3	AC
	4-Ethyltoluene	2.3	2.5	AC
	4-Methyl-2-pentanone	0.23 J	0.56 U	AC
	Acetone	7.3	9.7	AC
	Carbon Disulfide	2.0 J	2.1 U	AC
	Cumene	0.40 J	0.67 U	AC
	Ethanol	51	57	11.1%

DATA REVIEW REPORT

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
	Freon 11	1.2	1.2	AC
	Freon 113	0.74 J	0.66 J	AC
	Heptane	0.82	0.99	AC
	Hexane	0.61	0.71	AC
	Methylene Chloride	0.64 J	0.58 J	AC
	Propylbenzene	1.2	1.2	AC
	1,1,1-Trichloroethane	0.039 J	0.039 J	AC
	1,2-Dichloroethane	0.086 J	0.092 J	AC
	Benzene	0.64	0.64	AC
	Carbon Tetrachloride	0.47	0.48	AC
	Chloroethane	0.18 U	0.059 J	AC
	Chloroform	0.34	0.33	AC
	Chloromethane	0.84 J	0.97 J	AC
	cis-1,2-Dichloroethene	0.12	0.11	AC
	Ethyl Benzene	2.1	1.8	15.4%
	Freon 114	0.11 J	0.15 J	AC
	Freon 12	2.2 J	2.4 J	AC
	m,p-Xylene	10	9.1	9.4%
	o-Xylene	4.1	3.8	7.6%
	Tetrachloroethene	0.18 J	0.17 J	AC
	Toluene	5.0	4.5	10.5%
	Trichloroethene	0.59	0.61	AC
	Naphthalene	4.5	4.2	6.9%

Notes:

AC Acceptable

U Not detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

10. Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

DATA REVIEW REPORT

Tentatively identified compounds (TICs) were identified in all sample locations associated with this SDG. VOC analysis requires that TICs be qualified as estimated (JN).

11. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA REVIEW REPORT

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: EPA TO-15	Reported		Performance Acceptable		Not Required	
	No	Yes	No	Yes		
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)						
Tier II Validation						
Holding times		X		X		
Reporting limits (units)		X		X		
Blanks						
A. Method blanks		X	X			
B. Equipment blanks					X	
C. Trip blanks					X	
Laboratory Control Sample (LCS)		X	X			
Laboratory Control Sample Duplicate(LCSD)		X	X			
LCS/LCSD Precision (RPD)		X		X		
Matrix Spike (MS)					X	
Matrix Spike Duplicate(MSD)					X	
MS/MSD Precision (RPD)					X	
Field/Lab Duplicate (RPD)		X		X		
Surrogate Spike Recoveries		X		X		
Dilution Factor		X		X		
Moisture Content					X	
Tier III Validation						
System performance and column resolution		X		X		
Initial calibration %RSDs		X	X			
Continuing calibration RRFs		X		X		
Continuing calibration %Ds		X		X		
Instrument tune and performance check		X		X		
Ion abundance criteria for each instrument used		X		X		
Internal standard		X		X		
Compound identification and quantitation						
A. Reconstructed ion chromatograms		X		X		
B. Quantitation Reports		X		X		

DATA REVIEW REPORT

VOCs: EPA TO-15	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
C. RT of sample compounds within the established RT windows		X		X	
D. Transcription/calculation errors present		X		X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:

%RSD Relative standard deviation

%R Percent recovery

RPD Relative percent difference

%D Percent difference

DATA USABILITY SUMMARY REPORT

SAMPLE COMPLIANCE REPORT

Sample Delivery Group (SDG)	Sampling Date	Protocol	Sample ID	Matrix	Compliance ¹					Noncompliance
					VOC	SVOC	PFAS	MET	MISC	
1901510	01/24/2019	TO-15	IA-3 01242019	Air	No	-	-	-	-	VOC: ICV %RSD, LCS/LCSD %R
	01/24/2019	TO-15	DUP-012419	Air	No	-	-	-	-	VOC: ICV %RSD, LCS/LCSD %R
	01/24/2019	TO-15	AMB-3 01242019	Air	No	-	-	-	-	VOC: ICV %RSD, LCS/LCSD %R, MB

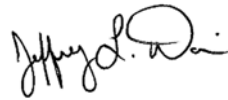
Note:

- 1 Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no". A "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.

DATA USABILITY SUMMARY REPORT

VALIDATION PERFORMED BY: Jeffrey L. Davin

SIGNATURE:



DATE: March 14, 2019

PEER REVIEW: Joseph Houser

DATE: March 14, 2019

CHAIN OF CUSTODY
CORRECTED SAMPLE ANALYSIS DATA
SHEETS (Following 73 pages)





For Laboratory Use Only
 Workorder # **1901510**
 PID: **1901510**

page of --

[illegible]

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	IA-3	Date/Time Analyzed:	2/6/19 01:21 PM
Lab ID:	1901510-01A	Dilution Factor:	1.34
Date/Time Collected:	1/24/19 04:37 PM	Instrument/Filename:	msdv.i / v020608
Media:			

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2,4-Trichlorobenzene	120-82-1	1.4	4.0	5.0	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.46	0.59	0.66	10
1,2-Dichlorobenzene	95-50-1	0.33	0.72	0.80	Not Detected
1,2-Dichloropropane	78-87-5	0.57	0.57	0.62	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.52	0.59	0.66	1.9
1,3-Butadiene	106-99-0	0.17	0.27	0.30	Not Detected
1,3-Dichlorobenzene	541-73-1	0.32	0.72	0.80	Not Detected
1,4-Dioxane	123-91-1	0.28	0.43	0.48	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.92	2.5	3.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	0.60	1.6	2.0	1.2 J
2-Hexanone	591-78-6	0.64	2.2	2.7	Not Detected
2-Propanol	67-63-0	0.54	1.3	1.6	4.6 J
3-Chloropropene	107-05-1	1.0	1.7	2.1	Not Detected
4-Ethyltoluene	622-96-8	0.44	0.59	0.66	2.3
4-Methyl-2-pentanone	108-10-1	0.19	0.49	0.55	0.23 J
Acetone	67-64-1	1.0	1.3	1.6	7.3 J
alpha-Chlorotoluene	100-44-7	0.39	0.62	0.69	Not Detected
Bromodichloromethane	75-27-4	0.42	0.81	0.90	Not Detected
Bromoform	75-25-2	0.45	1.2	1.4	Not Detected
Bromomethane	74-83-9	1.2	2.1	2.6	Not Detected
Carbon Disulfide	75-15-0	0.46	1.7	2.1	2.0 J
Chlorobenzene	108-90-7	0.33	0.56	0.62	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.44	0.55	0.61	Not Detected
Cumene	98-82-8	0.35	0.59	0.66	0.40 J

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	IA-3	Date/Time Analyzed:	2/6/19 01:21 PM
Lab ID:	1901510-01A	Dilution Factor:	1.34
Date/Time Collected:	1/24/19 04:37 PM	Instrument/Filename:	msdv.i / v020608
Media:			

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Cyclohexane	110-82-7	0.29	0.42	0.46	Not Detected
Dibromochloromethane	124-48-1	0.59	1.0	1.1	Not Detected
Ethanol	64-17-5	1.2	1.2	2.5	51 J
Freon 11	75-69-4	0.35	0.68	0.75	1.2
Freon 113	76-13-1	0.46	0.92	1.0	0.74 J
Heptane	142-82-5	0.46	0.49	0.55	0.82
Hexachlorobutadiene	87-68-3	2.0	5.7	7.1	Not Detected
Hexane	110-54-3	0.35	0.42	0.47	0.61
Methylene Chloride	75-09-2	0.32	0.42	0.93	0.64 J
Propylbenzene	103-65-1	0.30	0.59	0.66	1.2
Styrene	100-42-5	0.36	0.51	0.57	Not Detected
Tetrahydrofuran	109-99-9	1.0	1.6	2.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.36	0.55	0.61	Not Detected

D: Analyte not within the DoD scope of accreditation.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS#	Match	LOD	Amount ppbv
2-Nitropropane	79-46-9	NA		Not Detected
4-Chlorotoluene	106-43-4	NA		Not Detected
Acetonitrile	75-05-8	NA		Not Detected
Benzaldehyde	100-52-7	NA		Not Detected
Benzene, 1,2,3-trimethyl-	526-73-8	81%		0.89 NJ
bis(2-Chloroethyl) Ether	111-44-4	NA		Not Detected

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	IA-3	Date/Time Analyzed:	2/6/19 01:21 PM
Lab ID:	1901510-01A	Dilution Factor:	1.34
Date/Time Collected:	1/24/19 04:37 PM	Instrument/File name:	msdv.i / v020608
Media:	6 Liter Summa Canister (SIM Certified)		

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS#	Match	LOD	Amount ppbv
Cyclohexene	110-83-8	NA		Not Detected
Epichlorohydrin	106-89-8	NA		Not Detected
Ethyl Acetate	141-78-6	NA		Not Detected
Isobutanol	78-83-1	NA		Not Detected
Isopropyl ether	108-20-3	NA		Not Detected
Methacrylonitrile	126-98-7	NA		Not Detected
Methyl Acetate	79-20-9	NA		Not Detected
N,N-Dimethyl Aniline	121-69-7	NA		Not Detected
n-Butanol	71-36-3	NA		Not Detected
Nitrobenzene	98-95-3	NA		Not Detected
Pentane	109-66-0	80%		0.93 NJ
Propylene	115-07-1	NA		Not Detected
Pyridine	110-86-1	NA		Not Detected

J = Estimated value.

NJ =The identification is based on presumptive evidence; estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	96
4-Bromofluorobenzene	460-00-4	70-130	86
Toluene-d8	2037-26-5	70-130	98

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	IA-3	Date/Time Analyzed:	2/6/19 01:21 PM
Lab ID:	1901510-01B	Dilution Factor:	1.34
Date/Time Collected:	1/24/19 04:37 PM	Instrument/File name:	msdv.i / v020608sim
Media:	6 Liter Summa Canister (SIM Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.032	0.044	0.15	0.039 J
1,1,2,2-Tetrachloroethane	79-34-5	0.047	0.055	0.18	Not Detected
1,1,2-Trichloroethane	79-00-5	0.040	0.044	0.15	Not Detected
1,1-Dichloroethane	75-34-3	0.030	0.032	0.11	Not Detected
1,1-Dichloroethene	75-35-4	0.022	0.032	0.053	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.023	0.062	0.20	Not Detected
1,2-Dichloroethane	107-06-2	0.024	0.032	0.11	0.086 J
1,4-Dichlorobenzene	106-46-7	0.059	0.059	0.16	Not Detected J
Benzene	71-43-2	0.023	0.026	0.21	0.64
Carbon Tetrachloride	56-23-5	0.079	0.079	0.17	0.47
Chloroethane	75-00-3	0.032	0.088	0.18	Not Detected
Chloroform	67-66-3	0.016	0.039	0.13	0.34
Chloromethane	74-87-3	0.027	0.069	1.4	0.84 J
cis-1,2-Dichloroethene	156-59-2	0.025	0.032	0.11	0.12
Ethyl Benzene	100-41-4	0.022	0.035	0.12	2.1
Freon 114	76-14-2	0.062	0.062	0.19	0.11 J
Freon 12	75-71-8	0.036	0.040	3.3	2.2 J
m,p-Xylene	108-38-3	0.033	0.035	0.23	10
Methyl tert-butyl ether	1634-04-4	0.024	0.029	0.48	Not Detected
o-Xylene	95-47-6	0.039	0.039	0.12	4.1
Tetrachloroethene	127-18-4	0.016	0.054	0.18	0.18 J
Toluene	108-88-3	0.021	0.030	0.10	5.0
trans-1,2-Dichloroethene	156-60-5	0.034	0.034	0.53	Not Detected
Trichloroethene	79-01-6	0.019	0.043	0.14	0.59

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	IA-3	Date/Time Analyzed:	2/6/19 01:21 PM
Lab ID:	1901510-01B	Dilution Factor:	1.34
Date/Time Collected:	1/24/19 04:37 PM	Instrument/Filename:	msdv.i / v020608sim
Media:	6 Liter Summa Canister (SIM Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	75-01-4	0.026	0.026	0.034	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	100
4-Bromofluorobenzene	460-00-4	70-130	94
Toluene-d8	2037-26-5	70-130	96

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	IA-3	Date/Time Analyzed:	2/6/19 06:13 PM
Lab ID:	1901510-01C	Dilution Factor:	1.34
Date/Time Collected:	1/24/19 04:37 PM	Instrument/Filename:	msd20.i / 20020612sim
Media:	6 Liter Summa Canister (SIM Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Naphthalene	91-20-3	0.065	0.14	0.35	4.6 J

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	104
4-Bromofluorobenzene	460-00-4	70-130	97
Toluene-d8	2037-26-5	70-130	98

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	DUP-012419	Date/Time Analyzed:	2/6/19 01:59 PM
Lab ID:	1901510-02A	Dilution Factor:	1.37
Date/Time Collected:	1/24/19 12:00 AM	Instrument/Filename:	msdv.i / v020609
Media:			

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2,4-Trichlorobenzene	120-82-1	1.4	4.1	5.1	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.47	0.61	0.67	10
1,2-Dichlorobenzene	95-50-1	0.34	0.74	0.82	Not Detected
1,2-Dichloropropane	78-87-5	0.59	0.59	0.63	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.54	0.61	0.67	2.0
1,3-Butadiene	106-99-0	0.18	0.27	0.30	Not Detected
1,3-Dichlorobenzene	541-73-1	0.32	0.74	0.82	Not Detected
1,4-Dioxane	123-91-1	0.29	0.44	0.49	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.94	2.6	3.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	0.61	1.6	2.0	2.3
2-Hexanone	591-78-6	0.66	2.2	2.8	0.95 J
2-Propanol	67-63-0	0.55	1.3	1.7	5.3 J
3-Chloropropene	107-05-1	1.1	1.7	2.1	Not Detected
4-Ethyltoluene	622-96-8	0.45	0.61	0.67	2.5
4-Methyl-2-pentanone	108-10-1	0.19	0.50	0.56	Not Detected
Acetone	67-64-1	1.1	1.3	1.6	9.7 J
alpha-Chlorotoluene	100-44-7	0.40	0.64	0.71	Not Detected
Bromodichloromethane	75-27-4	0.43	0.83	0.92	Not Detected
Bromoform	75-25-2	0.46	1.3	1.4	Not Detected
Bromomethane	74-83-9	1.2	2.1	2.7	Not Detected
Carbon Disulfide	75-15-0	0.47	1.7	2.1	Not Detected
Chlorobenzene	108-90-7	0.34	0.57	0.63	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.45	0.56	0.62	Not Detected
Cumene	98-82-8	0.36	0.61	0.67	Not Detected

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	DUP-012419	Date/Time Analyzed:	2/6/19 01:59 PM
Lab ID:	1901510-02A	Dilution Factor:	1.37
Date/Time Collected:	1/24/19 12:00 AM	Instrument/Filename:	msdv.i / v020609
Media:			

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Cyclohexane	110-82-7	0.30	0.42	0.47	Not Detected
Dibromochloromethane	124-48-1	0.60	1.0	1.2	Not Detected
Ethanol	64-17-5	1.2	1.2	2.6	57 J
Freon 11	75-69-4	0.36	0.69	0.77	1.2
Freon 113	76-13-1	0.47	0.94	1.0	0.66 J
Heptane	142-82-5	0.47	0.50	0.56	0.99
Hexachlorobutadiene	87-68-3	2.0	5.8	7.3	Not Detected
Hexane	110-54-3	0.35	0.43	0.48	0.71
Methylene Chloride	75-09-2	0.32	0.43	0.95	0.58 J
Propylbenzene	103-65-1	0.31	0.61	0.67	1.2
Styrene	100-42-5	0.36	0.52	0.58	Not Detected
Tetrahydrofuran	109-99-9	1.0	1.6	2.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.37	0.56	0.62	Not Detected

D: Analyte not within the DoD scope of accreditation.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS#	Match	LOD	Amount ppbv
2-Nitropropane	79-46-9	NA		Not Detected
4-Chlorotoluene	106-43-4	NA		Not Detected
Acetonitrile	75-05-8	NA		Not Detected
Benzaldehyde	100-52-7	NA		Not Detected
Benzene, 1,2,3-trimethyl-	526-73-8	95%		1.2 NJ
bis(2-Chloroethyl) Ether	111-44-4	NA		Not Detected

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	DUP-012419	Date/Time Analyzed:	2/6/19 01:59 PM
Lab ID:	1901510-02A	Dilution Factor:	1.37
Date/Time Collected:	1/24/19 12:00 AM	Instrument/Filename:	msdv.i / v020609
Media:	6 Liter Summa Canister (SIM Certified)		

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS#	Match	LOD	Amount ppbv
Cyclohexene	110-83-8	NA		Not Detected
Epichlorohydrin	106-89-8	NA		Not Detected
Ethyl Acetate	141-78-6	NA		Not Detected
Isobutanol	78-83-1	NA		Not Detected
Isopropyl ether	108-20-3	NA		Not Detected
Methacrylonitrile	126-98-7	NA		Not Detected
Methyl Acetate	79-20-9	NA		Not Detected
N,N-Dimethyl Aniline	121-69-7	NA		Not Detected
n-Butanol	71-36-3	NA		Not Detected
Nitrobenzene	98-95-3	NA		Not Detected
Pentane	109-66-0	80%		1.6 NJ
Propylene	115-07-1	NA		Not Detected
Pyridine	110-86-1	NA		Not Detected

J = Estimated value.

NJ =The identification is based on presumptive evidence; estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	94
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	100

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	DUP-012419	Date/Time Analyzed:	2/6/19 01:59 PM
Lab ID:	1901510-02B	Dilution Factor:	1.37
Date/Time Collected:	1/24/19 12:00 AM	Instrument/File Name:	msdv.i / v020609sim
Media:	6 Liter Summa Canister (SIM Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.032	0.045	0.15	0.039 J
1,1,2,2-Tetrachloroethane	79-34-5	0.048	0.056	0.19	Not Detected
1,1,2-Trichloroethane	79-00-5	0.040	0.045	0.15	Not Detected
1,1-Dichloroethane	75-34-3	0.031	0.033	0.11	Not Detected
1,1-Dichloroethene	75-35-4	0.023	0.032	0.054	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	0.023	0.063	0.21	0.024 J
1,2-Dichloroethane	107-06-2	0.024	0.033	0.11	0.092 J
1,4-Dichlorobenzene	106-46-7	0.060	0.060	0.16	Not Detected J
Benzene	71-43-2	0.024	0.026	0.22	0.64
Carbon Tetrachloride	56-23-5	0.081	0.081	0.17	0.48
Chloroethane	75-00-3	0.032	0.090	0.18	0.059 J
Chloroform	67-66-3	0.016	0.040	0.13	0.33
Chloromethane	74-87-3	0.027	0.071	1.4	0.97 J
cis-1,2-Dichloroethene	156-59-2	0.026	0.032	0.11	0.11
Ethyl Benzene	100-41-4	0.023	0.036	0.12	1.8
Freon 114	76-14-2	0.064	0.064	0.19	0.15 J
Freon 12	75-71-8	0.036	0.041	3.4	2.4 J
m,p-Xylene	108-38-3	0.034	0.036	0.24	9.1
Methyl tert-butyl ether	1634-04-4	0.025	0.030	0.49	Not Detected
o-Xylene	95-47-6	0.040	0.040	0.12	3.8
Tetrachloroethene	127-18-4	0.016	0.056	0.18	0.17 J
Toluene	108-88-3	0.022	0.031	0.10	4.5
trans-1,2-Dichloroethene	156-60-5	0.034	0.034	0.54	Not Detected
Trichloroethene	79-01-6	0.019	0.044	0.15	0.61

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	DUP-012419	Date/Time Analyzed:	2/6/19 01:59 PM
Lab ID:	1901510-02B	Dilution Factor:	1.37
Date/Time Collected:	1/24/19 12:00 AM	Instrument/Filename:	msdv.i / v020609sim
Media:	6 Liter Summa Canister (SIM Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	75-01-4	0.026	0.026	0.035	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	99
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	99

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	DUP-012419	Date/Time Analyzed:	2/6/19 06:58 PM
Lab ID:	1901510-02C	Dilution Factor:	1.37
Date/Time Collected:	1/24/19 12:00 AM	Instrument/Filename:	msd20.i / 20020613sim
Media:	6 Liter Summa Canister (SIM Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Naphthalene	91-20-3	0.067	0.14	0.36	4.2 J

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	102
4-Bromofluorobenzene	460-00-4	70-130	97
Toluene-d8	2037-26-5	70-130	98

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	AMB-3	Date/Time Analyzed:	2/6/19 02:36 PM
Lab ID:	1901510-03A	Dilution Factor:	1.33
Date/Time Collected:	1/24/19 04:40 PM	Instrument/Filename:	msdv.i / v020610
Media:			

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2,4-Trichlorobenzene	120-82-1	1.3	3.9	4.9	Not Detected
1,2,4-Trimethylbenzene	95-63-6	0.46	0.59	0.65	Not Detected
1,2-Dichlorobenzene	95-50-1	0.33	0.72	0.80	Not Detected
1,2-Dichloropropane	78-87-5	0.57	0.57	0.61	Not Detected
1,3,5-Trimethylbenzene	108-67-8	0.52	0.59	0.65	Not Detected
1,3-Butadiene	106-99-0	0.17	0.26	0.29	Not Detected
1,3-Dichlorobenzene	541-73-1	0.31	0.72	0.80	Not Detected
1,4-Dioxane	123-91-1	0.28	0.43	0.48	Not Detected
2,2,4-Trimethylpentane	540-84-1	0.92	2.5	3.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	0.59	1.6	2.0	1.9 J
2-Hexanone	591-78-6	0.64	2.2	2.7	Not Detected
2-Propanol	67-63-0	0.53	1.3	1.6	1.3 J
3-Chloropropene	107-05-1	1.0	1.7	2.1	Not Detected
4-Ethyltoluene	622-96-8	0.44	0.59	0.65	Not Detected
4-Methyl-2-pentanone	108-10-1	0.19	0.49	0.54	0.22 J
Acetone	67-64-1	1.0	1.3	1.6	7.9 J
alpha-Chlorotoluene	100-44-7	0.39	0.62	0.69	Not Detected
Bromodichloromethane	75-27-4	0.42	0.80	0.89	Not Detected
Bromoform	75-25-2	0.44	1.2	1.4	Not Detected
Bromomethane	74-83-9	1.2	2.1	2.6	Not Detected
Carbon Disulfide	75-15-0	0.46	1.6	2.1	Not Detected
Chlorobenzene	108-90-7	0.32	0.55	0.61	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.44	0.54	0.60	Not Detected
Cumene	98-82-8	0.34	0.59	0.65	Not Detected

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	AMB-3	Date/Time Analyzed:	2/6/19 02:36 PM
Lab ID:	1901510-03A	Dilution Factor:	1.33
Date/Time Collected:	1/24/19 04:40 PM	Instrument/File Name:	msdv.i / v020610
Media:			

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Cyclohexane	110-82-7	0.29	0.41	0.46	Not Detected
Dibromochloromethane	124-48-1	0.59	1.0	1.1	Not Detected
Ethanol	64-17-5	1.2	1.2	2.5	5.3 J
Freon 11	75-69-4	0.35	0.67	0.75	1.4
Freon 113	76-13-1	0.46	0.92	1.0	0.75 J
Heptane	142-82-5	0.46	0.49	0.54	Not Detected
Hexachlorobutadiene	87-68-3	2.0	5.7	7.1	Not Detected
Hexane	110-54-3	0.34	0.42	0.47	0.76
Methylene Chloride	75-09-2	0.32	0.42	0.92	0.82 J
Propylbenzene	103-65-1	0.30	0.59	0.65	Not Detected
Styrene	100-42-5	0.35	0.51	0.57	Not Detected
Tetrahydrofuran	109-99-9	1.0	1.6	2.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.36	0.54	0.60	Not Detected

D: Analyte not within the DoD scope of accreditation.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS#	Match	LOD	Amount ppbv
1,2,3-Trimethylbenzene	526-73-8	NA		Not Detected
2-Nitropropane	79-46-9	NA		Not Detected
4-Chlorotoluene	106-43-4	NA		Not Detected
Acetonitrile	75-05-8	NA		Not Detected
Benzaldehyde	100-52-7	NA		Not Detected
bis(2-Chloroethyl) Ether	111-44-4	NA		Not Detected

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	AMB-3	Date/Time Analyzed:	2/6/19 02:36 PM
Lab ID:	1901510-03A	Dilution Factor:	1.33
Date/Time Collected:	1/24/19 04:40 PM	Instrument/Filename:	msdv.i / v020610
Media:	6 Liter Summa Canister (SIM Certified)		

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS#	Match	LOD	Amount ppbv
Cyclohexene	110-83-8	NA		Not Detected
Epichlorohydrin	106-89-8	NA		Not Detected
Ethyl Acetate	141-78-6	NA		Not Detected
Isobutanol	78-83-1	NA		Not Detected
Isopropyl ether	108-20-3	NA		Not Detected
Methacrylonitrile	126-98-7	NA		Not Detected
Methyl Acetate	79-20-9	NA		Not Detected
N,N-Dimethyl Aniline	121-69-7	NA		Not Detected
n-Butanol	71-36-3	NA		Not Detected
Nitrobenzene	98-95-3	NA		Not Detected
Pentane	109-66-0	NA		Not Detected
Propylene	115-07-1	NA		Not Detected
Pyridine	110-86-1	NA		Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	102
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	98

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	AMB-3	Date/Time Analyzed:	2/6/19 02:36 PM
Lab ID:	1901510-03B	Dilution Factor:	1.33
Date/Time Collected:	1/24/19 04:40 PM	Instrument/File Name:	msdv.i / v020610sim
Media:	6 Liter Summa Canister (SIM Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,1,1-Trichloroethane	71-55-6	0.031	0.044	0.14	Not Detected	
1,1,2,2-Tetrachloroethane	79-34-5	0.047	0.055	0.18	Not Detected	
1,1,2-Trichloroethane	79-00-5	0.039	0.044	0.14	Not Detected	
1,1-Dichloroethane	75-34-3	0.030	0.032	0.11	Not Detected	
1,1-Dichloroethene	75-35-4	0.022	0.032	0.053	Not Detected	
1,2-Dibromoethane (EDB)	106-93-4	0.022	0.061	0.20	Not Detected	
1,2-Dichloroethane	107-06-2	0.024	0.032	0.11	0.088 J	
1,4-Dichlorobenzene	106-46-7	0.058	0.058	0.16	Not Detected	J
Benzene	71-43-2	0.023	0.025	0.21	0.56	
Carbon Tetrachloride	56-23-5	0.078	0.078	0.17	0.47	
Chloroethane	75-00-3	0.031	0.088	0.18	0.041 J	
Chloroform	67-66-3	0.016	0.039	0.13	0.077 J	
Chloromethane	74-87-3	0.026	0.069	1.4	0.90 J	
cis-1,2-Dichloroethene	156-59-2	0.025	0.032	0.10	Not Detected	
Ethyl Benzene	100-41-4	0.022	0.035	0.12	0.21	
Freon 114	76-14-2	0.062	0.062	0.18	0.12 J	
Freon 12	75-71-8	0.035	0.039	3.3	2.3 J	
m,p-Xylene	108-38-3	0.033	0.035	0.23	0.65	
Methyl tert-butyl ether	1634-04-4	0.024	0.029	0.48	Not Detected	
Naphthalene	91-20-3	0.066	0.14	0.35	0.24 J	UB
o-Xylene	95-47-6	0.039	0.039	0.12	0.32	
Tetrachloroethene	127-18-4	0.016	0.054	0.18	0.067 J	
Toluene	108-88-3	0.021	0.030	0.10	0.81	
trans-1,2-Dichloroethene	156-60-5	0.033	0.033	0.53	Not Detected	

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
BMS SVI

Client ID:	AMB-3	Date/Time Analyzed:	2/6/19 02:36 PM
Lab ID:	1901510-03B	Dilution Factor:	1.33
Date/Time Collected:	1/24/19 04:40 PM	Instrument/Filename:	msdv.i / v020610sim
Media:	6 Liter Summa Canister (SIM Certified)		

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	79-01-6	0.018	0.043	0.14	0.033 J
Vinyl Chloride	75-01-4	0.025	0.025	0.034	Not Detected

J = Estimated value.

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	99
4-Bromofluorobenzene	460-00-4	70-130	104
Toluene-d8	2037-26-5	70-130	101

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