AVERY DENNISON

Avery Dennison Corporation
Environmental, Health & Safety
1155 Wordens Pond Road
Charlestown, RI 02813 USA
Office: 508/ 410-2470

May 2, 2017

Daniel R. Lanners, P.E.
Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation, Remedial Bureau C
625 Broadway, 11th Floor
Albany, NY 12233-7014

**Re: Final January 2017 Indoor Air and Sub-Slab Soil Vapor Sampling Results**
**Avery Dennison Corporation – Orangeburg Facility**
**NYSDEC Site No. 344072**
**Orangeburg, Rockland County, NY**

Dear Mr. Lanners,

Avery Dennison Corporation (ADC) and its consultant, The Johnson Company (JCO), performed indoor air and sub-slab soil vapor sampling at the above-referenced ADC facility in late January 2017, as requested in correspondence from New York State Department of Environmental Conservation (the Department) dated December 15, 2016. The work was performed in accordance with the Soil Vapor Intrusion Investigation Work Plan (the Work Plan) submitted to the Department on March 4, 2016. ADC submitted preliminary results to NYSDEC on February 23, 2017, pending completion of data validation and a Data Usability Summary Report (DUSR). Data validation and the DUSR have now been completed; no changes to the preliminary data set were required.

Please find attached a sample location figure (*see Figure 1*) and a summary table of validated results from laboratory analysis of those samples (*see Table 1*). Laboratory analytical reports are included in *Attachment 1*, and the associated DUSR and Data Validation Report are included in *Attachment 2*.

The January 2017 results show only a single VOC detection in the indoor air samples: carbon tetrachloride at a concentration of 0.45 micrograms per cubic meter ($\mu g/m^3$) at location IA-4. That concentration is less than the concentration of carbon tetrachloride in the associated outdoor air sample collected concurrently (0.53 $\mu g/m^3$), falls below the "continue monitoring range" in the New York State Department of Health (NYSDOH) generic decision Matrix 1, and is less than the current United States Environmental Protection Agency (USEPA) risk-based indoor air screening level of 2 $\mu g/m^3$ for carbon tetrachloride.

Tetrachloroethene (PCE) was detected in two sub-slab soil gas samples at levels that fall within the "continue monitoring range" on the NYSDOH generic decision Matrix 2. PCE was not

detected in any indoor air samples in 2017, and the maximum reported PCE concentration in soil gas (150 $\mu g/m^3$) is more than a factor of ten below the current risk-based USEPA screening level (1,600 $\mu g/m^3$). Concentrations of PCE and other VOCs detected in the 2017 soil gas samples were similar to or lower than those detected in 2016, indicating that concentrations are not increasing over time. The NYSDOH generic decision matrix notwithstanding, PCE does not qualify as a constituent of concern for soil vapor intrusion based on USEPA's current risk-based screening level calculations.

ADC voluntarily performed environmental investigations after acquiring the property in 2007, and presented the results to NYSDEC. At our May 4, 2015 meeting in Albany, the Department indicated no further action would be required to address VOCs in soil and groundwater at the property. ADC has an urgent business need to plan for future use of this facility; clarification on the timeline and process for obtaining a no further action determination is a key component of that planning. We look forward to discussing this with NYSDEC and NYSDOH at a meeting in Albany this spring.

If you have any questions or comments, please do not hesitate to call.

Sincerely,

Bruce Martin

Bruce Martin
Manager, Remediation Services
Avery Dennison Corporation

cc: Chris Turner, The Johnson Company

**Table 1: Indoor Air and Sub-Slab Soil Vapor Analytical Results - January 2017**
Former Paxar Facility
Orangeburg, New York
NYSDEC Site No. 344072

| Sample Type | Sample Duration | Analyte | NYSDOH Decision Matrix | USEPA Screening Level[1] (µg/m$^3$) | Sample Date: | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | SS-1 | SS-2 | SS-3 | SS-4 | SS-5 | SS-5 Duplicate |
| Sub-Slab Soil Vapor | 8 hours | Tetrachloroethene | Matrix 2 | 1,600 | 150 | 4.8 | 7.3 | 7.3 | 130 | 130 |
| | | Trichloroethene | Matrix 1 | 100 | 28 | ND (<0.96) | 0.9 J | ND (<0.98) | 10 | 11 |
| | | cis-1,2-Dichloroethene | Matrix 2 | -- | 3.4 | ND (<0.71) | ND (<0.68) | ND (<0.72) | ND (<0.68) | ND (<0.67) |
| | | trans-1,2-Dichloroethene | -- | -- | ND (<0.69) | ND (<0.71) | ND (<0.68) | ND (<0.72) | ND (<0.68) | ND (<0.67) |
| | | 1,1-Dichloroethene | Matrix 2 | 29,000 | ND (<0.69) | ND (<0.71) | ND (<0.68) | ND (<0.72) | ND (<0.68) | 0.75 |
| | | Vinyl chloride | Matrix 1 | 93 | ND (<0.45) | ND (<0.46) | ND (<0.44) | ND (<0.47) | ND (<0.44) | ND (<0.43) |
| | | 1,1,1-Trichloroethane | Matrix 2 | 730,000 | 1.0 | ND (<0.98) | ND (<0.93) | ND (<1.0) | 13 | 14 |
| | | Carbon Tetrachloride | Matrix 1 | 68 | ND (<1.1) | ND (<1.1) | 1.0 J | ND (<1.2) | 5.2 | 5.6 |
| | | 1,1-Dichloroethane | -- | 260 | ND (<0.71) | ND (<0.72) | ND (<0.69) | ND (<0.74) | 74 | 75 |
| | | 1,2-Dichloroethane | -- | 16 | ND (<0.71) | ND (<0.72) | ND (<0.69) | ND (<0.74) | ND (<0.69) | ND (<0.68) |

| Sample Type | Sample Duration | Analyte | NYSDOH Decision Matrix | NYSDOH Indoor Air Guideline (µg/m$^3$) | USEPA Screening Level[1] (µg/m$^3$) | Sample Date: | 1/24/2017 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 1/24/2017 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | IA-1 | IA-2 | IA-3 | IA-4 | IA-4 Duplicate | IA-5 | OA-1 |
| Indoor and Ambient Air | 8 hours | Tetrachloroethene | Matrix 2 | 30 | 47 | | ND (<0.62) | ND (<0.46) | ND (<1.1) | ND (<0.30) | ND (<0.40) | ND (<120) | ND (<0.22) |
| | | Trichloroethene | Matrix 1 | 2 | 3 | | ND (<0.49) | ND (<0.37) | ND (<0.90) | ND (<0.24) | ND (<0.32) | ND (<96) | ND (<0.18) |
| | | cis-1,2-Dichloroethene | Matrix 2 | -- | -- | | ND (<0.36) | ND (<0.27) | ND (<0.67) | ND (<0.17) | ND (<0.24) | ND (<71) | ND (<0.13) |
| | | trans-1,2-Dichloroethene | -- | -- | -- | | ND (<1.8) | ND (<1.4) | ND (<3.3) | ND (<0.87) | ND (<1.2) | ND (<71) | ND (<0.65) |
| | | 1,1-Dichloroethene | Matrix 2 | -- | 880 | | ND (<0.18) | ND (<0.14) | ND (<0.33) | ND (<0.087) | ND (<0.12) | ND (<71) | ND (<0.065) |
| | | Vinyl chloride | Matrix 1 | -- | 2.8 | | ND (<0.12) | ND (<0.087) | ND (<0.21) | ND (<0.056) | ND (<0.076) | ND (<46) | ND (<0.042) |
| | | 1,1,1-Trichloroethane | Matrix 2 | -- | 22,000 | | ND (<0.50) | ND (<0.37) | ND (<0.92) | ND (<0.24) | ND (<0.32) | ND (<98) | ND (<0.18) |
| | | Carbon Tetrachloride | Matrix 1 | -- | 2 | | ND (<0.58) | ND (<0.43) | ND (<1.0) | 0.45 | 0.45 | ND (<110) | 0.53 |
| | | 1,1-Dichloroethane | -- | -- | 7.7 | | ND (<0.37) | ND (<0.28) | ND (<0.68) | ND (<0.18) | ND (<0.24) | ND (<72) | ND (<0.13) |
| | | 1,2-Dichloroethane | -- | -- | 0.47 | | ND (<0.37) | ND (<0.28) | ND (<0.68) | ND (<0.18) | ND (<0.24) | ND (<72) | ND (<0.13) |

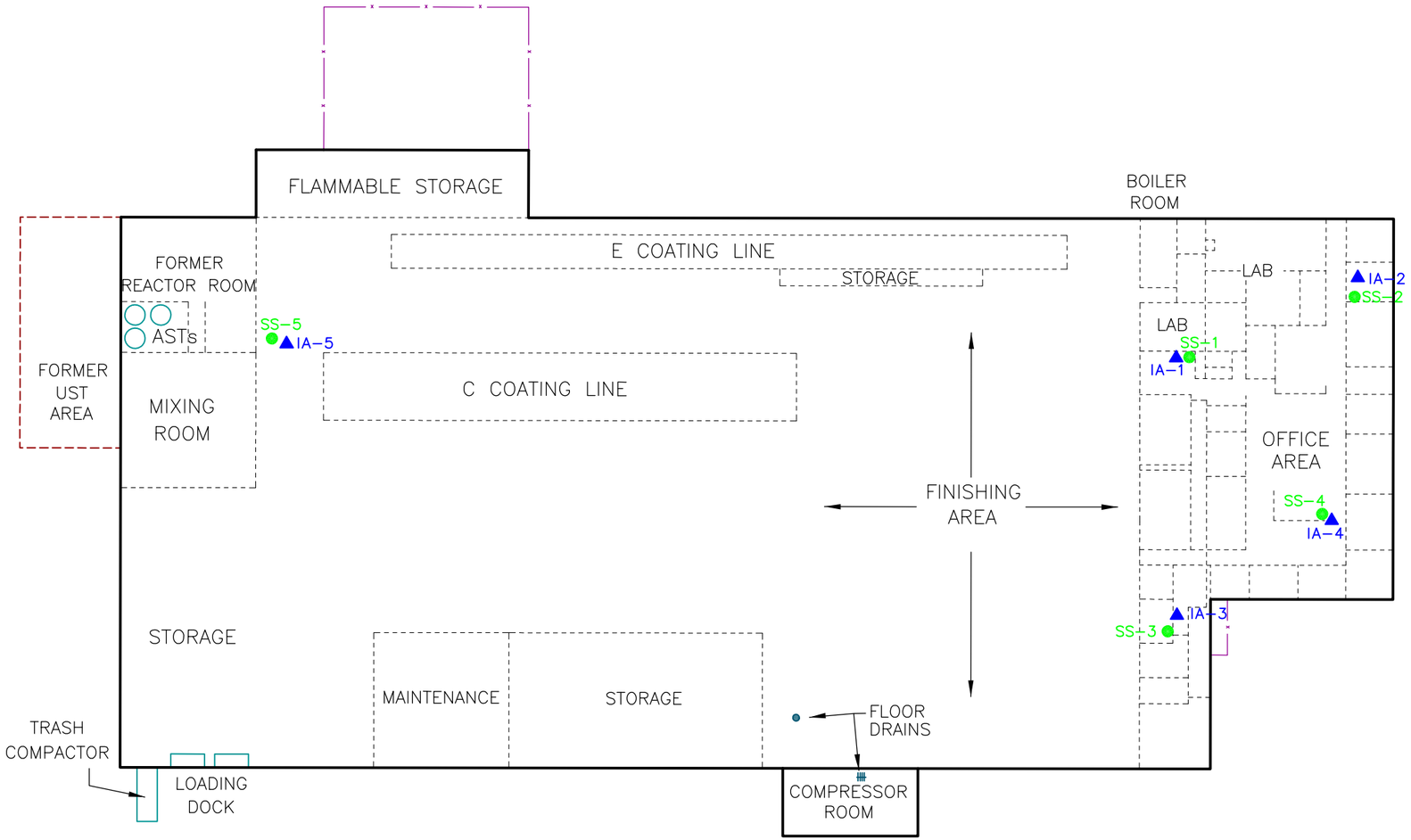
Notes:

1. USEPA Screening Levels from Vapor Intrusion Screening Level Calculator version 3.5.1, May 2016 RSLs. Commercial Scenario, TCR = 1x10$^{-6}$; THQ = 1.0 (USEPA, 2016)
2. Indoor Air and Outdoor Air Samples analyzed by Eurofins Air Toxics using USEPA Method TO-15 SIM
3. Sub-Slab Soil Vapor Samples analyzed by Eurofins Air Toxics using modified USEPA Method TO-15
4. Concentrations expressed in units of micrograms per cubic meter (µg/m$^3$)

Abbreviations:

"ND" = analyte not detected; analytical reporting limit provided in parentheses

"--" = no guidance value or screening level for this compound




SITE2010.dwg

LEGEND

- Building Footprint
- Approximate Building Interior Partition
- Fenceline
- Indoor Air Sampling Location
- Sub-Slab Soil Vapor Sampling Location

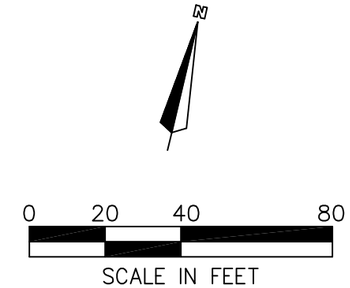



**Figure 1: January 2017 Sub-Slab Soil Vapor and Indoor Air Sampling Locations Former PAXAR Facility Orangeburg, New York**

The Johnson Company

100 State Street, Suite 600
Montpelier, VT 05602

| | |
|---|---|
| Drawn by: TJK | Date: 02/21/07 |
| Reviewed by: CMT | Date: 02/21/07 |
| Scale: As Shown | Project: 1-0145-15 |

# Attachment 1

## Laboratory Analytical Reports

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2/8/2017
Mr. Chris Turner
The Johnson Company
100 State Street
Suite 600
Montpelier VT 05602

Project Name: Avery Dennison Orangeburg, NY
Project #: 1-0145-15
Workorder #: 1701418A

Dear Mr. Chris Turner

The following report includes the data for the above referenced project for sample(s) received on 1/27/2017 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM 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: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott

Project Manager

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# WORK ORDER #: 1701418A

Work Order Summary

| | | | |
|---|---|---|---|
| **CLIENT:** | Mr. Chris Turner<br>The Johnson Company<br>100 State Street<br>Suite 600<br>Montpelier, VT 05602 | **BILL TO:** | Accounts Payable<br>The Johnson Company<br>100 State Street<br>Suite 600<br>Montpelier, VT 05602 |
| **PHONE:** | 603.232.2974 | **P.O. #** | |
| **FAX:** | 802.229.5876 | **PROJECT #** | 1-0145-15 Avery Dennison Orangeburg, NY |
| **DATE RECEIVED:** | 01/27/2017 | **CONTACT:** | Ausha Scott |
| **DATE COMPLETED:** | 02/08/2017 | | |

| FRACTION # | NAME | TEST | RECEIPT VAC./PRES. | FINAL PRESSURE |
|---|---|---|---|---|
| 01A | IA-01 | Modified TO-15 SIM | 6.5 "Hg | 6.4 psi |
| 02A | IA-02 | Modified TO-15 SIM | 6.5 "Hg | 5 psi |
| 03A | IA-03 | Modified TO-15 SIM | 6.0 "Hg | 5 psi |
| 04A | IA-04 | Modified TO-15 SIM | 7.0 "Hg | 5 psi |
| 05A | IA-05 | Modified TO-15 SIM | 7.5 "Hg | 5 psi |
| 06A | OA-01 | Modified TO-15 SIM | 5.5 "Hg | 5 psi |
| 07A | IA-Dup | Modified TO-15 SIM | 7.5 "Hg | 5 psi |
| 08A | Lab Blank | Modified TO-15 SIM | NA | NA |
| 08B | Lab Blank | Modified TO-15 SIM | NA | NA |
| 09A | CCV | Modified TO-15 SIM | NA | NA |
| 09B | CCV | Modified TO-15 SIM | NA | NA |
| 10A | LCS | Modified TO-15 SIM | NA | NA |
| 10AA | LCSD | Modified TO-15 SIM | NA | NA |
| 10B | LCS | Modified TO-15 SIM | NA | NA |
| 10BB | LCSD | Modified TO-15 SIM | NA | NA |

CERTIFIED BY:  DATE: 02/08/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards



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

**LABORATORY NARRATIVE**
**Modified TO-15 SIM**
**The Johnson Company**
**Workorder# 1701418A**

Seven 6 Liter Summa Canister (SIM Certified) samples were received on January 27, 2017. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode.

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 | </=30% RSD with 2 compounds allowed out to < 40% RSD | Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD |
| Daily Calibration | +- 30% Difference | Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=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

There were no receiving discrepancies.

## Analytical Notes

Sample IA-05 was diluted and transferred from SIM analysis to full scan TO-15 due to high levels of non-target compounds.

Dilution was performed on samples IA-01, IA-02, IA-03, IA-04, and IA-Dup due to the presence of high level non-target species.

## Definition of Data Qualifying Flags

Eight 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, LOD, or MDL value. See data page for project specific U-flag definition.

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

N - The identification is based on presumptive evidence.

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

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# Summary of Detected Compounds
# MODIFIED EPA METHOD TO-15 GC/MS SIM

**Client Sample ID: IA-01**

**Lab ID#: 1701418A-01A**

No Detections Were Found.

**Client Sample ID: IA-02**

**Lab ID#: 1701418A-02A**

No Detections Were Found.

**Client Sample ID: IA-03**

**Lab ID#: 1701418A-03A**

No Detections Were Found.

**Client Sample ID: IA-04**

**Lab ID#: 1701418A-04A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Carbon Tetrachloride | 0.044 | 0.071 | 0.28 | 0.45 |

**Client Sample ID: IA-05**

**Lab ID#: 1701418A-05A**

No Detections Were Found.

**Client Sample ID: OA-01**

**Lab ID#: 1701418A-06A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Carbon Tetrachloride | 0.033 | 0.084 | 0.21 | 0.53 |

**Client Sample ID: IA-Dup**

**Lab ID#: 1701418A-07A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Carbon Tetrachloride | 0.060 | 0.072 | 0.38 | 0.45 |

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**Client Sample ID: IA-01**

**Lab ID#: 1701418A-01A**

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

| | | | |
|---|---|---|---|
| **File Name:** | **20013013sim** | **Date of Collection:** | **1/24/17 6:06:00 PM** |
| **Dil. Factor:** | **4.58** | **Date of Analysis:** | **1/30/17 05:38 PM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.046 | Not Detected | 0.12 | Not Detected |
| 1,1-Dichloroethene | 0.046 | Not Detected | 0.18 | Not Detected |
| trans-1,2-Dichloroethene | 0.46 | Not Detected | 1.8 | Not Detected |
| 1,1-Dichloroethane | 0.092 | Not Detected | 0.37 | Not Detected |
| cis-1,2-Dichloroethene | 0.092 | Not Detected | 0.36 | Not Detected |
| 1,1,1-Trichloroethane | 0.092 | Not Detected | 0.50 | Not Detected |
| Carbon Tetrachloride | 0.092 | Not Detected | 0.58 | Not Detected |
| 1,2-Dichloroethane | 0.092 | Not Detected | 0.37 | Not Detected |
| Trichloroethene | 0.092 | Not Detected | 0.49 | Not Detected |
| Tetrachloroethene | 0.092 | Not Detected | 0.62 | Not Detected |

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | 70-130 |
| Toluene-d8 | 97 | 70-130 |
| 4-Bromofluorobenzene | 89 | 70-130 |

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**Client Sample ID: IA-02**

**Lab ID#: 1701418A-02A**

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

| | | | |
|---|---|---|---|
| **File Name:** | **20013014sim** | **Date of Collection:** | **1/24/17 5:59:00 PM** |
| **Dil. Factor:** | **3.42** | **Date of Analysis:** | **1/30/17 06:40 PM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.034 | Not Detected | 0.087 | Not Detected |
| 1,1-Dichloroethene | 0.034 | Not Detected | 0.14 | Not Detected |
| trans-1,2-Dichloroethene | 0.34 | Not Detected | 1.4 | Not Detected |
| 1,1-Dichloroethane | 0.068 | Not Detected | 0.28 | Not Detected |
| cis-1,2-Dichloroethene | 0.068 | Not Detected | 0.27 | Not Detected |
| 1,1,1-Trichloroethane | 0.068 | Not Detected | 0.37 | Not Detected |
| Carbon Tetrachloride | 0.068 | Not Detected | 0.43 | Not Detected |
| 1,2-Dichloroethane | 0.068 | Not Detected | 0.28 | Not Detected |
| Trichloroethene | 0.068 | Not Detected | 0.37 | Not Detected |
| Tetrachloroethene | 0.068 | Not Detected | 0.46 | Not Detected |

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | 70-130 |
| Toluene-d8 | 97 | 70-130 |
| 4-Bromofluorobenzene | 90 | 70-130 |

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**Client Sample ID: IA-03**

**Lab ID#: 1701418A-03A**

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

| | | | |
|---|---|---|---|
| **File Name:** | **20013015sim** | **Date of Collection: 1/24/17 5:40:00 PM** | |
| **Dil. Factor:** | **8.40** | **Date of Analysis: 1/30/17 07:37 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.084 | Not Detected | 0.21 | Not Detected |
| 1,1-Dichloroethene | 0.084 | Not Detected | 0.33 | Not Detected |
| trans-1,2-Dichloroethene | 0.84 | Not Detected | 3.3 | Not Detected |
| 1,1-Dichloroethane | 0.17 | Not Detected | 0.68 | Not Detected |
| cis-1,2-Dichloroethene | 0.17 | Not Detected | 0.67 | Not Detected |
| 1,1,1-Trichloroethane | 0.17 | Not Detected | 0.92 | Not Detected |
| Carbon Tetrachloride | 0.17 | Not Detected | 1.0 | Not Detected |
| 1,2-Dichloroethane | 0.17 | Not Detected | 0.68 | Not Detected |
| Trichloroethene | 0.17 | Not Detected | 0.90 | Not Detected |
| Tetrachloroethene | 0.17 | Not Detected | 1.1 | Not Detected |

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | 70-130 |
| Toluene-d8 | 97 | 70-130 |
| 4-Bromofluorobenzene | 88 | 70-130 |

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**Client Sample ID: IA-04**

**Lab ID#: 1701418A-04A**

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

| | | | |
|---|---|---|---|
| **File Name:** | **20013016sim** | **Date of Collection: 1/24/17 5:17:00 PM** | |
| **Dil. Factor:** | **2.19** | **Date of Analysis: 1/30/17 08:56 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.022 | Not Detected | 0.056 | Not Detected |
| 1,1-Dichloroethene | 0.022 | Not Detected | 0.087 | Not Detected |
| trans-1,2-Dichloroethene | 0.22 | Not Detected | 0.87 | Not Detected |
| 1,1-Dichloroethane | 0.044 | Not Detected | 0.18 | Not Detected |
| cis-1,2-Dichloroethene | 0.044 | Not Detected | 0.17 | Not Detected |
| 1,1,1-Trichloroethane | 0.044 | Not Detected | 0.24 | Not Detected |
| Carbon Tetrachloride | 0.044 | 0.071 | 0.28 | 0.45 |
| 1,2-Dichloroethane | 0.044 | Not Detected | 0.18 | Not Detected |
| Trichloroethene | 0.044 | Not Detected | 0.24 | Not Detected |
| Tetrachloroethene | 0.044 | Not Detected | 0.30 | Not Detected |

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | 70-130 |
| Toluene-d8 | 97 | 70-130 |
| 4-Bromofluorobenzene | 88 | 70-130 |

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**Client Sample ID: IA-05**

**Lab ID#: 1701418A-05A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **17020228** | **Date of Collection:** | **1/24/17 4:49:00 PM** |
| **Dil. Factor:** | **35.8** | **Date of Analysis:** | **2/3/17 04:12 AM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 18 | Not Detected | 46 | Not Detected |
| 1,1-Dichloroethene | 18 | Not Detected | 71 | Not Detected |
| trans-1,2-Dichloroethene | 18 | Not Detected | 71 | Not Detected |
| 1,1-Dichloroethane | 18 | Not Detected | 72 | Not Detected |
| cis-1,2-Dichloroethene | 18 | Not Detected | 71 | Not Detected |
| 1,1,1-Trichloroethane | 18 | Not Detected | 98 | Not Detected |
| Carbon Tetrachloride | 18 | Not Detected | 110 | Not Detected |
| 1,2-Dichloroethane | 18 | Not Detected | 72 | Not Detected |
| Trichloroethene | 18 | Not Detected | 96 | Not Detected |
| Tetrachloroethene | 18 | Not Detected | 120 | Not Detected |

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | 70-130 |
| Toluene-d8 | 98 | 70-130 |
| 4-Bromofluorobenzene | 93 | 70-130 |

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**Client Sample ID: OA-01**

**Lab ID#: 1701418A-06A**

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

| | | | |
|---|---|---|---|
| **File Name:** | **20013017sim** | **Date of Collection: 1/24/17 5:33:00 PM** | |
| **Dil. Factor:** | **1.64** | **Date of Analysis: 1/30/17 09:48 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.016 | Not Detected | 0.042 | Not Detected |
| 1,1-Dichloroethene | 0.016 | Not Detected | 0.065 | Not Detected |
| trans-1,2-Dichloroethene | 0.16 | Not Detected | 0.65 | Not Detected |
| 1,1-Dichloroethane | 0.033 | Not Detected | 0.13 | Not Detected |
| cis-1,2-Dichloroethene | 0.033 | Not Detected | 0.13 | Not Detected |
| 1,1,1-Trichloroethane | 0.033 | Not Detected | 0.18 | Not Detected |
| Carbon Tetrachloride | 0.033 | 0.084 | 0.21 | 0.53 |
| 1,2-Dichloroethane | 0.033 | Not Detected | 0.13 | Not Detected |
| Trichloroethene | 0.033 | Not Detected | 0.18 | Not Detected |
| Tetrachloroethene | 0.033 | Not Detected | 0.22 | Not Detected |

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 114 | 70-130 |
| Toluene-d8 | 102 | 70-130 |
| 4-Bromofluorobenzene | 97 | 70-130 |

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**Client Sample ID: IA-Dup**

**Lab ID#: 1701418A-07A**

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

| | | | |
|---|---|---|---|
| **File Name:** | **20013018sim** | **Date of Collection: 1/24/17 6:17:00 PM** | |
| **Dil. Factor:** | **2.98** | **Date of Analysis: 1/30/17 10:27 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.030 | Not Detected | 0.076 | Not Detected |
| 1,1-Dichloroethene | 0.030 | Not Detected | 0.12 | Not Detected |
| trans-1,2-Dichloroethene | 0.30 | Not Detected | 1.2 | Not Detected |
| 1,1-Dichloroethane | 0.060 | Not Detected | 0.24 | Not Detected |
| cis-1,2-Dichloroethene | 0.060 | Not Detected | 0.24 | Not Detected |
| 1,1,1-Trichloroethane | 0.060 | Not Detected | 0.32 | Not Detected |
| Carbon Tetrachloride | 0.060 | 0.072 | 0.38 | 0.45 |
| 1,2-Dichloroethane | 0.060 | Not Detected | 0.24 | Not Detected |
| Trichloroethene | 0.060 | Not Detected | 0.32 | Not Detected |
| Tetrachloroethene | 0.060 | Not Detected | 0.40 | Not Detected |

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | 70-130 |
| Toluene-d8 | 97 | 70-130 |
| 4-Bromofluorobenzene | 95 | 70-130 |

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**Client Sample ID: Lab Blank**

**Lab ID#: 1701418A-08A**

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

| | | | |
|---|---|---|---|
| **File Name:** | **20013006sim** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/30/17 11:21 AM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.010 | Not Detected | 0.026 | Not Detected |
| 1,1-Dichloroethene | 0.010 | Not Detected | 0.040 | Not Detected |
| trans-1,2-Dichloroethene | 0.10 | Not Detected | 0.40 | Not Detected |
| 1,1-Dichloroethane | 0.020 | Not Detected | 0.081 | Not Detected |
| cis-1,2-Dichloroethene | 0.020 | Not Detected | 0.079 | Not Detected |
| 1,1,1-Trichloroethane | 0.020 | Not Detected | 0.11 | Not Detected |
| Carbon Tetrachloride | 0.020 | Not Detected | 0.12 | Not Detected |
| 1,2-Dichloroethane | 0.020 | Not Detected | 0.081 | Not Detected |
| Trichloroethene | 0.020 | Not Detected | 0.11 | Not Detected |
| Tetrachloroethene | 0.020 | Not Detected | 0.14 | Not Detected |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | 70-130 |
| Toluene-d8 | 101 | 70-130 |
| 4-Bromofluorobenzene | 90 | 70-130 |

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**Client Sample ID: Lab Blank**

**Lab ID#: 1701418A-08B**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **17020207** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/2/17 03:31 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.50 | Not Detected | 1.3 | Not Detected |
| 1,1-Dichloroethene | 0.50 | Not Detected | 2.0 | Not Detected |
| trans-1,2-Dichloroethene | 0.50 | Not Detected | 2.0 | Not Detected |
| 1,1-Dichloroethane | 0.50 | Not Detected | 2.0 | Not Detected |
| cis-1,2-Dichloroethene | 0.50 | Not Detected | 2.0 | Not Detected |
| 1,1,1-Trichloroethane | 0.50 | Not Detected | 2.7 | Not Detected |
| Carbon Tetrachloride | 0.50 | Not Detected | 3.1 | Not Detected |
| 1,2-Dichloroethane | 0.50 | Not Detected | 2.0 | Not Detected |
| Trichloroethene | 0.50 | Not Detected | 2.7 | Not Detected |
| Tetrachloroethene | 0.50 | Not Detected | 3.4 | Not Detected |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | 70-130 |
| Toluene-d8 | 102 | 70-130 |
| 4-Bromofluorobenzene | 96 | 70-130 |

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**Client Sample ID: CCV**

**Lab ID#: 1701418A-09A**

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

| | | | |
|---|---|---|---|
| **File Name:** | **20013002sim** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/30/17 07:38 AM** | |

| Compound | %Recovery |
|---|---|
| Vinyl Chloride | 84 |
| 1,1-Dichloroethene | 76 |
| trans-1,2-Dichloroethene | 86 |
| 1,1-Dichloroethane | 91 |
| cis-1,2-Dichloroethene | 85 |
| 1,1,1-Trichloroethane | 90 |
| Carbon Tetrachloride | 121 |
| 1,2-Dichloroethane | 105 |
| Trichloroethene | 90 |
| Tetrachloroethene | 86 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | 70-130 |
| Toluene-d8 | 110 | 70-130 |
| 4-Bromofluorobenzene | 106 | 70-130 |

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**Client Sample ID: CCV**

**Lab ID#: 1701418A-09B**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **17020202** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/2/17 09:38 AM** | |

| Compound | %Recovery |
|---|---|
| Vinyl Chloride | 117 |
| 1,1-Dichloroethene | 106 |
| trans-1,2-Dichloroethene | 107 |
| 1,1-Dichloroethane | 116 |
| cis-1,2-Dichloroethene | 110 |
| 1,1,1-Trichloroethane | 102 |
| Carbon Tetrachloride | 102 |
| 1,2-Dichloroethane | 110 |
| Trichloroethene | 106 |
| Tetrachloroethene | 100 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | 70-130 |
| Toluene-d8 | 103 | 70-130 |
| 4-Bromofluorobenzene | 100 | 70-130 |

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**Client Sample ID: LCS**

**Lab ID#: 1701418A-10A**

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

| | | | |
|---|---|---|---|
| **File Name:** | **20013003sim** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/30/17 08:23 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Vinyl Chloride | 97 | 70-130 |
| 1,1-Dichloroethene | 88 | 70-130 |
| trans-1,2-Dichloroethene | 107 | 70-130 |
| 1,1-Dichloroethane | 98 | 70-130 |
| cis-1,2-Dichloroethene | 88 | 70-130 |
| 1,1,1-Trichloroethane | 103 | 70-130 |
| Carbon Tetrachloride | 122 | 60-140 |
| 1,2-Dichloroethane | 115 | 70-130 |
| Trichloroethene | 105 | 70-130 |
| Tetrachloroethene | 99 | 70-130 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | 70-130 |
| Toluene-d8 | 110 | 70-130 |
| 4-Bromofluorobenzene | 104 | 70-130 |

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**Client Sample ID: LCSD**

**Lab ID#: 1701418A-10AA**

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

| | | | |
|---|---|---|---|
| **File Name:** | **20013004sim** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/30/17 09:16 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Vinyl Chloride | 100 | 70-130 |
| 1,1-Dichloroethene | 92 | 70-130 |
| trans-1,2-Dichloroethene | 111 | 70-130 |
| 1,1-Dichloroethane | 102 | 70-130 |
| cis-1,2-Dichloroethene | 92 | 70-130 |
| 1,1,1-Trichloroethane | 108 | 70-130 |
| Carbon Tetrachloride | 128 | 60-140 |
| 1,2-Dichloroethane | 120 | 70-130 |
| Trichloroethene | 110 | 70-130 |
| Tetrachloroethene | 105 | 70-130 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | 70-130 |
| Toluene-d8 | 110 | 70-130 |
| 4-Bromofluorobenzene | 106 | 70-130 |

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**Client Sample ID: LCS**

**Lab ID#: 1701418A-10B**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **17020203** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/2/17 10:05 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Vinyl Chloride | 121 | 70-130 |
| 1,1-Dichloroethene | 107 | 70-130 |
| trans-1,2-Dichloroethene | 119 | 70-130 |
| 1,1-Dichloroethane | 115 | 70-130 |
| cis-1,2-Dichloroethene | 100 | 70-130 |
| 1,1,1-Trichloroethane | 103 | 70-130 |
| Carbon Tetrachloride | 102 | 70-130 |
| 1,2-Dichloroethane | 110 | 70-130 |
| Trichloroethene | 107 | 70-130 |
| Tetrachloroethene | 102 | 70-130 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | 70-130 |
| Toluene-d8 | 102 | 70-130 |
| 4-Bromofluorobenzene | 102 | 70-130 |

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**Client Sample ID: LCSD**

**Lab ID#: 1701418A-10BB**

**EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **17020204** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 2/2/17 10:32 AM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Vinyl Chloride | 120 | 70-130 |
| 1,1-Dichloroethene | 107 | 70-130 |
| trans-1,2-Dichloroethene | 117 | 70-130 |
| 1,1-Dichloroethane | 115 | 70-130 |
| cis-1,2-Dichloroethene | 100 | 70-130 |
| 1,1,1-Trichloroethane | 102 | 70-130 |
| Carbon Tetrachloride | 103 | 70-130 |
| 1,2-Dichloroethane | 108 | 70-130 |
| Trichloroethene | 109 | 70-130 |
| Tetrachloroethene | 102 | 70-130 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | 70-130 |
| Toluene-d8 | 102 | 70-130 |
| 4-Bromofluorobenzene | 103 | 70-130 |

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

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



Project Manager Chris Turner

**Collected by:** (Print and Sign) Bob Osborne (TJCO)

Company The Johnson Co Email CMT@JCOMAIL.com

Address 100 State St. Suite 600 City Montpelier State VT Zip 05602

Phone (802) 229-4600 Fax

**Project Info:**
P.O. # 
Project # 1-0145-15
Project Name Avery Dennison Orangeburg, NY

**Turn Around Time:**
☒ Normal
☐ Rush
specify

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

| Lab I.D. | Field Sample I.D. (Location) | Can # | Date of Collection | Time of Collection | Analyses Requested | Canister Pressure/Vacuum Initial | Final | Receipt | Final (psi) |
|---|---|---|---|---|---|---|---|---|---|
| 01A | IA-01 | N0448 | 1/24/2017 | 0941-1806 | TO-15 SIM short List | -30" | -7.5" | | |
| 02A | IA-02 | 6L1219 | | 0940-1759 | | -30" | -7.0" | | |
| 03A | IA-03 | N0419 | | 0933-1740 | | -30" | -7.5" | | |
| 04A | IA-04 | 0330 | | 0937-1717 | | -30" | -7.5" | | |
| 05A | IA-05 | 4387 | | 0924-1649 | | -30" | -7.0" | | |
| 06A | OA-01 | N0425 | | 0957-1733 | | -30" | -7.0" | | |
| 07A | IA-Dup | N1732 | 1/24/2017 | 1037-1817 | TO15 SIM short List | -29" | -7.0" | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

| Relinquished by: (signature) | Date/Time | Received by: (signature) | Date/Time |
|---|---|---|---|
| [signature] | 1/26/17 1200 | Andrea Augustin EATL | 1/27/17 1040 |
| Relinquished by: (signature) | Date/Time | Received by: (signature) | Date/Time |
| Relinquished by: (signature) | Date/Time | Received by: (signature) | Date/Time |

**Notes:** Short List: PCE, TCE, cis-1,2 DCE, trans-1,2 DCE, 1,1-DCE, Vinyle Chloride, 1,1,1-TCA, 1,1-DCA Carbon tetrachloride, 1,2-DCA

| Lab Use Only | Shipper Name | Air Bill # | Temp (°C) | Condition | Custody Seals Intact? | Work Order # |
|---|---|---|---|---|---|---|
| | Fed Ex | | NA | Good | (Yes) No None | 1701418 |

Form 1293 rev.11

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2/7/2017
Mr. Chris Turner
The Johnson Company
100 State Street
Suite 600
Montpelier VT 05602

Project Name: Avery Dennison Orangeburg, NY
Project #: 1-0145-15
Workorder #: 1701418B

Dear Mr. Chris Turner

The following report includes the data for the above referenced project for sample(s) received on 1/27/2017 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: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott

Project Manager

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# WORK ORDER #: 1701418B

Work Order Summary

| | | | |
|---|---|---|---|
| **CLIENT:** | Mr. Chris Turner<br>The Johnson Company<br>100 State Street<br>Suite 600<br>Montpelier, VT 05602 | **BILL TO:** | Accounts Payable<br>The Johnson Company<br>100 State Street<br>Suite 600<br>Montpelier, VT 05602 |
| **PHONE:** | 603.232.2974 | **P.O. #** | |
| **FAX:** | 802.229.5876 | **PROJECT #** | 1-0145-15 Avery Dennison Orangeburg, NY |
| **DATE RECEIVED:** | 01/27/2017 | **CONTACT:** | Ausha Scott |
| **DATE COMPLETED:** | 02/07/2017 | | |

| FRACTION # | NAME | TEST | RECEIPT VAC./PRES. | FINAL PRESSURE |
|---|---|---|---|---|
| 08A | SS-Dup | Modified TO-15 | 6.0 "Hg | 5 psi |
| 09A | SS-01 | Modified TO-15 | 7.0 "Hg | 5 psi |
| 10A | SS-02 | Modified TO-15 | 7.5 "Hg | 5 psi |
| 11A | SS-03 | Modified TO-15 | 6.5 "Hg | 5 psi |
| 12A | SS-04 | Modified TO-15 | 8.0 "Hg | 5 psi |
| 13A | SS-05 | Modified TO-15 | 6.5 "Hg | 5 psi |
| 14A | Lab Blank | Modified TO-15 | NA | NA |
| 15A | CCV | Modified TO-15 | NA | NA |
| 16A | LCS | Modified TO-15 | NA | NA |
| 16AA | LCSD | Modified TO-15 | NA | NA |

CERTIFIED BY: Heidi Mayo DATE: 02/07/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards



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**LABORATORY NARRATIVE**
**Modified TO-15**
**The Johnson Company**
**Workorder# 1701418B**

Six 6 Liter Summa Canister (SIM Certified) samples were received on January 27, 2017. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

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*** |
|---|---|---|
| Initial Calibration | </=30% RSD with 2 compounds allowed out to < 40% RSD | </=30% RSD with 4 compounds allowed out to < 40% RSD |
| Blank and standards | Zero Air | UHP Nitrogen provides a higher purity gas matrix than zero air |

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

There were no analytical discrepancies.

**Definition of Data Qualifying Flags**

Eight 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, LOD, or MDL value. See data page for project specific U-flag definition.

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

N - The identification is based on presumptive evidence.

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

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# Summary of Detected Compounds
# MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

**Client Sample ID: SS-Dup**

**Lab ID#: 1701418B-08A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| 1,1-Dichloroethene | 0.17 | 0.19 | 0.67 | 0.75 |
| 1,1-Dichloroethane | 0.17 | 18 | 0.68 | 75 |
| 1,1,1-Trichloroethane | 0.17 | 2.5 | 0.92 | 14 |
| Carbon Tetrachloride | 0.17 | 0.90 | 1.0 | 5.6 |
| Trichloroethene | 0.17 | 2.1 | 0.90 | 11 |
| Tetrachloroethene | 0.17 | 19 | 1.1 | 130 |

**Client Sample ID: SS-01**

**Lab ID#: 1701418B-09A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| cis-1,2-Dichloroethene | 0.18 | 0.86 | 0.69 | 3.4 |
| 1,1,1-Trichloroethane | 0.18 | 0.19 | 0.95 | 1.0 |
| Trichloroethene | 0.18 | 5.2 | 0.94 | 28 |
| Tetrachloroethene | 0.18 | 22 | 1.2 | 150 |

**Client Sample ID: SS-02**

**Lab ID#: 1701418B-10A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Tetrachloroethene | 0.18 | 0.71 | 1.2 | 4.8 |

**Client Sample ID: SS-03**

**Lab ID#: 1701418B-11A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Carbon Tetrachloride | 0.17 | 0.17 J | 1.1 | 1.0 J |
| Trichloroethene | 0.17 | 0.17 J | 0.92 | 0.90 J |
| Tetrachloroethene | 0.17 | 1.1 | 1.2 | 7.3 |

**Client Sample ID: SS-04**

**Lab ID#: 1701418B-12A**

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# Summary of Detected Compounds
# MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

**Client Sample ID: SS-04**

**Lab ID#: 1701418B-12A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Tetrachloroethene | 0.18 | 1.1 | 1.2 | 7.3 |

**Client Sample ID: SS-05**

**Lab ID#: 1701418B-13A**

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| 1,1-Dichloroethane | 0.17 | 18 | 0.69 | 74 |
| 1,1,1-Trichloroethane | 0.17 | 2.4 | 0.93 | 13 |
| Carbon Tetrachloride | 0.17 | 0.82 | 1.1 | 5.2 |
| Trichloroethene | 0.17 | 1.9 | 0.92 | 10 |
| Tetrachloroethene | 0.17 | 19 | 1.2 | 130 |

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**Client Sample ID: SS-Dup**

**Lab ID#: 1701418B-08A**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **v013011** | **Date of Collection: 1/25/17 6:24:00 PM** | |
| **Dil. Factor:** | **1.68** | **Date of Analysis: 1/30/17 05:48 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.17 | Not Detected | 0.43 | Not Detected |
| 1,1-Dichloroethene | 0.17 | 0.19 | 0.67 | 0.75 |
| trans-1,2-Dichloroethene | 0.17 | Not Detected | 0.67 | Not Detected |
| 1,1-Dichloroethane | 0.17 | 18 | 0.68 | 75 |
| cis-1,2-Dichloroethene | 0.17 | Not Detected | 0.67 | Not Detected |
| 1,1,1-Trichloroethane | 0.17 | 2.5 | 0.92 | 14 |
| Carbon Tetrachloride | 0.17 | 0.90 | 1.0 | 5.6 |
| 1,2-Dichloroethane | 0.17 | Not Detected | 0.68 | Not Detected |
| Trichloroethene | 0.17 | 2.1 | 0.90 | 11 |
| Tetrachloroethene | 0.17 | 19 | 1.1 | 130 |

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 118 | 70-130 |
| Toluene-d8 | 101 | 70-130 |
| 4-Bromofluorobenzene | 111 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: SS-01**

**Lab ID#: 1701418B-09A**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **v013012** | **Date of Collection: 1/25/17 5:15:00 PM** | |
| **Dil. Factor:** | **1.75** | **Date of Analysis: 1/30/17 06:40 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.18 | Not Detected | 0.45 | Not Detected |
| 1,1-Dichloroethene | 0.18 | Not Detected | 0.69 | Not Detected |
| trans-1,2-Dichloroethene | 0.18 | Not Detected | 0.69 | Not Detected |
| 1,1-Dichloroethane | 0.18 | Not Detected | 0.71 | Not Detected |
| cis-1,2-Dichloroethene | 0.18 | 0.86 | 0.69 | 3.4 |
| 1,1,1-Trichloroethane | 0.18 | 0.19 | 0.95 | 1.0 |
| Carbon Tetrachloride | 0.18 | Not Detected | 1.1 | Not Detected |
| 1,2-Dichloroethane | 0.18 | Not Detected | 0.71 | Not Detected |
| Trichloroethene | 0.18 | 5.2 | 0.94 | 28 |
| Tetrachloroethene | 0.18 | 22 | 1.2 | 150 |

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 111 | 70-130 |
| Toluene-d8 | 94 | 70-130 |
| 4-Bromofluorobenzene | 111 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: SS-02**

**Lab ID#: 1701418B-10A**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **v013013** | **Date of Collection: 1/25/17 6:00:00 PM** | |
| **Dil. Factor:** | **1.79** | **Date of Analysis: 1/30/17 07:16 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.18 | Not Detected | 0.46 | Not Detected |
| 1,1-Dichloroethene | 0.18 | Not Detected | 0.71 | Not Detected |
| trans-1,2-Dichloroethene | 0.18 | Not Detected | 0.71 | Not Detected |
| 1,1-Dichloroethane | 0.18 | Not Detected | 0.72 | Not Detected |
| cis-1,2-Dichloroethene | 0.18 | Not Detected | 0.71 | Not Detected |
| 1,1,1-Trichloroethane | 0.18 | Not Detected | 0.98 | Not Detected |
| Carbon Tetrachloride | 0.18 | Not Detected | 1.1 | Not Detected |
| 1,2-Dichloroethane | 0.18 | Not Detected | 0.72 | Not Detected |
| Trichloroethene | 0.18 | Not Detected | 0.96 | Not Detected |
| Tetrachloroethene | 0.18 | 0.71 | 1.2 | 4.8 |

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 111 | 70-130 |
| Toluene-d8 | 99 | 70-130 |
| 4-Bromofluorobenzene | 114 | 70-130 |

eurofins | Air Toxics

**Client Sample ID: SS-03**

**Lab ID#: 1701418B-11A**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **v013014** | **Date of Collection: 1/25/17 5:57:00 PM** | |
| **Dil. Factor:** | **1.71** | **Date of Analysis: 1/30/17 07:51 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.17 | Not Detected | 0.44 | Not Detected |
| 1,1-Dichloroethene | 0.17 | Not Detected | 0.68 | Not Detected |
| trans-1,2-Dichloroethene | 0.17 | Not Detected | 0.68 | Not Detected |
| 1,1-Dichloroethane | 0.17 | Not Detected | 0.69 | Not Detected |
| cis-1,2-Dichloroethene | 0.17 | Not Detected | 0.68 | Not Detected |
| 1,1,1-Trichloroethane | 0.17 | Not Detected | 0.93 | Not Detected |
| Carbon Tetrachloride | 0.17 | 0.17 J | 1.1 | 1.0 J |
| 1,2-Dichloroethane | 0.17 | Not Detected | 0.69 | Not Detected |
| Trichloroethene | 0.17 | 0.17 J | 0.92 | 0.90 J |
| Tetrachloroethene | 0.17 | 1.1 | 1.2 | 7.3 |

J = Estimated value.

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 115 | 70-130 |
| Toluene-d8 | 98 | 70-130 |
| 4-Bromofluorobenzene | 115 | 70-130 |

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**Client Sample ID: SS-04**

**Lab ID#: 1701418B-12A**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **v013015** | **Date of Collection: 1/25/17 6:06:00 PM** | |
| **Dil. Factor:** | **1.83** | **Date of Analysis: 1/30/17 08:48 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.18 | Not Detected | 0.47 | Not Detected |
| 1,1-Dichloroethene | 0.18 | Not Detected | 0.72 | Not Detected |
| trans-1,2-Dichloroethene | 0.18 | Not Detected | 0.72 | Not Detected |
| 1,1-Dichloroethane | 0.18 | Not Detected | 0.74 | Not Detected |
| cis-1,2-Dichloroethene | 0.18 | Not Detected | 0.72 | Not Detected |
| 1,1,1-Trichloroethane | 0.18 | Not Detected | 1.0 | Not Detected |
| Carbon Tetrachloride | 0.18 | Not Detected | 1.2 | Not Detected |
| 1,2-Dichloroethane | 0.18 | Not Detected | 0.74 | Not Detected |
| Trichloroethene | 0.18 | Not Detected | 0.98 | Not Detected |
| Tetrachloroethene | 0.18 | 1.1 | 1.2 | 7.3 |

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 117 | 70-130 |
| Toluene-d8 | 98 | 70-130 |
| 4-Bromofluorobenzene | 115 | 70-130 |

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**Client Sample ID: SS-05**

**Lab ID#: 1701418B-13A**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **v013016** | **Date of Collection: 1/25/17 5:24:00 PM** | |
| **Dil. Factor:** | **1.71** | **Date of Analysis: 1/30/17 09:23 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.17 | Not Detected | 0.44 | Not Detected |
| 1,1-Dichloroethene | 0.17 | Not Detected | 0.68 | Not Detected |
| trans-1,2-Dichloroethene | 0.17 | Not Detected | 0.68 | Not Detected |
| 1,1-Dichloroethane | 0.17 | 18 | 0.69 | 74 |
| cis-1,2-Dichloroethene | 0.17 | Not Detected | 0.68 | Not Detected |
| 1,1,1-Trichloroethane | 0.17 | 2.4 | 0.93 | 13 |
| Carbon Tetrachloride | 0.17 | 0.82 | 1.1 | 5.2 |
| 1,2-Dichloroethane | 0.17 | Not Detected | 0.69 | Not Detected |
| Trichloroethene | 0.17 | 1.9 | 0.92 | 10 |
| Tetrachloroethene | 0.17 | 19 | 1.2 | 130 |

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 112 | 70-130 |
| Toluene-d8 | 96 | 70-130 |
| 4-Bromofluorobenzene | 115 | 70-130 |

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**Client Sample ID: Lab Blank**

**Lab ID#: 1701418B-14A**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **v013010** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/30/17 03:26 PM** | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Vinyl Chloride | 0.10 | Not Detected | 0.26 | Not Detected |
| 1,1-Dichloroethene | 0.10 | Not Detected | 0.40 | Not Detected |
| trans-1,2-Dichloroethene | 0.10 | Not Detected | 0.40 | Not Detected |
| 1,1-Dichloroethane | 0.10 | Not Detected | 0.40 | Not Detected |
| cis-1,2-Dichloroethene | 0.10 | Not Detected | 0.40 | Not Detected |
| 1,1,1-Trichloroethane | 0.10 | Not Detected | 0.54 | Not Detected |
| Carbon Tetrachloride | 0.10 | Not Detected | 0.63 | Not Detected |
| 1,2-Dichloroethane | 0.10 | Not Detected | 0.40 | Not Detected |
| Trichloroethene | 0.10 | Not Detected | 0.54 | Not Detected |
| Tetrachloroethene | 0.10 | Not Detected | 0.68 | Not Detected |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 116 | 70-130 |
| Toluene-d8 | 98 | 70-130 |
| 4-Bromofluorobenzene | 114 | 70-130 |

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**Client Sample ID: CCV**

**Lab ID#: 1701418B-15A**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **v013007** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/30/17 12:28 PM** | |

| Compound | %Recovery |
|---|---|
| Vinyl Chloride | 72 |
| 1,1-Dichloroethene | 86 |
| trans-1,2-Dichloroethene | 84 |
| 1,1-Dichloroethane | 75 |
| cis-1,2-Dichloroethene | 81 |
| 1,1,1-Trichloroethane | 103 |
| Carbon Tetrachloride | 101 |
| 1,2-Dichloroethane | 101 |
| Trichloroethene | 89 |
| Tetrachloroethene | 94 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 115 | 70-130 |
| Toluene-d8 | 102 | 70-130 |
| 4-Bromofluorobenzene | 114 | 70-130 |

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**Client Sample ID: LCS**

**Lab ID#: 1701418B-16A**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **v013008** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/30/17 01:21 PM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Vinyl Chloride | 76 | 70-130 |
| 1,1-Dichloroethene | 91 | 70-130 |
| trans-1,2-Dichloroethene | 94 | 70-130 |
| 1,1-Dichloroethane | 77 | 70-130 |
| cis-1,2-Dichloroethene | 80 | 70-130 |
| 1,1,1-Trichloroethane | 111 | 70-130 |
| Carbon Tetrachloride | 108 | 70-130 |
| 1,2-Dichloroethane | 102 | 70-130 |
| Trichloroethene | 92 | 70-130 |
| Tetrachloroethene | 100 | 70-130 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 118 | 70-130 |
| Toluene-d8 | 101 | 70-130 |
| 4-Bromofluorobenzene | 120 | 70-130 |

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**Client Sample ID: LCSD**

**Lab ID#: 1701418B-16AA**

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

| | | | |
|---|---|---|---|
| **File Name:** | **v013009** | **Date of Collection: NA** | |
| **Dil. Factor:** | **1.00** | **Date of Analysis: 1/30/17 02:05 PM** | |

| Compound | %Recovery | Method Limits |
|---|---|---|
| Vinyl Chloride | 75 | 70-130 |
| 1,1-Dichloroethene | 89 | 70-130 |
| trans-1,2-Dichloroethene | 96 | 70-130 |
| 1,1-Dichloroethane | 77 | 70-130 |
| cis-1,2-Dichloroethene | 80 | 70-130 |
| 1,1,1-Trichloroethane | 110 | 70-130 |
| Carbon Tetrachloride | 108 | 70-130 |
| 1,2-Dichloroethane | 102 | 70-130 |
| Trichloroethene | 92 | 70-130 |
| Tetrachloroethene | 96 | 70-130 |

**Container Type: NA - Not Applicable**

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 117 | 70-130 |
| Toluene-d8 | 102 | 70-130 |
| 4-Bromofluorobenzene | 114 | 70-130 |

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

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



Project Manager Chris Turner
**Collected by:** (Print and Sign) Bob Osborne (TRO)
Company The Johnson Co Email CMT@JTCOMAIL.com
Address 100 State St. Suite 600 City Montpelier State VT Zip 05602
Phone (802) 229-4600 Fax

**Project Info:**
P.O. #
Project # 1-0145-15
Project Name Avery Dennison Orangeburg, NY

**Turn Around Time:**
☑ Normal
☐ Rush
specify

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

| Lab I.D. | Field Sample I.D. (Location) | Can # | Date of Collection | Time of Collection | Analyses Requested | Canister Pressure/Vacuum Initial | Final | Receipt | Final (psi) |
|---|---|---|---|---|---|---|---|---|---|
| 08A | SS-DUP | 0458 | 1/25/2017 | 1044-1824 | TO-15 *Short List | -30" | -7.0" | | |
| 09A | SS-01 | 00459 | | 1018-1715 | | -29" | -6.5" | | |
| 10A | SS-02 | 00116 | | 1046-1800 | | -29" | -8.0" | | |
| 11A | SS-03 | 34017 | | 1005-1757 | | -30" | -7.0" | | |
| 12A | SS-04 | 34499 | | 1056-1806 | | -27" | -8.0" | | |
| 13A | SS-05 | 34407 | 1/25/2017 | 0944-1724 | TO-15 *Short List | -30" | -7.5" | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Relinquished by: (signature) Date/Time: 1/26/17 1200
Received by: (signature) Date/Time: 1/27/17 1040 EATL
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Notes: Short List: PCE, TCE
Cis-1,2-DCE, trans-1,2 DCE, 1,1-DCE
Vinyle Chloride, 1,1,1-TCA, 1,1-DCA
Carbon Tetrachloride 1,2-DCA

| Lab Use Only | Shipper Name | Air Bill # | Temp (°C) | Condition | Custody Seals Intact? | Work Order # |
|---|---|---|---|---|---|---|
| | Fed Ex | | NA | Good | (Yes) No None | 1701418 |

Form 1293 rev.11

# Attachment 2

## Data Usability Summary Report (DUSR)

## Data Validation Report

# DATA USABILITY SUMMARY REPORT

**FOR**

**AD-Orangeburg Project (1-0145-15)**
**ORANGEBURG, NY**
**NYSDEC Site No. 344072**

**ORGANIC ANALYSIS DATA**
**Volatile Compounds in Air Samples**

**Sample Delivery Group (SDG) Nos.**
**1701418A & 1701418B**

**Chemical Analyses Performed by:**

**Eurofins Air Toxics, Inc.**
**180 Blue Ravine Road, Suite B**
**Folsom, CA 95630-4719**

**FOR**

**Mr. Chris Turner**
**The Johnson Co.**
**100 State Street, Suite 600**
**Montpelier, VT 05602**

**Report by:**

**Phoenix Chemistry Services**
**126 Covered Bridge Rd.**
**N. Ferrisburg, VT 05473**
**(802) 233-2473**

**April 3, 2017**
**Revised, April 5, 2017**

**Reference #2017-0221-001**
**DUSR/ 1701418A_B/dhg**

# INTRODUCTION

Phoenix Chemistry Services (Phoenix) has completed the data validation and the data usability assessment of the Method TO-15 (volatiles in air) analysis data prepared by Eurofins Air Toxics, Inc. (Laboratory) of Folsom, CA, for 5 indoor air, one outdoor air, five soil vapor samples, and two field duplicates (FDs) from the Avery Dennison Corporation Facility site in Orangeburg, NY (NYSDEC Site No. 344072). The laboratory reported the data under Sample Delivery Group (SDG) Nos. 1701418A and 1701418B, which were submitted as two data packages with Excel and EQuIS format spreadsheet summaries received by Phoenix on February 21, 2017. The sample and laboratory identifiers and the selected analyses are presented in Attachment A.

Analyses were performed according to U.S. EPA Air Toxics Compendium Method TO-15, as documented in Eurofins Air Toxics Standard Operating Procedure (SOP) #83, Rev. 14, and by Method TO-15 modified for selected ion monitoring (SIM), as documented in SOP #38, Rev. 19. The compound list was specified by the client, and includes 10 volatile compounds. Site contaminants of interest are chlorinated solvents, primarily tetrachloroethene, trichloroethene, carbon tetrachloride, and 1,1,1-trichloroethane, and their degradation products.

Tentative identification of non-target analyte peaks (i.e., tentatively identified compounds, or TICs) was not requested or performed for these analyses. Other solvents in use at the site, which are not contaminants of concern for the vapor intrusion investigation, include toluene, 2- butanone (methyl ethyl ketone, MEK), and isopropyl alcohol.

Phoenix Chemistry Services' validation and review were performed in conformance with Stage 4 guidelines as defined by U.S. EPA (EPA 540-R-08-01, June, 2008) and detailed in the "National Functional Guidelines for Superfund Organic Methods Data Review" (EPA 540-R014-002, Aug. 2014), and to the extent possible, the data were evaluated in accordance with guidelines as defined by the U.S. EPA Region 2 in the Hazardous Waste Support Section SOP No. HW-31, Rev. 6 "Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15" (June, 2014). The New York Department of Environmental Conservation Technical Guidance for Site Investigation and Remediation (DER-10, May, 2010) Appendix 2B Guidance for Data Deliverables and Development of Data Usability Summary Reports were also considered during the evaluation, and professional judgment was applied as necessary and appropriate.

The data validation process evaluates data on a technical basis for chemical analyses conducted under the Contract Laboratory Program (CLP) or other well-defined Methods. In instances where SW-846 or other specific Methods have been used for the analyses, the validation effort is modified to acknowledge the differences in Methodology while maintaining the goals and quality objectives of the CLP. Contract compliance is evaluated only in specific situations, and issues pertaining to contractual compliance are noted where applicable. It is assumed that the data package is presented in accordance with the CLP, CLP-like, or SW-846 requirements. It is also assumed that the data package represents the best efforts of the laboratory and has already been subjected to adequate and sufficient quality review prior to submission for validation.

The following elements were evaluated or reviewed during the validation effort, except as noted:

- Technical holding times
- Canister cleanliness
- Sample integrity

- Sample collection equipment and processes
- Instrument tuning and calibration
- Instrument and preparation blanks
- Surrogate (non-standard for TO-15) and internal standard recoveries
- Performance evaluation sample recoveries (not available)
- Laboratory control sample spike recoveries
- Field and laboratory duplicates
- Sample quantitation and quantitation limits
- Calculation checks
- Spectral identifications

Results of sample analyses are reported by the laboratory as either qualified or unqualified; various qualifier codes are used by the laboratory to denote specific information regarding the analytical results. During the validation process, laboratory data are verified against all available supporting documentation. Raw data is examined in detail to check calculations, compound identification, and/or transcription errors. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data validator. Validated results are either qualified or unqualified; if results are unqualified, this means that the reported values may be used without reservation. Final validated results are annotated with the following codes, as derived from the National Functional Guidelines:

| Qualifier | Definition |
|---|---|
| U | The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. |
| UJ | The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample. |

These codes are assigned during the validation process and are based on the data review of the results. They are used in this report, summarized in Section VII, and are recorded on the Data Summary Tables in Attachment A and the spreadsheet summary forms in Attachment B of the previously submitted data validation reports.

All data users should note two facts. First, **the "R" qualifier means that the laboratory-reported value is completely unusable.** The analysis is invalid due to significant quality control problems, and provides no information as to whether the compound is present or not. Rejected values should not appear on data tables because they have no useful purpose under any circumstances. Second, **no analyte concentration is guaranteed to be accurate even if all associated quality control is acceptable.** While strict quality control conformance provides well-defined confidence in the reported results, any analytical result will always contain some error.

The user is also cautioned that the validation effort is based on the materials provided by the laboratory. Software manipulation, resulting in misleading raw data printouts, cannot be routinely

detected during validation; unless otherwise stated in the report, these kinds of issues are outside the scope of this review.

# DATA ASSESSMENT

## I. Data Package Completeness

The samples in these data sets represent the sample collections from the January 24 and 25, 2017 vapor intrusion investigation conducted at the project site. The laboratory reported the results in two data packages, identified as SDG Nos. 1701418A (SIM and scan analyses) and 1701418B (scan analyses).

The data packages were compliant with CLP and DEC Category B guidelines, with a single exception:

- Canister cleanliness certification records were not included with the data packages. A results summary form for each canister was submitted in the data package. Since these records indicate that the canisters were properly certified to the reporting levels required for the intended sampling use, and the laboratory otherwise is capable of providing a full, Category B data package, it was assumed for the validation effort that the certifications had been properly performed, and that the full records would be accessible if needed. Raw data in support of these certifications was not provided or requested.

## II. Preservation and Technical Holding Times (Sample Integrity)

The air samples for Method TO-15 analysis in this sample set were collected on January 24 and 25, 2017 at the Avery Dennison Corporation Facility site in Orangeburg, New York, shipped overnight on January 26, 2017, and were received by the laboratory on January 27, 2017. All volatiles analyses were performed within the acceptable holding times by Method TO-15 (30 days from collection) and within the laboratory holding time of 7 days, with the exception of the dilution analysis of IA-05 which was (acceptably) accomplished 10 days following collection.

The sample collections, as documented on the chain of custody records and the field sampler's notes, were acceptable. All samples were collected in accordance with the Vapor Intrusion Investigation Work Plan, and all final canister vacuum measurements were within the targeted range (approximately -7 inches mercury, "Hg, vacuum). Vacuum measurements on receipt at the laboratory were consistent with the field measurements, with small differences (< ±2 "Hg) for all canisters.

## III. Quality Control Criteria

Precision and bias criteria are established in the Work Plan (Section 4). Precision must be ±25 percent relative percent difference (%RPD) for all paired field duplicate analyses. Bias is evaluated by assessment of contamination and analyte recoveries. No target analytes previously detected at the site may be detected above their quantitation limits (QLs) in laboratory blanks. Percent recoveries (%R) of spiked analytes in associated laboratory control samples and duplicates (LCS and LCSD analyses) must be within the laboratory criteria of 60 - 130 %R as specified in the Work Plan (laboratory criteria are now 70-130 %R), and non-detected results will be qualified or rejected if the associated LCS or LCSD recovery is <50 %R, per NYS guidance.

The samples were analyzed on three GC/MS systems, capable of operating in both SIM and scan mode simultaneously; the tuning of these instruments was demonstrated with analysis of bromofluorobenzene (BFB) in accordance with method specifications.

One initial calibration (IC) capable of simultaneous acquisition as a SIM and scan analysis was performed on instrument MSD-20, one was performed on instrument MSD-17, and one was performed on instrument MSDV in support of the sample analyses. Documentation of all individual IC standards was present in the data packages and relative response factor (RRF) as well as percent relative standard deviation (%RSD) values were accurately reported on the Form VI summaries. All average RRFs were above the 0.01 minimum technical criterion established in the laboratory SOPs, and all analytes exhibited %RSDs below the laboratory and NYS maximum limit of 30 %RSD using an average response factor curve fit.

Method detection limit (MDL) studies for the SIM and scan analyses were analyzed on instrument MSD-17 on March 8 and 9, 2017, and a scan MDL for instrument MSDV was performed on 2/7/17. The date of the current SIM MDL for instrument MSD-20 was not given in the data packages. The full MDL studies were not requested or submitted for this sampling round. Current MDL values are presented in the EQuIS format files. All MDL values were at least 10-fold less than SIM reporting limits, and all scan analysis MDL values were at least 2-fold less than associated reporting limits.

All non-detected results in samples were at or below applicable screening limits established by the Work Plan, with the following exceptions:

| Analyte | Screening Limit (ppbv) | IA-05 (ppbv) | IA-03 (ppbv) | IA-01 (ppbv) |
|---|---|---|---|---|
| 1,1-dichloroethane | 0.69 | 18 | <SL | <SL |
| 1,2-dichloroethane | 1.9 | 18 | <SL | <SL |
| carbon tetrachloride | 0.32 | 18 | <SL | <SL |
| tetrachloroethene | 0.07 | 18 | 0.17 | 0.092 |
| trichloroethene | 0.56 | 18 | <SL | <SL |

<SL = below applicable screening limit

These samples were diluted for the presence of a large non-target analyte in the samples. All non-detects in soil vapor samples met applicable screening limits as presented in the Work Plan.

An Independent Calibration Verification (ICV) sample analysis was also performed following each IC at a concentration of 10 ppbv on instruments MSD-20 and MSDV, and at 50 ppbv on instrument MSD-17, and these were included in the initial calibration sections of the raw data. Although not defined in the Method TO-15, the independent verification standard is a NELAC requirement, and was properly performed using an independent standard. All analytes in the ICVs were within (<40 %difference, %D) acceptance limits for continuing calibrations established by EPA Region 2 in SOP #HW-31 (Table 4), and were also within laboratory acceptance criteria (<30 %D) for the ICV.

Three continuing calibration (CC) verification standards at 10 ppbv on MSD-20 and MSDV, and at 50 ppbv onMSD-17 were analyzed in support of these samples. All RRFs were above the 0.01 minimum technical criterion and all percent difference (%D) values in the CC standards were below the Region 2 maximum limit (40%) and the laboratory maximum limit (30 %D), with no exceptions.

No target analytes were detected above the limits specified in the Work Plan in any method blank (MB) in association with this set of samples.

No surrogate compounds are used in Method TO-15; however, the laboratory utilizes the same three surrogates commonly used for volatiles analysis, and sets acceptance criteria for these at 70 – 130 %R in the SOP. All three surrogates were recovered within the laboratory-established QC limits for all reported sample analyses in these data packages.

All internal standard (IS) areas and retention times (RT) were within the established QC limits for all reported sample analyses in these data packages.

The laboratory submitted results for three laboratory control sample (LCS) or matrix spike blank (MSB) analyses and three laboratory control sample duplicates (LCSD) in support of the samples in this data set; one pair was reported by SIM, and two sets by scan. All analytes were recovered within the laboratory and NYS limits of 70 – 130 %R for spiked analyses, and precision was acceptable (<25 %RPD) in these paired analyses.

Results above twice the quantitation limit were reported in both members of the soil vapor field duplicate pair (SS-05 and SS-DUP), for the analytes 1,1,-dichloroethane, 1,1,1-trichloroethane, carbon tetrachloride, trichloroethene, and tetrachloroethene, and results for carbon tetrachloride just slightly above the quantitation limit were reported in both members of the indoor air field duplicate pair IA-04 and IA-DUP. Precision was acceptable (<25 %RPD) for all paired analyses.

No qualifications resulting from exceedances of established criteria were required in the Method TO-15 SIM or scan analyses for this sample set.

## IV. Analytical Compliance

All analyses were performed in accordance with laboratory SOPs and published methods, with the following exceptions:

- The laboratory's Form VII presents percent difference (%D) values with a negative [-] bias with a positive [+] sign, and vice versa. Bias should be correctly presented in the data submittals.

## V. Raw Data Evaluation

No manual integrations were performed on target analytes in calibrations, quality control samples, or sample analyses.

Instrument tuning and calibration were checked using raw data in each data package for each initial calibration and associated analyses, and were correctly performed and accurately reported. Recoveries in spiked analyses and precision in duplicate analyses were checked using raw data, and were correctly calculated and accurately reported.

Target compound quantitation and practical quantitation limits (PQLs) were correctly calculated and accurately reported on the laboratory summary results reports within the data packages.

Examination of raw data for all sample analyses was performed, and spectral identifications were verified during the validation effort.

## VI. Use of Data Qualifiers

All laboratory-applied qualifications (if any) on sample results were correctly applied.

All samples required a dilution due to the system configuration (canister pressurization with nitrogen). The dilution factors used by the laboratory are accurate to fewer significant figures than implied by the benchsheets, but the errors introduced are of relatively small significance (<10%) in the final calculations of sample concentrations.

Additional dilutions were performed for all indoor air samples to bring high concentrations of a non-target analyte to a level tolerable for normal laboratory operations. Dilution factors (DFs) for IA-01 (DF=4.58), IA-03 (DF=8.4), and IA-05 (DF=35.8) were such that screening limits were not achieved for all non-detected analytes. The three remaining indoor air samples (IA-02, IA-04, and IA-DUP) were analyzed at dilution factors ranging from 2.19 to 3.42. The outdoor air sample OA-01 and all soil vapor samples analyzed by scan required no additional dilution other than those necessitated by canister pressurization.

Sample results less than the sample-specific quantitation limit were not requested but were reported by the laboratory for two scan analyses. All non-detected results were below applicable screening limits, with the exceptions shown above.

No qualifications of sample results were required as a result of the data validation effort.

Calibration standards and quality control samples were reported with additional compounds which were not used to report sample results. No qualifications were applied to sample results on the basis of quality control exceedances for compounds which were not reported in samples.

## VII. Quality Control Exceedances

No qualifications of sample results were required as a result of the data validation effort.

## OVERALL EVALUTION

The validation and usability assessment indicate that the data from this sample set are usable for the intended purposes as qualified during the validation, with the following observations:

- The laboratory's Form VII presents percent difference (%D) values with a negative [-] bias with a positive [+] sign, and vice versa. Bias should be correctly presented in the data submittals.

- All non-detected results were below applicable screening limits, with the exceptions of results for 1,1-dichloroethane, 1,2-dichloroethane, carbon tetrachloride, trichloroethene, and tetrachloroethene in IA-05, and tetrachloroethene in IA-01 and IA-03.

**ATTACHMENT A**

**Sample Identification Cross Reference Tables**
**SDG Nos. 1701418A and 1701418B**
**Volatile Organics in Air Samples**

## Sample Identification Cross Reference Table

| Sample Identification | Laboratory Identification | Analytical Method |
|---|---|---|
| *SDG No. 1701418A* | | |
| IA-01 | 1701418-01 | TO-15 SIM |
| IA-02 | 1701418-02 | TO-15 SIM |
| IA-03 | 1701418-03 | TO-15 SIM |
| IA-04 | 1701418-04 | TO-15 SIM |
| IA-05 | 1701418-05 | TO-15 scan |
| IA-DUP | 1701418-06 | TO-15 SIM |
| OA-01 | 1701418-07 | TO-15 SIM |
| *SDG No. 1701418B* | | |
| SS-DUP | 1701418-08 | TO-15 scan |
| SS-01 | 1701418-09 | TO-15 scan |
| SS-02 | 1701418-10 | TO-15 scan |
| SS-03 | 1701418-11 | TO-15 scan |
| SS-04 | 1701418-12 | TO-15 scan |
| SS-05 | 1701418-13 | TO-15 scan |

**ATTACHMENT B**

**Laboratory Case Narratives and Chain of Custody Documents**
**SDG Nos. 1701418A and 1701418B**
**Volatile Organics in Air Samples**

**LABORATORY NARRATIVE**
**Modified TO-15 SIM**
**The Johnson Company**
**Workorder# 1701418A**

Seven 6 Liter Summa Canister (SIM Certified) samples were received on January 27, 2017. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode.

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 | </=30% RSD with 2 compounds allowed out to < 40% RSD | Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD |
| Daily Calibration | +- 30% Difference | Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=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

There were no receiving discrepancies.

## Analytical Notes

Sample IA-05 was diluted and transferred from SIM analysis to full scan TO-15 due to high levels of non-target compounds.

Dilution was performed on samples IA-01, IA-02, IA-03, IA-04, and IA-Dup due to the presence of high level non-target species.

## Definition of Data Qualifying Flags

Eight 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, LOD, or MDL value. See data page for project specific U-flag definition.

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

N - The identification is based on presumptive evidence.

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

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**Sample Transportation Notice**
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Project Manager Chris Turner
**Collected by:** (Print and Sign) Bob Osborne (TJCO)
Company The Johnson Co Email CMT@JCOMAIL.com
Address 100 State St. Suite 600 City Montpelier State VT Zip 05602
Phone (802) 229-4600 Fax

**Project Info:**
P.O. # 
Project # 1-0145-15
Project Name Avery Dennison Orangeburg, NY

**Turn Around Time:**
☒ Normal
☐ Rush
specify

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

| Lab I.D. | Field Sample I.D. (Location) | Can # | Date of Collection | Time of Collection | Analyses Requested | Canister Pressure/Vacuum Initial | Final | Receipt | Final (psi) |
|---|---|---|---|---|---|---|---|---|---|
| 01A | IA-01 | N0448 | 1/24/2017 | 0941-1806 | TO-15 SIM short List | -30" | -7.5" | | |
| 02A | IA-02 | 6L1219 | | 0940-1759 | | -30" | -7.0" | | |
| 03A | IA-03 | N0419 | | 0933-1740 | | -30" | -7.5" | | |
| 04A | IA-04 | 0330 | | 0937-1717 | | -30" | -7.5" | | |
| 05A | IA-05 | 4387 | | 0924-1649 | | -30" | -7.0" | | |
| 06A | OA-01 | N0425 | | 0957-1733 | | -30" | -7.0" | | |
| 07A | IA-Dup | N1732 | 1/24/2017 | 1037-1817 | TO15 SIM short List | -29" | -7.0" | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

| Relinquished by: (signature) | Date/Time | Received by: (signature) | Date/Time |
|---|---|---|---|
| [signature] | 1/26/17 1200 | Andrea Augustin EATL | 1/27/17 1040 |
| Relinquished by: (signature) | Date/Time | Received by: (signature) | Date/Time |
| Relinquished by: (signature) | Date/Time | Received by: (signature) | Date/Time |

**Notes:** Short List: PCE, TCE, cis-1,2 DCE, trans-1,2 DCE, 1,1-DCE, Vinyle Chloride, 1,1,1-TCA, 1,1-DCA Carbon tetrachloride, 1,2-DCA

| Lab Use Only | Shipper Name | Air Bill # | Temp (°C) | Condition | Custody Seals Intact? | Work Order # |
|---|---|---|---|---|---|---|
| | Fed Ex | | NA | Good | (Yes) No None | 1701418 |

Form 1293 rev.11

**LABORATORY NARRATIVE**
**Modified TO-15**
**The Johnson Company**
**Workorder# 1701418B**

Six 6 Liter Summa Canister (SIM Certified) samples were received on January 27, 2017. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

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*** |
|---|---|---|
| Initial Calibration | </=30% RSD with 2 compounds allowed out to < 40% RSD | </=30% RSD with 4 compounds allowed out to < 40% RSD |
| Blank and standards | Zero Air | UHP Nitrogen provides a higher purity gas matrix than zero air |

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

There were no analytical discrepancies.

**Definition of Data Qualifying Flags**

Eight 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, LOD, or MDL value. See data page for project specific U-flag definition.

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

N - The identification is based on presumptive evidence.

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

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Project Manager Chris Turner
**Collected by:** (Print and Sign) Bob Osborne (TRO)
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Address 100 State St. Suite 600 City Montpelier State VT Zip 05602
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**Project Info:**
P.O. #
Project # 1-0145-15
Project Name Avery Dennison Orangeburg, NY

**Turn Around Time:**
☑ Normal
☐ Rush
specify

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

| Lab I.D. | Field Sample I.D. (Location) | Can # | Date of Collection | Time of Collection | Analyses Requested | Canister Pressure/Vacuum Initial | Final | Receipt | Final (psi) |
|---|---|---|---|---|---|---|---|---|---|
| 08A | SS-DUP | 0458 | 1/25/2017 | 1044-1824 | TO-15 *Short List | -30" | -7.0" | | |
| 09A | SS-01 | 00459 | | 1018-1715 | | -29" | -6.5" | | |
| 10A | SS-02 | 00116 | | 1046-1800 | | -29" | -8.0" | | |
| 11A | SS-03 | 34017 | | 1005-1757 | | -30" | -7.0" | | |
| 12A | SS-04 | 34499 | | 1056-1806 | | -27" | -8.0" | | |
| 13A | SS-05 | 34407 | 1/25/2017 | 0944-1724 | TO-15 *Short List | -30" | -7.5" | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

| Relinquished by: (signature) | Date/Time | Received by: (signature) | Date/Time |
|---|---|---|---|
| [signature] | 1/26/17 1200 | [signature] EATL | 1/27/17 1040 |
| Relinquished by: (signature) | Date/Time | Received by: (signature) | Date/Time |
| Relinquished by: (signature) | Date/Time | Received by: (signature) | Date/Time |

**Notes:** Short List: PCE, TCE
Cis-1,2-DCE, trans-1,2 DCE, 1,1-DCE
Vinyle Chloride, 1,1,1-TCA, 1,1-DCA
Carbon Tetrachloride 1,2-DCA

| Lab Use Only | Shipper Name | Air Bill # | Temp (°C) | Condition | Custody Seals Intact? | Work Order # |
|---|---|---|---|---|---|---|
| | Fed Ex | | NA | Good | (Yes) No None | 1701418 |

Form 1293 rev.11

**DATA VALIDATION**

**FOR**

**AD-Orangeburg**
**ORANGEBURG, NY**
**NYSDEC Site No. 344072**

**ORGANIC ANALYSIS DATA**
**Selected Volatiles in Air Samples**

**Sample Delivery Group Nos. 1701418A & 1701418B**

**Chemical Analyses Performed by:**

**Eurofins Air Toxics, Inc.**
**180 Blue Ravine Road, Suite B**
**Folsom, CA 95630-4719**

**FOR**

**The Johnson Company**
**100 State Street, Suite 600**
**Montpelier, VT 05602**

**Data Validation Report by:**

**Phoenix Chemistry Services**
**126 Covered Bridge Rd.**
**N. Ferrisburg, VT 05473**
**802-233-2473**

**April 3, 2017**

**Reference #2017-0221-001**
**VOA Air Validation Report/1701418A&B/dhg**

## EXECUTIVE SUMMARY

Phoenix Chemistry Services (Phoenix) has completed the validation of the TO-15 (selected volatiles in indoor air, outdoor air, and soil vapor) analysis data for selected volatiles prepared by Eurofins Air Toxics, Inc., of Folsom, CA for five (5) indoor air, one outdoor air, five sub-slab (soil vapor) samples and 2 field duplicates (FDs) from the Avery Dennison Corporation Facility Site (NYSDEC Site No. 344072) in Orangeburg, NY. The laboratory reported the data under Sample Delivery Group (SDG*)* Nos. 1701418A & 1701418B, which were received by Phoenix on February 21, 2017, and which include the following samples:

| Sample Identifier (ID) | Laboratory ID |
|---|---|
| IA-01 | 1701418-01 |
| IA-02 | 1701418-02 |
| IA-03 | 1701418-03 |
| IA-04 | 1701418-04 |
| IA-05 | 1701418-05 |
| IA-DUP | 1701418-06 |
| OA-01 | 1701418-07 |
| SS-DUP | 1701418-08 |
| SS-01 | 1701418-09 |
| SS-02 | 1701418-10 |
| SS-03 | 1701418-11 |
| SS-04 | 1701418-12 |
| SS-05 | 1701418-13 |

A cross-reference of sample IDs was provided in the data packages. The samples in this data set represent the approximately 8-hour sample collections on January 24 and 25, 2017; the samples were shipped to the laboratory on 1/26/16 and were received on 1/27/16.

Results for all compounds were determined to be valid as reported for all samples in SDG Nos. 1701418A & 1701418B. Screening limits established in the Work Plan were not achieved for all analytes in three indoor air samples (IA-01, IA-03, and IA-05).

The Overall Evaluation of Data (Section XVI) summarizes the validation results. The validation findings and conclusions for each analytical parameter are detailed in the remaining sections of this report.

Documentation in the data package is discussed in Section XVII.

This validation report shall be considered part of the data package for all future distributions of TO-15 (selected volatiles in air) analysis data.

## INTRODUCTION

Analyses were performed according to EPA Method TO-15, as documented in Eurofins Air Toxics, Inc. SOP #83, Rev. 14, and by Method TO-15 modified for selected ion monitoring (SIM), as documented in SOP #38, Rev. 19. The target compound list for volatiles was limited to the following 10 chlorinated solvents: vinyl chloride, cis-1,2-dichloroethene, trans-1,2-dichloroethene, 1,1-dichloroethene, 1,1-dichloroethane, 1,1,1-trichloroethane, carbon tetrachloride, 1,2-dichloroethane, trichloroethene, and tetrachloroethene.

Tentative identification of non-target analyte peaks (i.e., tentatively identified compounds, or TICs) was also not requested for these analyses.

Phoenix's validation was performed in conformance with Stage 4 guidelines as defined by the USEPA (EPA 540-R-08-01, June, 2008). To the extent possible, the data were evaluated in accordance with the U.S. EPA "National Functional Guidelines for Superfund Organic Methods Data Review" (EPA 540-R014-002, Aug. 2014) and the U.S. EPA Hazardous Waste Support Section, SOP No. HW-31, Rev. 6 "Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15" (June, 2014). The "Soil Vapor Intrusion Investigation Work Plan" (The Johnson Company, Feb. 2016) for the Avery Dennison Corporation Facility, Orangeburg, Rockland County, New York, NYSDEC Site # 344072 was also considered during the evaluation, and professional judgment was applied as necessary and appropriate.

The data validation process evaluates data on a technical basis for chemical analyses conducted under the U.S. EPA Contract Laboratory Program (CLP) or other well-defined methods. Contract compliance is evaluated only in specific situations. Issues pertaining to contractual compliance are noted where applicable. It is assumed that the data package is presented in accordance with the CLP (CLP-like or SW-846) requirements. It is also assumed that the data package represents the best efforts of the laboratory and has already been subjected to adequate and sufficient quality review prior to submission for validation. In instances where SW-846 or other specific methods have been used for the analyses, the validation effort is modified to acknowledge the differences in methodology while maintaining the goals and quality objectives of the CLP.

Results of sample analyses are reported by the laboratory as either qualified or unqualified; various qualifier codes are used by the laboratory to denote specific information regarding the analytical results. During the validation process, laboratory data are verified against all available supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data validator. Validated results are either qualified or unqualified; if results are unqualified, this means that the reported values may be used without reservation. Final validated results are annotated with the following codes, as defined in the EPA National Functional Guidelines:

| Qualifier | Definition |
|---|---|
| U | The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. |

| | |
|---|---|
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample. |
| UJ | The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample. |

These codes (qualifiers) are assigned during the validation process and are based on the data review of the results. They are recorded in the Data Summary Table contained in Attachment A and the spreadsheet summary file in Attachment B (submitted electronically) of this validation report.

All data users should note two facts. First, **the "R" qualifier means that the laboratory-reported value is completely unusable.** The analysis is invalid due to significant quality control problems, and provides no information as to whether the compound is present or not. Rejected values should not appear on data tables because they have no useful purpose under any circumstances. Second, **no analyte concentration is guaranteed to be accurate even if all associated quality control is acceptable.** While strict quality control conformance provides well-defined confidence in the reported results, any analytical result will always contain some error.

The user is also cautioned that the validation effort is based on the materials provided by the laboratory. Software manipulation, resulting in misleading raw data printouts, cannot be routinely detected during validation; unless otherwise stated in the report, these kinds of issues are outside the scope of this review.

**Detailed Findings of Measurement Error Associated with the Analytical Analysis**

## I. Sample Integrity

The indoor and outdoor air and soil vapor samples for TO-15 analysis were collected for approximately an 8-hour period during the daytime on January 24 and 25, 2017, and received by the laboratory on January 27, 2017. All TO-15 analyses were performed within the acceptable holding times for air samples (30 days from collection), as required by Method TO-15 and EPA Region 2.

The Ambient Air and Soil Vapor Sampling Forms and sampler's field notes show that the sample canisters were collected and transported according to method specifications, and were checked and found to be within specifications of the Work Plan. The laboratory login Sample Receipt Summary shows the final vacuum readings for the canisters on receipt. All canister vacuums were consistent from the laboratory to the field prior to sampling, and were within the EPA Region 2 acceptance limits (≤5 pounds per square inch, psi [equivalent to 10.2 "Hg]). All samples were collected in accordance with the Vapor Intrusion Investigation Work Plan.

The certified clean canisters were shipped under chain of custody from the laboratory before sample collection, and the canisters were shipped back to the laboratory on 1/26/17. A full canister cleanliness certification data package was not included in the data submittal, although a Form 1-like summary for each canister was included. The validator did not request the raw data for the individual canister analyses.

## II. GC/MS Instrument Performance Check (Tuning)

The samples for volatiles in air analysis from SDG Nos. 1701418A & 1701418B were analyzed on a three GC/MS systems identified as instruments MSD-17, MSD-20, and MSDV. The tuning of these instruments was demonstrated with analysis of 4-bromofluorobenzene (BFB); tunes were analyzed for each 24-hour period during which the samples or associated standards were analyzed. All six BFB tunes were correctly calculated, within acceptance limits, and are reported accurately on the Form 5 summaries in the data packages. Additional BFB tune reports were included in the data package for additional initial calibrations performed for non-target analytes; these tune reports were disregarded during validation.

## III. Initial Calibration (IC)

One IC (12/19/16) was performed in SIM/scan simultaneous mode on instrument MSD-20; one IC (1/5/17) was performed in scan mode on instrument MSD-17, and one IC (12/5/16) was performed in scan mode on instrument MSDV in support of the TO-15 sample analyses reported in these data packages. The SIM IC on instrument MSD-20 was performed at ten concentration levels (0.0050, 0.010, 0.020, 0.050, 0.100, 0.500, 1.00, 5.00, 10.0, and 20.0 parts per billion by volume [ppbv]). The scan IC on instrument MSD-17 was performed at seven concentration levels (0.50, 2.0, 5.0, 10, 20, 50, 100, and 200 ppbv), and the scan IC on instrument MSDV was performed at seven concentration levels (0.10, 0.50, 1.0, 5.0, 10, 20, and 40 ppbv). All target analytes (SIM and scan) were reported at quantitation limits that were at or above the lowest calibration standard reported in the IC for each analyte.

Documentation of all individual IC standards was present in the data package and relative response factor (RRF) as well as percent relative standard deviation (%RSD) values were correctly calculated and accurately reported on the Form 6 summaries. No target analytes were manually integrated for any standards or samples in this data set.

All RRFs were above the minimum technical criteria and all %RSDs were below the maximum limits specified by the EPA's National Functional Guidelines for volatiles for the project target analytes in the IC.

An independent calibration verification (ICV) standard, as required by the method, was analyzed at 10 ppbv following the ICs on instruments MSD-20 and MSDV, and at 50 ppbv on instrument MSD-17. All reported results for target analytes were recovered within method and laboratory criteria (70-130 percent recovery, %R) of expected values.

## IV. Continuing Calibration (CC)

One continuing calibration (CC) standard was run on each instrument in support of the sample analyses reported in these data packages. The RRF as well as percent difference (%D) values were reported on the Form 7 summaries within the data packages.

All RRFs were above the minimum criterion, and all %D results were below the maximum limit in the CC standards. It should be noted that on the laboratory's Form VII, %D values with a negative [-] bias were given a positive [+] sign, and vice versa.

## V. Blanks

Results for three (3) volatile air-matrix laboratory method blanks (MBs) were reported in association with this set of samples. No target analytes were detected in the MBs.

No trip blanks (TBs) were required or submitted in this data set.

## VI. Surrogate Compounds

No surrogate compounds are used in Method TO-15; however, the laboratory utilizes the same three surrogates commonly used for volatiles analysis, and sets acceptance criteria for these at 70 – 130 %R in the SOP. All three surrogates were recovered within the laboratory-established QC limits for all reported sample analyses in these data packages.

## VII. Internal Standards (IS)

All IS areas and retention times (RT) were within the established QC limits for all reported sample analyses in these data packages.

## VIII. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A matrix spike/matrix spike duplicate (MS/MSD) analysis is not used in this method.

## IX. Field Duplicates

Sample IA-DUP was identified as a field duplicate of IA-04, and sample SS-DUP was identified as a field duplicate of SS-05. The indoor air samples were both diluted for the presence of a non-target analyte at a high concentration; however, carbon tetrachloride was detected slightly above its limits of quantitation (LOQ) in both of the indoor air field duplicates, and exhibited acceptable precision (1.4% relative percent difference, RPD).

In the soil vapor field duplicate pair SS-05 and SS-DUP, the analytes 1,1,-dichloroethane, 1,1,1-trichloroethane, carbon tetrachloride, trichloroethene, and tetrachloroethene were all reported in both members of the field duplicate pair above twice their respective quantitation limits. All analytes exhibited acceptable precision (0 – 10 %RPD) in the field duplicate pair SS-05 and SS-DUP; the analyte 1,1-dichloroethene was reported just above its quantitation limit in SS-DUP, and was not detected in SS-05.

No other analytes were reported in either of these field duplicate pairs, so precision could not be evaluated for the remaining analytes.

## X. Sensitivity Check

The current method detection limit (MDL) studies for Method TO-15 SIM and scan were analyzed on instrument MSDV on February 7, 2017 (scan); the current scan MDL study on MSD-17 was performed on March 8 and 9, 2016, and the data package did not record the date of the current SIM MDL study on MSD-20. The validator did not request copies of the MDL studies. MDL values for all project analytes were reported within the data packages, and were below the method quantitation limits. Additionally, the low initial calibration standard for each IC was analyzed and reported at or below the quantitation limit for each analyte.

On the basis of acceptable sensitivity and accuracy, as demonstrated by the MDL values and supported by the reported low standards of the initial calibrations, all results for the TO-15 SIM and scan air analyses (detects and non-detects) not qualified for other reasons are deemed acceptable as reported.

## XI. Performance Evaluation (PE) Samples/Accuracy Check

Three air-matrix, zero blind PE samples (commonly known as a laboratory control samples, LCSs) and two laboratory control sample duplicates (LCSDs) were prepared at 10 ppbv of the analyses on instruments MSD-20 and MSDV, and at 50 ppbv for the analysis of sample IA-05 on instrument MSD-17, and analyzed by the laboratory in support of these sample analyses. One LCS/LCSD set was analyzed and reported in support of the SIM, and the other two sets were reported by scan in support of the scan analyses. Percent recoveries (%R) were accurately reported on the Form 3 summaries in the data packages, and were within (SIM: 88 – 128 %R, and scan: 75 – 121 %R) established QC limits (70 – 130

%R) for all target analytes. Precision was acceptable (range: 3.0 – 5.9 %RPD by SIM and 0 – 4.1 %RPD by scan; limit 25 %RPD) in the LCS/LCSD paired analyses.

No external single-blind PE sample was required or submitted with the samples in this data set.

## XII. Target Compound Identification

Reported target compounds were correctly identified for all samples in this data set.

## XIII. Compound Quantitation and Reported Quantitation Limits

Target compound quantitation and practical quantitation limits (PQLs) are correctly reported on the Form 1 summaries and in the electronic spreadsheet results. The reported low standard of the IC is at or below the concentration of the LOQ for all analytes, including correction for sample-specific analysis volumes and dilutions. Results are shown on the laboratory Sample Results forms in units of both ppbv and ug/$m^3$. All non-detected results in samples were at or below minimum screening limits (SLs) established by the Work Plan, with the following exceptions (units = ppbv):

| Analyte | Screening Limit (ppbv) | IA-05 (ppbv) | IA-03 (ppbv) | IA-01 (ppbv) |
|---|---|---|---|---|
| 1,1-dichloroethane | 0.69 | 18 | <SL | <SL |
| 1,2-dichloroethane | 1.9 | 18 | <SL | <SL |
| carbon tetrachloride | 0.32 | 18 | <SL | <SL |
| tetrachloroethene | 0.07 | 18 | 0.17 | 0.092 |
| trichloroethene | 0.56 | 18 | <SL | <SL |

<SL = below applicable screening limit

All non-detects in soil vapor samples met applicable screening limits as presented in the Work Plan.

Results greater than the MDL but less than the sample-specific PQL were not requested in this data set, and were not needed to achieve required sensitivity, with the exceptions noted above; these samples were analyzed at dilution factors of 35.8 (IA-05, by scan), 8.4 (IA-03), and 4.58 (IA-01) due to the presence of a non-target analyte at high concentrations. An undiluted analysis was not reported for any sample. Due to the system configuration, all sample canisters were diluted with analyte-free nitrogen to accomplish sample introduction, and all indoor air samples were diluted on the basis of screening results due to the presence of a non-target analyte at high concentrations. Only the outdoor air sample (OA-01) and the scan analyses were analyzed at full strength, with dilution factors ranging from 1.64 to 1.83. Samples IA-01, IA-02, IA-04, and IA-DUP were analyzed at slight dilutions (dilution factors of 2.19 to 3.42) due to the presence of a non-target analyte at elevated concentrations in these samples. The laboratory did report values greater than the MDL but less than the sample-specific PQL for the scan analyses, and appropriately applied a “J” qualifier to indicate that the result is an estimated value.

The values that the validator has judged to be acceptable are presented in the “Validator_Result” column in the Data Summary Table in Attachment A and in the spreadsheet summary file submitted

electronically as Attachment B. The final qualifiers based on the validation effort are presented in the "Validator_Qualifier" column in the Data Summary Table and in the spreadsheet summary file. All results, positive and non-detect, are listed in the these summaries, whether or not the value or qualifier was changed as a result of the validation; if a value or qualifier was changed, this is indicated by the "Y" (for yes) notation in the column "Validator_Change" in the Data Summary Table. A brief explanation of the reason for the validation change is coded in the "Validator_Reason" column in the Data Summary Table and the full spreadsheet summary file; the definitions of these codes are given at the end of the Data Summary Table and on a separate tab of the spreadsheet file. Sample-specific (practical) quantitation limits (PQL) are given for non-detected results in the spreadsheet summaries.

## XIV. Tentatively Identified Compounds (TICs)

Evaluation of unidentified, non-target analyte peaks was not requested or performed for these samples.

## XV. System Performance

The analytical systems appear to have been working acceptably for all samples reported in this data package, based on instrument printouts and spectral quality, and evaluation of all available raw data.

The laboratory noted that in the SIM IC on instrument MSD-20, the confirmation ion for analyte 1,2-dichloroethane (64 amu) was not sufficiently resolved from the adjacent surrogate, the isotope 1,2-dichloroethane-d4; therefore, qualitative identification of this analyte at the lowest concentration would be uncertain. Since the primary quantitation ion for 1,2-dichloroethane was not detected in any sample at this concentration, no qualifications were required on the basis of this system performance issue.

## XVI. Overall Evaluation of Data

Results for all compounds were determined to be valid as reported for all samples in SDG Nos. 1701418A & 1701418B. Screening limits established in the Work Plan were not achieved for all analytes in three indoor air samples.

Documentation problems observed in the data package are described in Section XVII.

## XVII. Documentation

Chain-of-custody (COC) records were present and completed accurately, and are consistent with the field notes separately supplied to the validator.

Internal COC records are not required, as the laboratory provides sufficient sample tracking and security systems by other methods.

Summary records for canister cleanliness were included with the data package. The full analytical records were requested, and raw data was received on 5/13/16 and reviewed as part of the

validation effort; these records should be permanently maintained with the data.

Data presentation was acceptable, with the following exceptions:

- The laboratory's Form VII presents percent difference (%D) values with a negative [-] bias with a positive [+] sign, and vice versa. Bias should be correctly presented in the data submittals.

- A full canister cleanliness certification data package was not included in the data submittal, although a Form 1-like summary was included; sample raw data for each canister certification was not requested. A full certification data package is not routinely provided by the laboratory. No further documentation of canister cleanliness was requested from the laboratory, as the materials provided indicate that procedures were properly followed. Should supplemental documentation be required in the future, it is our understanding that the laboratory would be able to produce it.

This validation report should be considered part of the data package for all future distributions of the volatiles in air (cis-1,2-dichloroethene, trichloroethene and tetrachloroethene) data.

**ATTACHMENT A**

**DATA SUMMARY TABLE**
**SDG Nos. 1701418A & 1701418B**
**Selected Compounds in Air Samples**

| SAMPLE_ID | LAB_ID | SDG | ANALYTE | Validator_ Result (ppbv) | PQL (ppbv) | Validator_ Result (ug/m3) | PQL (ug/m3) | Validator_ Qualifier | Dilution | Validator_ Change |
|---|---|---|---|---|---|---|---|---|---|---|
| IA-01 | 1701418A-01A | 1701418A | Vinyl Chloride | 0.046 | 0.046 | 0.12 | 0.12 | U | 4.58 | N |
| IA-01 | 1701418A-01A | 1701418A | 1,1-Dichloroethene | 0.046 | 0.046 | 0.18 | 0.18 | U | 4.58 | N |
| IA-01 | 1701418A-01A | 1701418A | trans-1,2-Dichloroethene | 0.46 | 0.46 | 1.8 | 1.8 | U | 4.58 | N |
| IA-01 | 1701418A-01A | 1701418A | 1,1-Dichloroethane | 0.092 | 0.092 | 0.37 | 0.37 | U | 4.58 | N |
| IA-01 | 1701418A-01A | 1701418A | cis-1,2-Dichloroethene | 0.092 | 0.092 | 0.36 | 0.36 | U | 4.58 | N |
| IA-01 | 1701418A-01A | 1701418A | 1,1,1-Trichloroethane | 0.092 | 0.092 | 0.50 | 0.50 | U | 4.58 | N |
| IA-01 | 1701418A-01A | 1701418A | Carbon Tetrachloride | 0.092 | 0.092 | 0.58 | 0.58 | U | 4.58 | N |
| IA-01 | 1701418A-01A | 1701418A | 1,2-Dichloroethane | 0.092 | 0.092 | 0.37 | 0.37 | U | 4.58 | N |
| IA-01 | 1701418A-01A | 1701418A | Trichloroethene | 0.092 | 0.092 | 0.49 | 0.49 | U | 4.58 | N |
| IA-01 | 1701418A-01A | 1701418A | Tetrachloroethene | 0.092 | 0.092 | 0.62 | 0.62 | U | 4.58 | N |
| IA-02 | 1701418A-02A | 1701418A | Vinyl Chloride | 0.034 | 0.034 | 0.087 | 0.087 | U | 3.42 | N |
| IA-02 | 1701418A-02A | 1701418A | 1,1-Dichloroethene | 0.034 | 0.034 | 0.14 | 0.14 | U | 3.42 | N |
| IA-02 | 1701418A-02A | 1701418A | trans-1,2-Dichloroethene | 0.34 | 0.34 | 1.4 | 1.4 | U | 3.42 | N |
| IA-02 | 1701418A-02A | 1701418A | 1,1-Dichloroethane | 0.068 | 0.068 | 0.28 | 0.28 | U | 3.42 | N |
| IA-02 | 1701418A-02A | 1701418A | cis-1,2-Dichloroethene | 0.068 | 0.068 | 0.27 | 0.27 | U | 3.42 | N |
| IA-02 | 1701418A-02A | 1701418A | 1,1,1-Trichloroethane | 0.068 | 0.068 | 0.37 | 0.37 | U | 3.42 | N |
| IA-02 | 1701418A-02A | 1701418A | Carbon Tetrachloride | 0.068 | 0.068 | 0.43 | 0.43 | U | 3.42 | N |
| IA-02 | 1701418A-02A | 1701418A | 1,2-Dichloroethane | 0.068 | 0.068 | 0.28 | 0.28 | U | 3.42 | N |
| IA-02 | 1701418A-02A | 1701418A | Trichloroethene | 0.068 | 0.068 | 0.37 | 0.37 | U | 3.42 | N |
| IA-02 | 1701418A-02A | 1701418A | Tetrachloroethene | 0.068 | 0.068 | 0.46 | 0.46 | U | 3.42 | N |
| IA-03 | 1701418A-03A | 1701418A | Vinyl Chloride | 0.084 | 0.084 | 0.21 | 0.21 | U | 8.40 | N |
| IA-03 | 1701418A-03A | 1701418A | 1,1-Dichloroethene | 0.084 | 0.084 | 0.33 | 0.33 | U | 8.40 | N |
| IA-03 | 1701418A-03A | 1701418A | trans-1,2-Dichloroethene | 0.84 | 0.84 | 3.3 | 3.3 | U | 8.40 | N |
| IA-03 | 1701418A-03A | 1701418A | 1,1-Dichloroethane | 0.17 | 0.17 | 0.68 | 0.68 | U | 8.40 | N |
| IA-03 | 1701418A-03A | 1701418A | cis-1,2-Dichloroethene | 0.17 | 0.17 | 0.67 | 0.67 | U | 8.40 | N |
| IA-03 | 1701418A-03A | 1701418A | 1,1,1-Trichloroethane | 0.17 | 0.17 | 0.92 | 0.92 | U | 8.40 | N |
| IA-03 | 1701418A-03A | 1701418A | Carbon Tetrachloride | 0.17 | 0.17 | 1.0 | 1.0 | U | 8.40 | N |
| IA-03 | 1701418A-03A | 1701418A | 1,2-Dichloroethane | 0.17 | 0.17 | 0.68 | 0.68 | U | 8.40 | N |
| IA-03 | 1701418A-03A | 1701418A | Trichloroethene | 0.17 | 0.17 | 0.90 | 0.90 | U | 8.40 | N |
| IA-03 | 1701418A-03A | 1701418A | Tetrachloroethene | 0.17 | 0.17 | 1.1 | 1.1 | U | 8.40 | N |
| IA-04 | 1701418A-04A | 1701418A | Vinyl Chloride | 0.022 | 0.022 | 0.056 | 0.056 | U | 2.19 | N |
| IA-04 | 1701418A-04A | 1701418A | 1,1-Dichloroethene | 0.022 | 0.022 | 0.087 | 0.087 | U | 2.19 | N |
| IA-04 | 1701418A-04A | 1701418A | trans-1,2-Dichloroethene | 0.22 | 0.22 | 0.87 | 0.87 | U | 2.19 | N |
| IA-04 | 1701418A-04A | 1701418A | 1,1-Dichloroethane | 0.044 | 0.044 | 0.18 | 0.18 | U | 2.19 | N |
| IA-04 | 1701418A-04A | 1701418A | cis-1,2-Dichloroethene | 0.044 | 0.044 | 0.17 | 0.17 | U | 2.19 | N |
| IA-04 | 1701418A-04A | 1701418A | 1,1,1-Trichloroethane | 0.044 | 0.044 | 0.24 | 0.24 | U | 2.19 | N |
| IA-04 | 1701418A-04A | 1701418A | Carbon Tetrachloride | 0.044 | 0.044 | 0.45 | 0.28 |  | 2.19 | N |
| IA-04 | 1701418A-04A | 1701418A | 1,2-Dichloroethane | 0.044 | 0.044 | 0.18 | 0.18 | U | 2.19 | N |
| IA-04 | 1701418A-04A | 1701418A | Trichloroethene | 0.044 | 0.044 | 0.24 | 0.24 | U | 2.19 | N |
| IA-04 | 1701418A-04A | 1701418A | Tetrachloroethene | 0.044 | 0.044 | 0.30 | 0.30 | U | 2.19 | N |
| IA-05 | 1701418A-05A | 1701418A | Vinyl Chloride | 18 | 18 | 46 | 46 | U | 35.8 | N |
| IA-05 | 1701418A-05A | 1701418A | 1,1-Dichloroethene | 18 | 18 | 71 | 71 | U | 35.8 | N |
| IA-05 | 1701418A-05A | 1701418A | trans-1,2-Dichloroethene | 18 | 18 | 71 | 71 | U | 35.8 | N |
| IA-05 | 1701418A-05A | 1701418A | 1,1-Dichloroethane | 18 | 18 | 72 | 72 | U | 35.8 | N |
| IA-05 | 1701418A-05A | 1701418A | cis-1,2-Dichloroethene | 18 | 18 | 71 | 71 | U | 35.8 | N |
| IA-05 | 1701418A-05A | 1701418A | 1,1,1-Trichloroethane | 18 | 18 | 98 | 98 | U | 35.8 | N |
| IA-05 | 1701418A-05A | 1701418A | Carbon Tetrachloride | 18 | 18 | 110 | 110 | U | 35.8 | N |
| IA-05 | 1701418A-05A | 1701418A | 1,2-Dichloroethane | 18 | 18 | 72 | 72 | U | 35.8 | N |
| IA-05 | 1701418A-05A | 1701418A | Trichloroethene | 18 | 18 | 96 | 96 | U | 35.8 | N |
| IA-05 | 1701418A-05A | 1701418A | Tetrachloroethene | 18 | 18 | 120 | 120 | U | 35.8 | N |
| OA-01 | 1701418A-06A | 1701418A | Vinyl Chloride | 0.016 | 0.016 | 0.042 | 0.042 | U | 1.64 | N |
| OA-01 | 1701418A-06A | 1701418A | 1,1-Dichloroethene | 0.016 | 0.016 | 0.065 | 0.065 | U | 1.64 | N |
| OA-01 | 1701418A-06A | 1701418A | trans-1,2-Dichloroethene | 0.16 | 0.16 | 0.65 | 0.65 | U | 1.64 | N |
| OA-01 | 1701418A-06A | 1701418A | 1,1-Dichloroethane | 0.033 | 0.033 | 0.13 | 0.13 | U | 1.64 | N |
| OA-01 | 1701418A-06A | 1701418A | cis-1,2-Dichloroethene | 0.033 | 0.033 | 0.13 | 0.13 | U | 1.64 | N |
| OA-01 | 1701418A-06A | 1701418A | 1,1,1-Trichloroethane | 0.033 | 0.033 | 0.18 | 0.18 | U | 1.64 | N |
| OA-01 | 1701418A-06A | 1701418A | Carbon Tetrachloride | 0.033 | 0.033 | 0.53 | 0.21 |  | 1.64 | N |
| OA-01 | 1701418A-06A | 1701418A | 1,2-Dichloroethane | 0.033 | 0.033 | 0.13 | 0.13 | U | 1.64 | N |
| OA-01 | 1701418A-06A | 1701418A | Trichloroethene | 0.033 | 0.033 | 0.18 | 0.18 | U | 1.64 | N |
| OA-01 | 1701418A-06A | 1701418A | Tetrachloroethene | 0.033 | 0.033 | 0.22 | 0.22 | U | 1.64 | N |
| IA-Dup | 1701418A-07A | 1701418A | Vinyl Chloride | 0.030 | 0.030 | 0.076 | 0.076 | U | 2.98 | N |
| IA-Dup | 1701418A-07A | 1701418A | 1,1-Dichloroethene | 0.030 | 0.030 | 0.12 | 0.12 | U | 2.98 | N |
| IA-Dup | 1701418A-07A | 1701418A | trans-1,2-Dichloroethene | 0.30 | 0.30 | 1.2 | 1.2 | U | 2.98 | N |
| IA-Dup | 1701418A-07A | 1701418A | 1,1-Dichloroethane | 0.060 | 0.060 | 0.24 | 0.24 | U | 2.98 | N |
| IA-Dup | 1701418A-07A | 1701418A | cis-1,2-Dichloroethene | 0.060 | 0.060 | 0.24 | 0.24 | U | 2.98 | N |

| SAMPLE_ID | LAB_ID | SDG | ANALYTE | Validator_ Result (ppbv) | PQL (ppbv) | Validator_ Result (ug/m3) | PQL (ug/m3) | Validator_ Qualifier | Dilution | Validator_ Change |
|---|---|---|---|---|---|---|---|---|---|---|
| IA-Dup | 1701418A-07A | 1701418A | 1,1,1-Trichloroethane | 0.060 | 0.060 | 0.32 | 0.32 | U | 2.98 | N |
| IA-Dup | 1701418A-07A | 1701418A | Carbon Tetrachloride | 0.072 | 0.060 | 0.45 | 0.38 | | 2.98 | N |
| IA-Dup | 1701418A-07A | 1701418A | 1,2-Dichloroethane | 0.060 | 0.060 | 0.24 | 0.24 | U | 2.98 | N |
| IA-Dup | 1701418A-07A | 1701418A | Trichloroethene | 0.060 | 0.060 | 0.32 | 0.32 | U | 2.98 | N |
| IA-Dup | 1701418A-07A | 1701418A | Tetrachloroethene | 0.060 | 0.060 | 0.40 | 0.40 | U | 2.98 | N |
| SS-Dup | 1701418B-08A | 1701418B | Vinyl Chloride | 0.17 | 0.17 | 0.43 | 0.43 | U | 1.68 | N |
| SS-Dup | 1701418B-08A | 1701418B | 1,1-Dichloroethene | 0.19 | 0.17 | 0.75 | 0.67 | | 1.68 | N |
| SS-Dup | 1701418B-08A | 1701418B | trans-1,2-Dichloroethene | 0.17 | 0.17 | 0.67 | 0.67 | U | 1.68 | N |
| SS-Dup | 1701418B-08A | 1701418B | 1,1-Dichloroethane | 18 | 0.17 | 75 | 0.68 | | 1.68 | N |
| SS-Dup | 1701418B-08A | 1701418B | cis-1,2-Dichloroethene | 0.17 | 0.17 | 0.67 | 0.67 | U | 1.68 | N |
| SS-Dup | 1701418B-08A | 1701418B | 1,1,1-Trichloroethane | 2.5 | 0.17 | 14 | 0.92 | | 1.68 | N |
| SS-Dup | 1701418B-08A | 1701418B | Carbon Tetrachloride | 0.90 | 0.17 | 5.6 | 1.0 | | 1.68 | N |
| SS-Dup | 1701418B-08A | 1701418B | 1,2-Dichloroethane | 0.17 | 0.17 | 0.68 | 0.68 | U | 1.68 | N |
| SS-Dup | 1701418B-08A | 1701418B | Trichloroethene | 2.1 | 0.17 | 11 | 0.90 | | 1.68 | N |
| SS-Dup | 1701418B-08A | 1701418B | Tetrachloroethene | 19 | 0.17 | 130 | 1.1 | | 1.68 | N |
| SS-01 | 1701418B-09A | 1701418B | Vinyl Chloride | 0.18 | 0.18 | 0.45 | 0.45 | U | 1.75 | N |
| SS-01 | 1701418B-09A | 1701418B | 1,1-Dichloroethene | 0.18 | 0.18 | 0.69 | 0.69 | U | 1.75 | N |
| SS-01 | 1701418B-09A | 1701418B | trans-1,2-Dichloroethene | 0.18 | 0.18 | 0.69 | 0.69 | U | 1.75 | N |
| SS-01 | 1701418B-09A | 1701418B | 1,1-Dichloroethane | 0.18 | 0.18 | 0.71 | 0.71 | U | 1.75 | N |
| SS-01 | 1701418B-09A | 1701418B | cis-1,2-Dichloroethene | 0.86 | 0.18 | 3.4 | 0.69 | | 1.75 | N |
| SS-01 | 1701418B-09A | 1701418B | 1,1,1-Trichloroethane | 0.19 | 0.18 | 1.0 | 0.95 | | 1.75 | N |
| SS-01 | 1701418B-09A | 1701418B | Carbon Tetrachloride | 0.18 | 0.18 | 1.1 | 1.1 | U | 1.75 | N |
| SS-01 | 1701418B-09A | 1701418B | 1,2-Dichloroethane | 0.18 | 0.18 | 0.71 | 0.71 | U | 1.75 | N |
| SS-01 | 1701418B-09A | 1701418B | Trichloroethene | 5.2 | 0.18 | 28 | 0.94 | | 1.75 | N |
| SS-01 | 1701418B-09A | 1701418B | Tetrachloroethene | 22 | 0.18 | 150 | 1.2 | | 1.75 | N |
| SS-02 | 1701418B-10A | 1701418B | Vinyl Chloride | 0.18 | 0.18 | 0.46 | 0.46 | U | 1.79 | N |
| SS-02 | 1701418B-10A | 1701418B | 1,1-Dichloroethene | 0.18 | 0.18 | 0.71 | 0.71 | U | 1.79 | N |
| SS-02 | 1701418B-10A | 1701418B | trans-1,2-Dichloroethene | 0.18 | 0.18 | 0.71 | 0.71 | U | 1.79 | N |
| SS-02 | 1701418B-10A | 1701418B | 1,1-Dichloroethane | 0.18 | 0.18 | 0.72 | 0.72 | U | 1.79 | N |
| SS-02 | 1701418B-10A | 1701418B | cis-1,2-Dichloroethene | 0.18 | 0.18 | 0.71 | 0.71 | U | 1.79 | N |
| SS-02 | 1701418B-10A | 1701418B | 1,1,1-Trichloroethane | 0.18 | 0.18 | 0.98 | 0.98 | U | 1.79 | N |
| SS-02 | 1701418B-10A | 1701418B | Carbon Tetrachloride | 0.18 | 0.18 | 1.1 | 1.1 | U | 1.79 | N |
| SS-02 | 1701418B-10A | 1701418B | 1,2-Dichloroethane | 0.18 | 0.18 | 0.72 | 0.72 | U | 1.79 | N |
| SS-02 | 1701418B-10A | 1701418B | Trichloroethene | 0.18 | 0.18 | 0.96 | 0.96 | U | 1.79 | N |
| SS-02 | 1701418B-10A | 1701418B | Tetrachloroethene | 0.71 | 0.18 | 4.8 | 1.2 | | 1.79 | N |
| SS-03 | 1701418B-11A | 1701418B | Vinyl Chloride | 0.17 | 0.17 | 0.44 | 0.44 | U | 1.71 | N |
| SS-03 | 1701418B-11A | 1701418B | 1,1-Dichloroethene | 0.17 | 0.17 | 0.68 | 0.68 | U | 1.71 | N |
| SS-03 | 1701418B-11A | 1701418B | trans-1,2-Dichloroethene | 0.17 | 0.17 | 0.68 | 0.68 | U | 1.71 | N |
| SS-03 | 1701418B-11A | 1701418B | 1,1-Dichloroethane | 0.17 | 0.17 | 0.69 | 0.69 | U | 1.71 | N |
| SS-03 | 1701418B-11A | 1701418B | cis-1,2-Dichloroethene | 0.17 | 0.17 | 0.68 | 0.68 | U | 1.71 | N |
| SS-03 | 1701418B-11A | 1701418B | 1,1,1-Trichloroethane | 0.17 | 0.17 | 0.93 | 0.93 | U | 1.71 | N |
| SS-03 | 1701418B-11A | 1701418B | Carbon Tetrachloride | 0.17 | 0.17 | 1.0 | 1.1 | J | 1.71 | N |
| SS-03 | 1701418B-11A | 1701418B | 1,2-Dichloroethane | 0.17 | 0.17 | 0.69 | 0.69 | U | 1.71 | N |
| SS-03 | 1701418B-11A | 1701418B | Trichloroethene | 0.17 | 0.17 | 0.90 | 0.92 | J | 1.71 | N |
| SS-03 | 1701418B-11A | 1701418B | Tetrachloroethene | 1.1 | 0.17 | 7.3 | 1.2 | | 1.71 | N |
| SS-04 | 1701418B-12A | 1701418B | Vinyl Chloride | 0.18 | 0.18 | 0.47 | 0.47 | U | 1.83 | N |
| SS-04 | 1701418B-12A | 1701418B | 1,1-Dichloroethene | 0.18 | 0.18 | 0.72 | 0.72 | U | 1.83 | N |
| SS-04 | 1701418B-12A | 1701418B | trans-1,2-Dichloroethene | 0.18 | 0.18 | 0.72 | 0.72 | U | 1.83 | N |
| SS-04 | 1701418B-12A | 1701418B | 1,1-Dichloroethane | 0.18 | 0.18 | 0.74 | 0.74 | U | 1.83 | N |
| SS-04 | 1701418B-12A | 1701418B | cis-1,2-Dichloroethene | 0.18 | 0.18 | 0.72 | 0.72 | U | 1.83 | N |
| SS-04 | 1701418B-12A | 1701418B | 1,1,1-Trichloroethane | 0.18 | 0.18 | 1.0 | 1.0 | U | 1.83 | N |
| SS-04 | 1701418B-12A | 1701418B | Carbon Tetrachloride | 0.18 | 0.18 | 1.2 | 1.2 | U | 1.83 | N |
| SS-04 | 1701418B-12A | 1701418B | 1,2-Dichloroethane | 0.18 | 0.18 | 0.74 | 0.74 | U | 1.83 | N |
| SS-04 | 1701418B-12A | 1701418B | Trichloroethene | 0.18 | 0.18 | 0.98 | 0.98 | U | 1.83 | N |
| SS-04 | 1701418B-12A | 1701418B | Tetrachloroethene | 1.1 | 0.18 | 7.3 | 1.2 | | 1.83 | N |
| SS-05 | 1701418B-13A | 1701418B | Vinyl Chloride | 0.17 | 0.17 | 0.44 | 0.44 | U | 1.71 | N |
| SS-05 | 1701418B-13A | 1701418B | 1,1-Dichloroethene | 0.17 | 0.17 | 0.68 | 0.68 | U | 1.71 | N |
| SS-05 | 1701418B-13A | 1701418B | trans-1,2-Dichloroethene | 0.17 | 0.17 | 0.68 | 0.68 | U | 1.71 | N |
| SS-05 | 1701418B-13A | 1701418B | 1,1-Dichloroethane | 18 | 0.17 | 74 | 0.69 | | 1.71 | N |
| SS-05 | 1701418B-13A | 1701418B | cis-1,2-Dichloroethene | 0.17 | 0.17 | 0.68 | 0.68 | U | 1.71 | N |
| SS-05 | 1701418B-13A | 1701418B | 1,1,1-Trichloroethane | 2.4 | 0.17 | 13 | 0.93 | | 1.71 | N |
| SS-05 | 1701418B-13A | 1701418B | Carbon Tetrachloride | 0.82 | 0.17 | 5.2 | 1.1 | | 1.71 | N |
| SS-05 | 1701418B-13A | 1701418B | 1,2-Dichloroethane | 0.17 | 0.17 | 0.69 | 0.69 | U | 1.71 | N |
| SS-05 | 1701418B-13A | 1701418B | Trichloroethene | 1.9 | 0.17 | 10 | 0.92 | | 1.71 | N |
| SS-05 | 1701418B-13A | 1701418B | Tetrachloroethene | 19 | 0.17 | 130 | 1.2 | | 1.71 | N |

**ATTACHMENT B**

**SPREADSHEET SUMMARY**
**(Submitted electronically)**
**SDG Nos. 1701418A & 1701418B**
**Selected Compounds in Air Samples**