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March 21, 2018

Mr. Thomas Diviny  
Town Board Member  
Town of Orangetown  
26 W. Orangeburg Rd  
Orangeburg, NY 10962

*Submitted via e-mail*  
*tdiviny@orangetown.com*

Re: Review and human health risk assessment of TRC Phase II Air Monitoring Results for Volatile Organic Compounds (VOCs)

Dear Tom;

I reviewed the results of the Phase II VOC 24-hr air sampling results which are attached. The samples were collected on January 19-20, January 26-27 and February 1-2, in the same locations as the Phase I samples. After reviewing the results of the Phase I VOC sampling, it was recommended that since the detected chemicals are often present at low levels in ambient air, background samples would be collected during the next phase of sampling to determine the impact of local conditions on ambient air and to determine whether alternative sources are present. An additional background sample location was not collected during the Phase II sampling, however, the Aluf Facility was not operating during the January 19<sup>th</sup> -20<sup>th</sup> sampling event and therefore this represents a non-facility impacted comparison sample for the other two samples at each sampling location.

Similar to the results from the Phase I VOC air sampling, the Phase II VOC sampling showed concentrations of Acrolein, Benzene and Carbon Tetrachloride elevated above New York State Department of Environmental Conservation's respective annual guideline concentrations (AGCs). Hexachlorobutadiene was detected in only one of 12 samples during the Phase I VOC sampling, was not detected in the Phase II samples. 1,3-Butadiene was detected above AGCs in 11 of 12 samples in the Phase II samples, but was not detected during the Phase I VOC sampling event.

The AGCs were developed to evaluate the potential for offsite fence line concentrations of toxic air pollutants emitted by a facility by using an USEPA approved air dispersion model. The model calculates worst-case air concentrations at specific receptor locations using measured stack emissions data, stack input data (height, flow rate and temperature) and local meteorology. The AGCs do not take into account any background concentrations or

additional sources that may be present in ambient air. Additionally, the AGC is for comparison against a modeled maximum annual average air concentration and the Phase II samples were taken over a 24 hour period, therefore, the direct comparison of the measured concentrations from the 24-hour samples to the AGCs (annual guideline concentrations) are not comparable as it is a comparison of a short-term sample to a long-term average.

A discussion of those compounds that exceeded the AGCs is provided below.

- A. Acrolein was detected in 10 of 12 Phase II VOC samples, with detected concentrations above the AGC, but below the SGC. However, as noted above, since the sample obtained was a 24-hour sample, it is not comparable to the long-term AGC benchmark value. A statistical evaluation comparing the samples collected when the facility was not operating (January 19-20) versus the other two sample dates (January 26-27 and February 1-2) when the facility was in operation, showed that the acrolein air concentrations were not significantly different (see attached statistical output). This indicates that there are other sources of acrolein in the ambient air other than the Aluf Facility. Acrolein is commonly found in car and diesel exhaust, cigarette smoke, and is also released from burning wood, other plant material and burning oil (e.g., home heating oil) (ATSDR 2007a<sup>1</sup>).

Additionally, as discussed in the TRC Letter to the Board, dated December 1, 2017, it was hypothesized that the elevated acrolein concentrations detected in the Phase I VOC sampling round and in the residential sampling could be due to the inadequate cleaning of the summa canisters as it pertains to acrolein and potential “acrolein growth in the canisters. For the Phase II sampling, TRC instructed the laboratory to follow EPA procedures and heat each canister to 90°C. Acrolein concentrations from the Phase I VOC sampling round ranged from <1.6 ug/m<sup>3</sup> (non-detect) to 5.4 ug/m<sup>3</sup>, while the residential samples ranged from 1.6 ug/m<sup>3</sup> to 5.9 ug/m<sup>3</sup>. In contrast, acrolein concentrations from the Phase II VOC sampling round ranged from <0.49 ug/m<sup>3</sup> (non-detect) to 1.5 ug/m<sup>3</sup>. The maximum detected concentration was obtained on Glenshaw Street on the day the facility was not operating. Additionally, there is large truck traffic and train traffic near that sampling location and as mentioned, previously, acrolein is commonly found in diesel exhaust.

- B. Benzene was detected in 12 of 12 Phase II VOC samples above its AGC, but below the SGC. However, as noted above, since the sample obtained was a 24-hour sample, it is not comparable to the long-term AGC benchmark value. A statistical evaluation comparing the samples collected when the facility was not operating (January 19-20) versus the other two sample dates (January 26-27 and February 1-2) when the facility was in operation, showed that the benzene air concentrations were not significantly different (see attached statistical output). This indicates that there are other sources of benzene in the ambient air other than the Aluf Facility. Benzene is a component of

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<sup>1</sup> ATSDR 2007a. Toxicological Profile for Acrolein. On-Line at:  
<https://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=102>



gasoline and is emitted in the exhaust and through evaporation of vehicle fuel and also as a component of heating oil (ATSDR 2007b<sup>2</sup>).

Benzene concentrations from the Phase I VOC sampling round ranged from 0.33 ug/m<sup>3</sup> to 0.8 ug/m<sup>3</sup>, while the residential samples ranged from 0.25 ug/m<sup>3</sup> to 1 ug/m<sup>3</sup>. The benzene concentrations from the Phase II VOC sampling round ranged from 0.7 ug/m<sup>3</sup> to 1.3 ug/m<sup>3</sup> which are higher than the Phase I results. The highest detected concentrations were obtained on the day the facility was not operating.

- C. Carbon Tetrachloride was detected in 12 of 12 Phase II VOC samples above its AGC, but below the SGC. However, as noted above, since the sample obtained was a 24-hour sample, it is not comparable to the long-term AGC benchmark value. A statistical evaluation comparing the samples collected when the facility was not operating (January 19-20) versus the other two sample dates (January 26-27 and February 1-2) when the facility was in operation, showed that the carbon tetrachloride air concentrations were not significantly different (see attached statistical output). This indicates that there are other sources of carbon tetrachloride in the ambient air other than the Aluf Facility. Carbon Tetrachloride is primarily an industrial chemical used to make some refrigerants and propellants for aerosols, as a solvent for oils, fats, lacquers, varnishes, rubber waxes and resins (USEPA 2016<sup>3</sup>). It is also found in indoor air due to the presence in cleaning products. It was found at high concentrations in chlorine bleach containing household products (Odabasi 2008<sup>4</sup>).

Carbon tetrachloride concentrations from the Phase I VOC sampling round ranged from 0.37 ug/m<sup>3</sup> to 0.51 ug/m<sup>3</sup>, and it was not detected in the residential samples. The carbon tetrachloride concentrations from the Phase II VOC sampling round ranged from 0.39 ug/m<sup>3</sup> to 0.46 ug/m<sup>3</sup> which are consistent with the Phase I results.

- D. 1,3-Butadiene was detected in 11 of 12 Phase II VOC samples, with detected concentrations above the AGC, but below the SGC. However, as noted above, since the sample obtained was a 24-hour sample, it is not comparable to the long-term AGC benchmark value. A statistical evaluation comparing the samples collected when the facility was not operating (January 19-20) versus the other two sample dates (January 26-27 and February 1-2) when the facility was in operation, showed that the 1,3-butadiene air concentrations were not significantly different (see attached statistical output). This indicates that there are other sources of 1,3-butadiene in the ambient air other than the Aluf Facility. 1,3-butadiene has been measured in the exhaust of typical automobiles and light trucks and in the exhaust from diesel engines (ATSDR

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<sup>2</sup> ATSDR 2007b. Toxicological Profile for Benzene. On-line at:

<https://www.atsdr.cdc.gov/toxprofiles/tp.asp?id=40&tid=14#bookmark04>

<sup>3</sup> USEPA 2016. Carbon Tetrachloride. On-line at: <https://www.epa.gov/sites/production/files/2016-09/documents/carbon-tetrachloride.pdf>

<sup>4</sup> Odabasi, M. 2008. Halogenated Volatile Organic Compounds from the Use of Chlorine-Bleach-Containing Household Products. *Environmental Science & Technology*. 42(5): 1445-51.



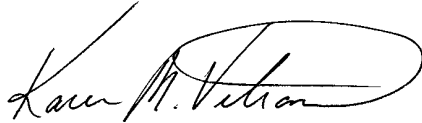
). It is also emitted from wood combustion in residential fireplaces and wildfires (ATSDR 2012<sup>5</sup>).

The results of the Phase I VOC samples and the resident VOC samples showed no detected concentrations of 1,3-butadiene. The concentrations of 1,3-butadiene from the Phase II VOC sampling round ranged from <0.059 ug/m<sup>3</sup> (non-detect) to 0.23 ug/m<sup>3</sup>.

Since these chemicals are consistently present at low levels in ambient air, both when the facility is in operation and when it is not, these air contaminants appear to be due to sources other than the Aluf Facility. Additionally, based on the detected concentrations, they would not be expected to represent a health concern to exposed individuals. As previously discussed, none of the detected concentrations exceed the SGCs, and all though they do exceed the AGCs, these are 24-hour samples and not modeled annual air concentrations.

Very Truly Yours,

TRC Environmental Corporation



Karen M. Vetrano, Ph.D  
Manager, Risk Assessment and Toxicology

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<sup>5</sup> ATSDR 2012. Toxicological Profile for 1,3-Butadiene. On-line at:  
<https://www.atsdr.cdc.gov/toxprofiles/TP.asp?id=459&tid=81>



# STATISTICAL EVALUATION OUTPUT

**Acrolein vs Background Acrolein Statistical Comparison for Uncensored Full Data Sets without NDs**

User Selected Options

Date/Time of Computation ProUCL 5.12/21/2018 11:12:59 AM  
 From File Phase II VOC sum data.xls  
 Full Precision OFF  
 Confidence Coefficient 95%  
 Substantial Difference (S) 0.000  
 Selected Null Hypothesis Sample 1 Mean <= Sample 2 Mean (Form 1)  
 Alternative Hypothesis Sample 1 Mean > the Sample 2 Mean

**Sample 1 Data: Acrolein**

**Sample 2 Data: Background Acrolein**

**Raw Statistics**

	Acrolein	Background Acrolein
Number of Valid Observations	8	4
Number of Distinct Observations	7	4
Minimum	0.245	0.55
Maximum	1.3	1.5
Mean	0.781	1.02
Median	0.86	1.015
SD	0.374	0.394
SE of Mean	0.132	0.197

**Sample 1 vs Sample 2 Two-Sample t-Test**

**H0: Mean of Sample 1 - Mean of Sample 2 <= 0**

Method	DF	t-Test Value	Critical t (0.05)	P-Value
Pooled (Equal Variance)	10	-1.026	1.812	0.835
Welch-Satterthwaite (Unequal Variance)	5.8	-1.006	1.943	0.823

Pooled SD 0.380

Conclusion with Alpha = 0.050

**Student t (Pooled) Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2**

**Test of Equality of Variances**

Variance of Sample 1	0.14
Variance of Sample 2	0.155

Numerator DF	Denominator DF	F-Test Value	P-Value
3	7	1.110	0.814

Conclusion with Alpha = 0.05

**Two variances appear to be equal**

Background = Facility not in operation - January 19-20, 2018

**Benzene vs Background Benzene Statistical Comparison for Uncensored Full Data Sets without NDs**

User Selected Options

Date/Time of Computation ProUCL 5.12/21/2018 11:14:42 AM  
 From File Phase II VOC sum data.xls  
 Full Precision OFF  
 Confidence Coefficient 95%  
 Substantial Difference (S) 0.000  
 Selected Null Hypothesis Sample 1 Mean <= Sample 2 Mean (Form 1)  
 Alternative Hypothesis Sample 1 Mean > the Sample 2 Mean

**Sample 1 Data: Benzene**

**Sample 2 Data: Background Benzene**

**Raw Statistics**

	Benzene	Benzene Background
Number of Valid Observations	8	4
Number of Distinct Observations	7	2
Minimum	0.7	1.1
Maximum	1	1.3
Mean	0.855	1.15
Median	0.845	1.1
SD	0.101	0.1
SE of Mean	0.0357	0.05

**Sample 1 vs Sample 2 Two-Sample t-Test**

**H0: Mean of Sample 1 - Mean of Sample 2 <= 0**

Method	DF	t-Test Value	Critical t (0.05)	P-Value
Pooled (Equal Variance)	10	-4.789	1.812	1.000
Welch-Satterthwaite (Unequal Variance)	6.1	-4.804	1.943	0.999

Pooled SD 0.101

Conclusion with Alpha = 0.050

**Student t (Pooled) Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2**

**Test of Equality of Variances**

Variance of Sample 1 0.0102  
 Variance of Sample 2 0.01

Numerator DF	Denominator DF	F-Test Value	P-Value
7	3	1.017	1.093

Conclusion with Alpha = 0.05

**Two variances appear to be equal**

Background = Facility not in operation - January 19-20, 2018

**Carbon Tetrachloride vs Background Tetrachloride Statistical Comparison for Uncensored Full Data Sets without NDs**

User Selected Options  
 Date/Time of Computation ProUCL 5.12/21/2018 11:16:08 AM  
 From File Phase II VOC sum data.xls  
 Full Precision OFF  
 Confidence Coefficient 95%  
 Substantial Difference (S) 0.000  
 Selected Null Hypothesis Sample 1 Mean <= Sample 2 Mean (Form 1)  
 Alternative Hypothesis Sample 1 Mean > the Sample 2 Mean

**Sample 1 Data: Carbon Tetrachloride**

**Sample 2 Data: Background Carbon Tetrachloride**

**Raw Statistics**

	Carbon Tetrachloride	Background Carbon Tetrachloride
Number of Valid Observations	8	4
Number of Distinct Observations	4	4
Minimum	0.42	0.38
Maximum	0.46	0.45
Mean	0.443	0.415
Median	0.44	0.415
SD	0.0116	0.0351
SE of Mean	0.00412	0.0176

**Sample 1 vs Sample 2 Two-Sample t-Test**

**H0: Mean of Sample 1 - Mean of Sample 2 <= 0**

Method	DF	t-Test Value	Critical t (0.05)	P-Value
Pooled (Equal Variance)	10	2.083	1.812	0.032
Welch-Satterthwaite (Unequal Variance)	3.3	1.525	2.353	0.108

Pooled SD 0.022

Conclusion with Alpha = 0.050

**Welch-Satterthwaite Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2**

**Test of Equality of Variances**

Variance of Sample 1 1.3571E-4  
 Variance of Sample 2 0.00123

Numerator DF	Denominator DF	F-Test Value	P-Value
3	7	9.088	0.016

Conclusion with Alpha = 0.05

**Two variances are not equal**

Background = Facility not in operation - January 19-20, 2018



**1,3-Butadiene vs Background 1,3-Butadiene Statistical Comparison for Uncensored Full Data Sets without NDs**

User Selected Options

Date/Time of Computation ProUCL 5.12/21/2018 11:15:25 AM  
 From File Phase II VOC sum data.xls  
 Full Precision OFF  
 Confidence Coefficient 95%  
 Substantial Difference (S) 0.000  
 Selected Null Hypothesis Sample 1 Mean <= Sample 2 Mean (Form 1)  
 Alternative Hypothesis Sample 1 Mean > the Sample 2 Mean

**Sample 1 Data: 1,3-Butadiene**

**Sample 2 Data: Background 1,3-Butadiene**

**Raw Statistics**

	1,3-Butadiene	Background 1,3-Butadiene
Number of Valid Observations	8	4
Number of Distinct Observations	7	4
Minimum	0.0295	0.15
Maximum	0.18	0.23
Mean	0.123	0.18
Median	0.13	0.17
SD	0.0455	0.0356
SE of Mean	0.0161	0.0178

**Sample 1 vs Sample 2 Two-Sample t-Test**

**H0: Mean of Sample 1 - Mean of Sample 2 <= 0**

Method	DF	t-Test Value	Critical t (0.05)	P-Value
Pooled (Equal Variance)	10	-2.170	1.812	0.972
Welch-Satterthwaite (Unequal Variance)	7.7	-2.369	1.860	0.977

Pooled SD 0.043

Conclusion with Alpha = 0.050

**Student t (Pooled) Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2**

**Test of Equality of Variances**

Variance of Sample 1 0.00207  
 Variance of Sample 2 0.00127

Numerator DF	Denominator DF	F-Test Value	P-Value
7	3	1.634	0.743

Conclusion with Alpha = 0.05

**Two variances appear to be equal**

Background = Facility not in operation - January 19-20, 2018



# AIR QUALITY MONITORING REPORT

## PHASE II: VOC AIR SAMPLING & METEOROLOGICAL MONITORING

Prepared for:  
Town of Orangetown, NY

Prepared by:  
TRC Environmental Corporation

March 2017

# **AIR QUALITY MONITORING REPORT**

## **PHASE II: VOC AIR SAMPLING & METEOROLOGICAL MONITORING**

*Prepared for*  
Town of Orangetown, NY

*Prepared by*  
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Austin, Texas  
TRC Project No. 267443.1000.0000

March 2018

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## Attachments

- Attachment A: Complete Results VOC Analysis Phase II
- Attachment B: Laboratory Data Packages Phase II

## 1 Introduction

Aluf Plastics Incorporated (API) manufactures plastic bags and has been the subject of odor complaints in the neighborhoods surrounding the facility for over a year. There have been roughly 260 submitted complaints (some with multiple dates and time of odor detection) from March 1, 2017 – February 28, 2018 submitted to the Town of Orangetown (the Town). The odor descriptions included burning/burnt plastic, with and without a floral odor; melting plastic, with and without a floral odor; plastic; floral/perfume; chemical; “Aluf odor”; choking, noxious and “urinal cake”. Other non-specific descriptions such as strong odor/smell and potent smell were also recorded. Figure 1 provides a summary of the locations of the odor detections listed in the complaints. The majority of odor complaints have been reported in neighborhoods, less than a half mile away, and to the north – northwest of API.

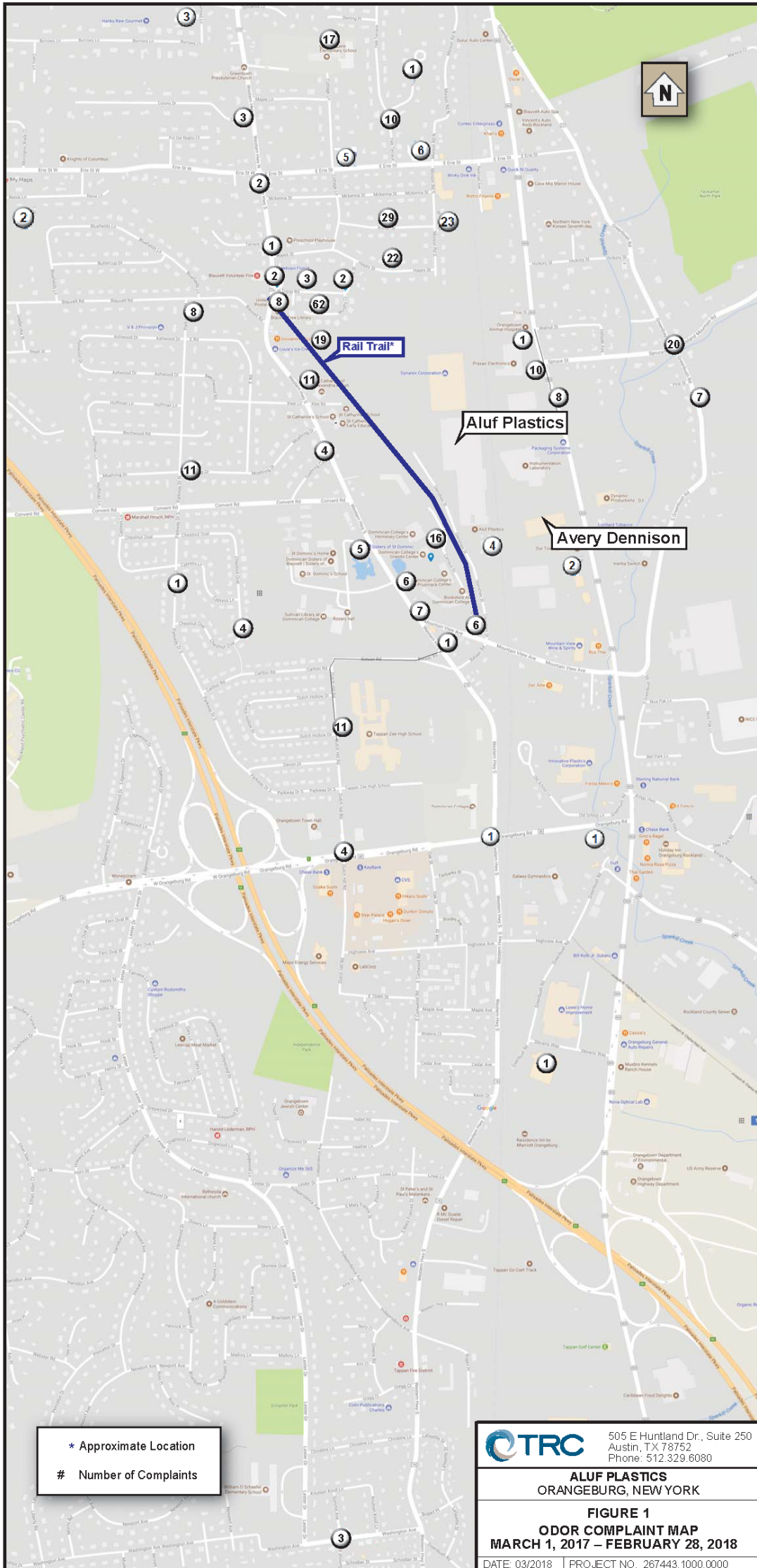
In July of 2017, TRC was retained by the Town to conduct an air quality monitoring program in two phases; including ambient air sampling in the vicinity of API and meteorological monitoring in Orangeburg, NY. TRC installed a meteorological monitoring station on the roof of the Orangeburg Highway Department building on August 7<sup>th</sup> and completed Phase I of the ambient air monitoring program in August 2017. Phase II of the air monitoring program was completed in February 2018. Between Phase I and Phase II a number of ambient air samples were collected by local residents and Town employees. Air samples were collected in accordance with US EPA Method TO-15 and submitted for analysis for volatile organic compounds (VOCs) to Con-Test Laboratory in East Longmeadow, Massachusetts.

In June of 2017, API sought a permit to upgrade the ventilation system at the facility. Upgrades were completed later in 2017, and Phase II of the sampling program was initiated. Results for the final sampling phase are included in this report.

The results from the Phase I VOC air sampling showed that concentrations of acrolein, benzene, carbon tetrachloride and hexachlorobutadiene exceeded New York State Department of Environmental Conservation’s respective short-term guideline concentrations (SGCs) and annual guideline concentrations (AGCs). Additionally, concentrations of acrolein (7 samples) and tetrachloroethylene (1 sample) exceeded their respective SGCs, and acrolein (9 samples) and benzene (10 samples) exceeded their respective AGCs in the resident samples.

TRC performed a human health risk assessment based on the results from Phase I and resident samples (Review and human health risk assessment of TRC Air Monitoring Results for Volatile Organic Compounds (VOCs), dated December 21, 2017). For reasons discussed in detail in the assessment report, TRC does not believe that exposure to these measured concentrations would result in negative health effects.

Figure 1: Odor Complaint Map



## 2 Methodology

At the request of the Orangetown Town Board, TRC developed a scope of work for this air quality monitoring program to include the following:

- Two three-week sampling studies to measure concentrations of VOCs, in accordance with US EPA Method TO-15, at four monitoring locations following the US EPA national six day schedule;
- Training of town residents and/or staff in the deployment and collection of TO-15 samples for immediate sampling in response to odors;
- On-site odor expert to identify odor sources and conduct an odor survey;
- On-site meteorological monitoring station to identify upwind and downwind sampling locations and aid in odor source identification.

### 2.1 Air Sampling for Volatile Organic Compounds

VOCs were collected using 6-liter evacuated stainless steel SUMMA<sup>®</sup> canisters fitted with a calibrated regulator at the sample inlet. The regulator allows continuous sample collection over a 24-hour period. Sampling locations were selected based on previous VOC sampling and their proximity to API and upwind and downwind locations from the meteorological data. Sampling locations are identified in Figure 2. Samples were collected at each sampling location once every six days over a three week period. The samples were subsequently shipped to Con-Test Analytical Laboratory in East Longmeadow, MA and analyzed using EPA Method TO-15 by gas chromatography/mass spectrometry (GC/MS). Sampling dates and times for the first phase of ambient air sampling are summarized in Table 1.

*Table 1: Phase II Sampling Dates and Times*

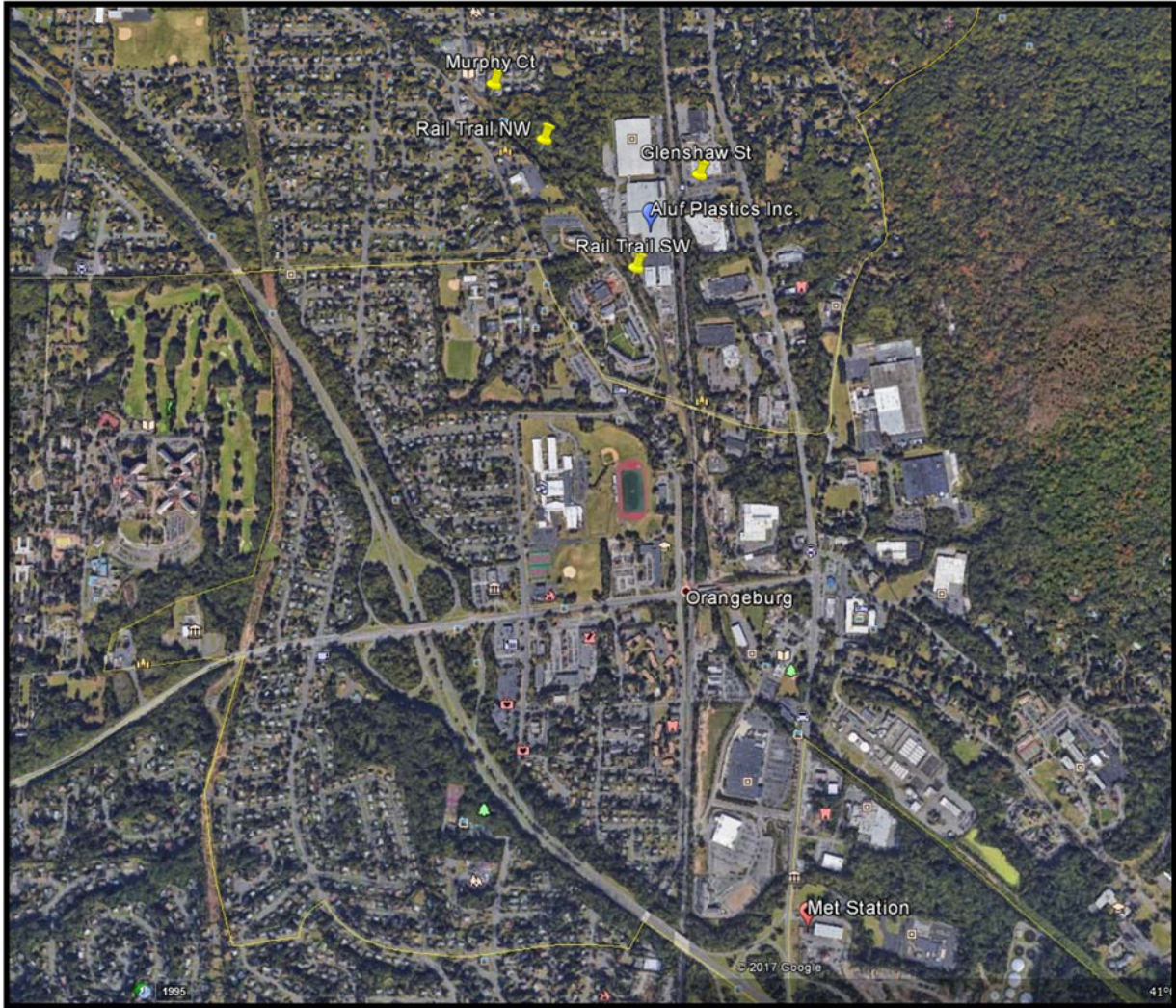
<b>Sampling Event</b>	<b>Sample Location</b>	<b>Start Time</b>	<b>End Time</b>
4	Rail Trail SW	1/19/18 17:50	1/20/18 16:46
	Rail Trail NW	1/19/18 17:39	1/20/18 16:38
	Murphy Court	1/19/18 18:22	1/20/18 17:45
	Glenshaw St	1/19/18 18:35	1/20/18 17:20
5	Rail Trail SW	1/26/18 08:18	1/27/18 07:41
	Rail Trail NW	1/26/18 07:28	1/27/18 07:30
	Murphy Court	1/26/18 08:42	1/27/18 08:26
	Glenshaw St	1/26/18 08:59	1/27/18 08:59
6	Rail Trail SW	2/1/18 08:37	2/2/18 08:24
	Rail Trail NW	2/1/18 08:21	2/2/18 08:12
	Murphy Court	2/1/18 09:01	2/2/18 08:48
	Glenshaw St	2/1/18 09:18	2/2/18 09:11

### 2.2 Meteorological Monitoring

A meteorological station (Met Station) was erected on the roof of the Orangeburg Highway Department Building located on Route 303 in Orangeburg, NY. Meteorological monitoring has been operating continuously since installation on August 7<sup>th</sup>. The Met Station is equipped with sensors to measure wind speed, wind direction, temperature, relative humidity, and barometric pressure on a continuous basis. The RM Young Response One meteorological sensor system is used for meteorological measurements.

Not only did this met station help identify upwind and downwind sampling locations during both phases of this monitoring program, it also provided hourly averaged wind directions to track odor complaints as reported to the Town.

*Figure 2: Sampling Locations and Meteorological Monitoring Station*





## 3 Summary of Results

### 3.1 Volatile Organic Compounds

During Phase II, a total of twelve VOC samples were collected and analyzed in accordance with US EPA Method TO-15. Individual samples were collected over a 24-hour period at four locations during three sampling events. Of the 63 compounds analyzed, as part of US EPA Method TO-15, 36 were detected in one or more of the samples collected during this phase of the program. A summary of average and maximum concentrations of detected results from the VOC samples collected during Phase II are presented in Table 2. Please note average concentrations were calculated by handling non-detected results as values half of the lab's analytical reporting limit. This approach assumes that on the average all values between the RL and zero could be present, and that the average value of non-detects could be as high as half the detection limit.

Samples collected at the Rail Trail NW on January 26<sup>th</sup> – 27<sup>th</sup> and at Murphy Court on February 1<sup>st</sup> – 2<sup>nd</sup> reached capacity before the end of the 24 hour sample time. These two sampling systems failed to maintain a constant flow rate resulting in an unknown sample duration.

Complete results from each of the twelve samples collected during Phase II are presented in Attachment A. Laboratory Data Packages are included in Attachment B.

As discussed in TRC's December 1, 2017 letter to the Town Board in response to Dr. Dimitri Laddis' November 27th letter to the Board, it was determined that the laboratory results for acrolein were likely biased high due to "acrolein growth" in the canisters. In order to minimize bias in Phase II samples, the laboratory was instructed to follow EPA guidance for cleaning procedures specific to the measurement of acrolein. Additionally, NYSDEC analyzed collocated samplers at two locations during each sampling event.

Table 2: Summary of VOC Results - Phase II

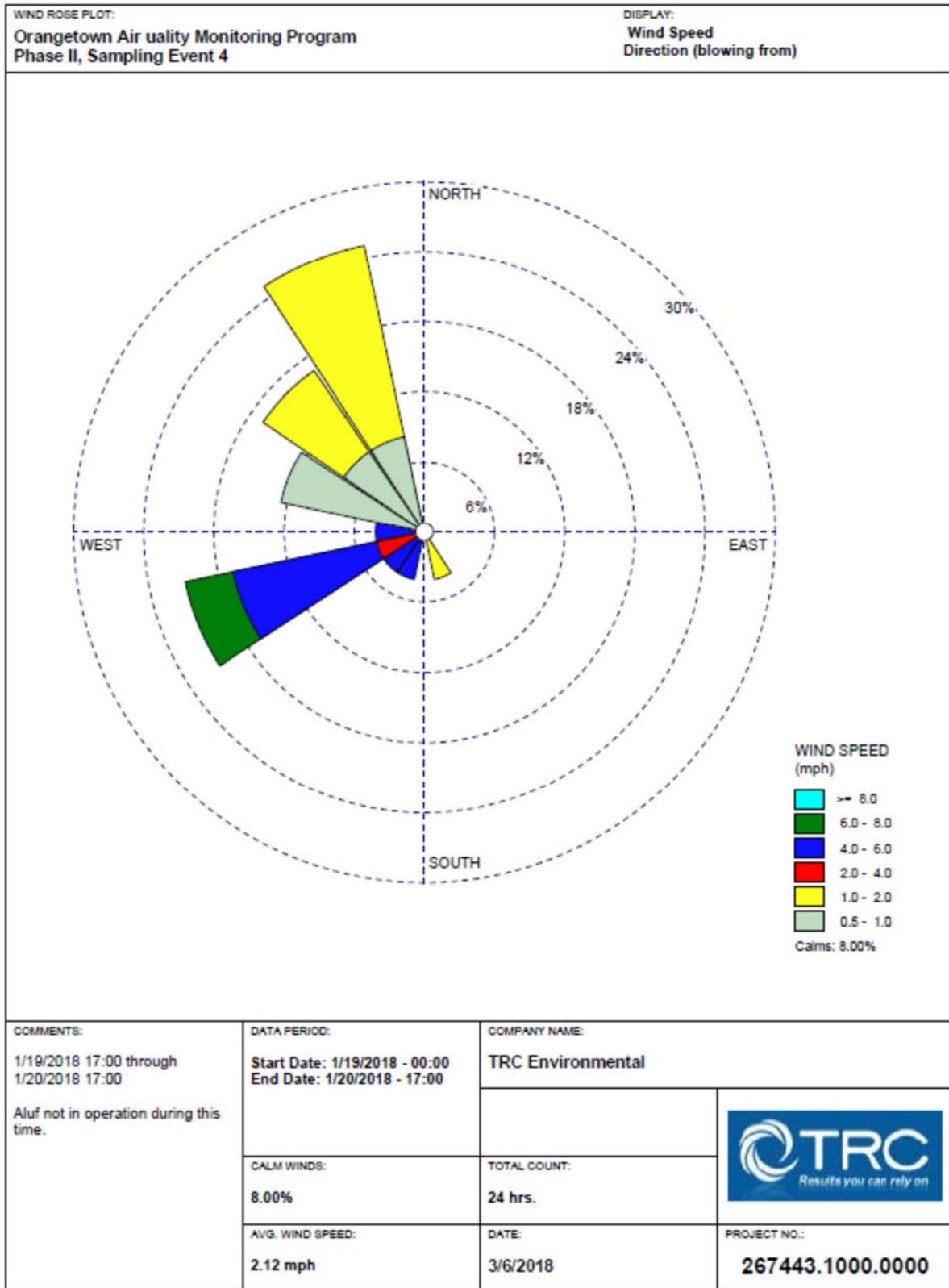
VOCs - TO-15	Number of Detects	Average Concentration		Maximum Concentration			
		ND = 1/2 RL		ppbV	ug/m3	Date Sampled	Location Sampled
		ppbV	ug/m3				
<i>Acetone</i>	12	4.27	10.18	9.1	22	2/1/18 - 2/2/18	Murphy Court
<i>Acrolein</i>	10	0.38	0.86	0.64	1.5	1/19/18 - 1/20/18	Glenshaw Street
<i>Benzene</i>	12	0.30	0.95	0.41	1.3	1/19/18 - 1/20/18	Rail Trail SW
<i>1,3-Butadiene</i>	11	0.06	0.14	0.1	0.23	1/19/18 - 1/20/18	Rail Trail SW
<i>2-Butanone (MEK)</i>	12	0.49	1.45	0.7	2.1	1/19/18 - 1/20/18	Glenshaw Street
<i>Carbon Disulfide</i>	2	0.01	0.05	0.035	0.11	2/1/18 - 2/2/18	Murphy Court
<i>Carbon Tetrachloride</i>	12	0.07	0.43	0.073	0.46	2/1/18 - 2/2/18	Murphy Court
<i>Chloroform</i>	8	0.04	0.21	0.11	0.55	1/19/18 - 1/20/18	Glenshaw Street
<i>Chloromethane</i>	12	0.53	1.10	0.57	1.2	2/1/18 - 2/2/18	Glenshaw Street
<i>Cyclohexane</i>	11	0.22	0.79	1.9	6.7	2/1/18 - 2/2/18	Murphy Court
<i>Dichlorodifluoromethane (Freon 12)</i>	12	0.27	1.34	0.37	1.8	1/26/18 - 1/27/18	Rail Trail NW
<i>1,2-Dichloroethane</i>	1	0.01	0.06	0.034	0.14	2/1/18 - 2/2/18	Murphy Court
<i>trans-1,2-Dichloroethylene</i>	1	0.02	0.06	0.051	0.2	2/1/18 - 2/2/18	Murphy Court
<i>Ethanol</i>	12	8.80	16.58	35	65	2/1/18 - 2/2/18	Murphy Court
<i>Ethyl Acetate</i>	12	0.70	2.55	5.2	19	2/1/18 - 2/2/18	Murphy Court
<i>Ethylbenzene</i>	12	0.07	0.30	0.13	0.58	2/1/18 - 2/2/18	Murphy Court
<i>4-Ethyltoluene</i>	2	0.02	0.08	0.051	0.25	2/1/18 - 2/2/18	Murphy Court
<i>Heptane</i>	12	0.10	0.42	0.17	0.68	2/1/18 - 2/2/18	Murphy Court
<i>Hexane</i>	12	0.35	1.22	1.7	5.9	2/1/18 - 2/2/18	Murphy Court
<i>2-Hexanone (MBK)</i>	7	0.04	0.16	0.085	0.35	2/1/18 - 2/2/18	Glenshaw Street
<i>Isopropanol</i>	12	1.35	3.29	3.1	7.5	1/26/18 - 1/27/18	Glenshaw Street
<i>Methylene Chloride</i>	12	0.50	1.71	3.5	12	2/1/18 - 2/2/18	Murphy Court
<i>4-Methyl-2-pentanone (MIBK)</i>	2	0.02	0.08	0.052	0.21	2/1/18 - 2/2/18	Murphy Court
<i>Naphthalene</i>	3	0.02	0.10	0.038	0.2	2/1/18 - 2/2/18	Rail Trail SW
<i>Propene</i>	3	0.30	0.51	1.3	2.2	1/26/18 - 1/27/18	Glenshaw Street
<i>Styrene</i>	11	0.04	0.16	0.081	0.34	2/1/18 - 2/2/18	Murphy Court
<i>Tetrachloroethylene</i>	12	0.07	0.44	0.14	0.92	1/26/18 - 1/27/18	Murphy Court
<i>Tetrahydrofuran</i>	4	0.02	0.06	0.065	0.19	2/1/18 - 2/2/18	Glenshaw Street
<i>Toluene</i>	12	0.65	2.40	1.4	5.1	2/1/18 - 2/2/18	Murphy Court
<i>Trichlorofluoromethane (Freon 11)</i>	12	0.26	1.44	0.28	1.6	2/1/18 - 2/2/18	Murphy Court
<i>1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)</i>	12	0.09	0.72	0.13	1	1/19/18 - 1/20/18	Rail Trail NW
<i>1,2,4-Trimethylbenzene</i>	12	0.07	0.36	0.15	0.75	2/1/18 - 2/2/18	Murphy Court
<i>1,3,5-Trimethylbenzene</i>	1	0.01	0.07	0.044	0.22	2/1/18 - 2/2/18	Murphy Court
<i>Vinyl Acetate</i>	2	0.06	0.21	0.34	1.2	2/1/18 - 2/2/18	Glenshaw Street
<i>m&amp;p-Xylene</i>	12	0.21	0.92	0.43	1.9	2/1/18 - 2/2/18	Murphy Court
<i>o-Xylene</i>	12	0.08	0.36	0.18	0.76	2/1/18 - 2/2/18	Murphy Court

### 3.2 Meteorological Summary

The on-site met station has been operating and recording met parameters, including wind speed and wind direction, continuously since installation on August 7, 2017. Meteorological data for each sample day is presented as individual wind rose plots in Figures 3 through 5. A wind rose plot is a graphic representation of the distributed winds. The spokes in the wind rose plot show the greatest frequency of the wind direction and the colored bands show the range of wind speed. Additionally, values below the lowest wind speed range are reported as calm conditions and listed as a percentage of the total winds.

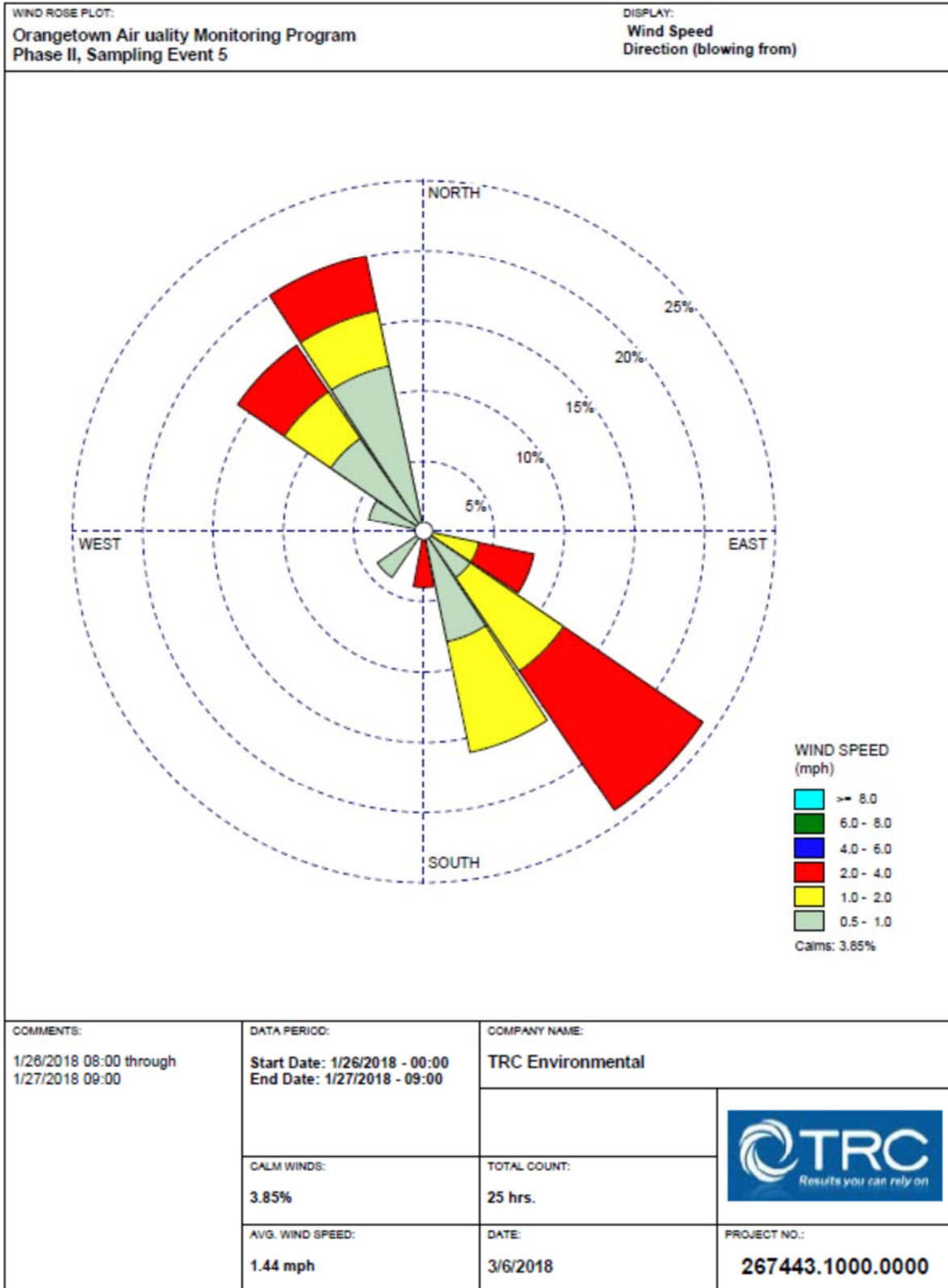
From the wind rose plots, the winds were mostly variable during these 24-hour sampling events. Winds during the fourth sampling event (January 19<sup>th</sup> – 20<sup>th</sup>), were mostly made up of westerly components, predominantly from the north northwest, west southwest, and northwest. Winds during the fifth sampling even (January 26<sup>th</sup> – 27<sup>th</sup>) were split, coming from the northwest and the southeast. Winds during the final sampling event (February 1<sup>st</sup> – 2<sup>nd</sup>) were predominantly made up of southerly components, coming from the south, southeast, and south southeast; there was a brief but strong component from the northwest as well.

Figure 3: Wind Rose for Sampling Event 4: 1/19/18 – 1/20/18



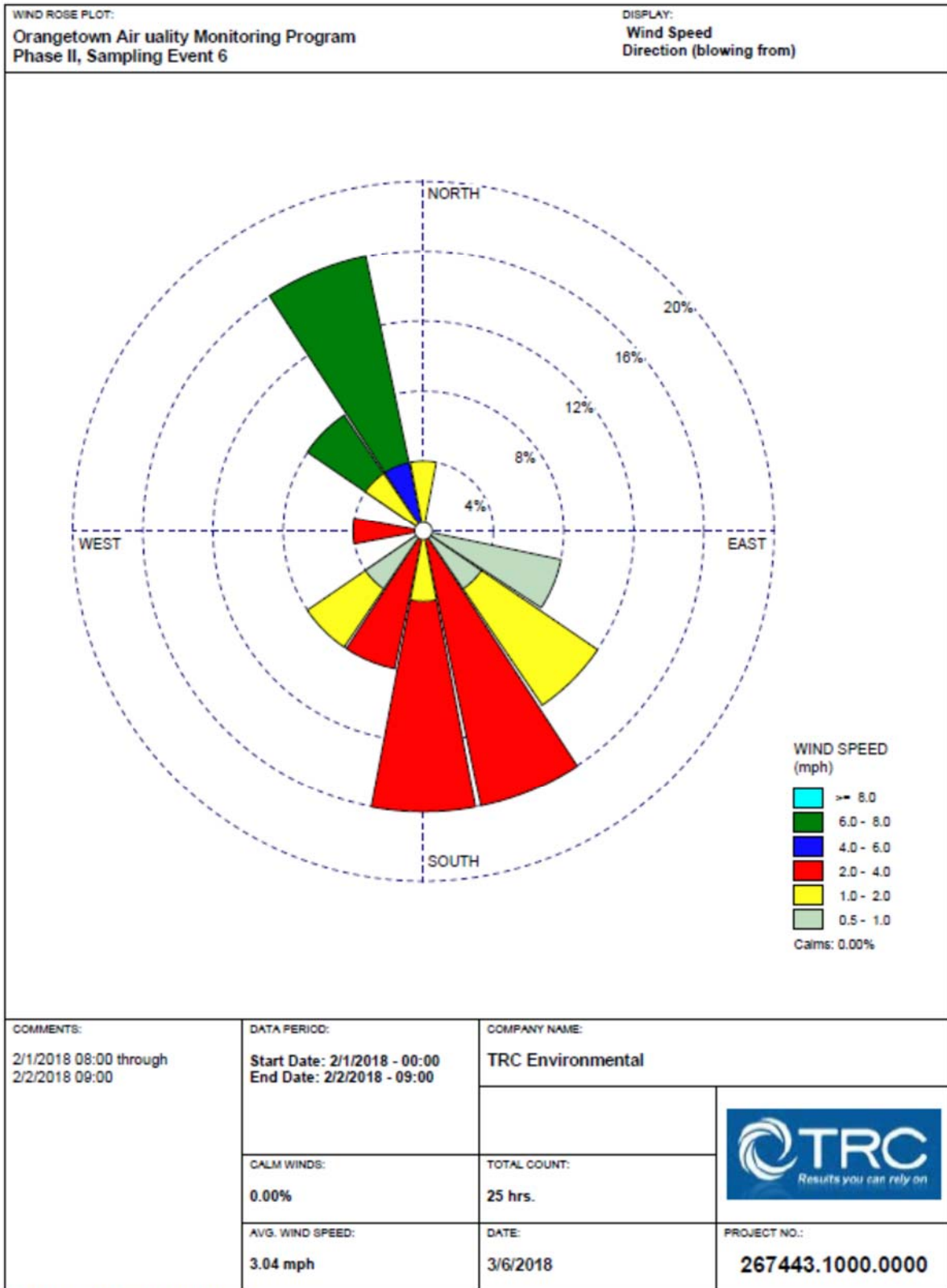
WRPLOT View - Lakes Environmental Software

Figure 4: Wind Rose for Sampling Event 5: 1/26/18- 1/27/18



WRPLOT View - Lakes Environmental Software

Figure 5: Wind Rose for Sampling Event 6: 2/1/18 -2/2/18



## 4 Conclusions

As shown in table 2: acetone, ethanol, ethylbenzene, 2-butanone, toluene, m & p-xylene, and o-xylene were detected in all 12 samples; acrolein was detected in ten samples.

Based on the information provided regarding emitting facilities in Orangetown (Aluf Plastics, Inc. and Avery Dennison), there are at least eight compounds of interest that are included in the VOC analysis of samples collected during both phases of this air quality monitoring program.

- Acrolein
- Ethanol
- Methyl Ethyl Ketone (2-Butanone)
- Acetone
- Ethylbenzene
- Toluene
- Xylenes (m&p-xylene and o-xylene)

For comparison, average concentrations for these eight VOCs in samples collected as part of this program as well as from samples collected in different areas of the United States are shown in Table 3.

Similar to the results from the Phase I VOC air sampling, the Phase II VOC sampling showed concentrations of acrolein, benzene and carbon tetrachloride elevated above New York State Department of Environmental Conservation's respective annual guideline concentrations (AGCs). 1,3-Butadiene was detected above AGCs in 11 of 12 samples in the Phase II samples, but was not detected during the Phase I VOC sampling event. Industrial uses of these four compounds are outlined below:

- Acrolein is a clear or yellow liquid with a burned, sweet, pungent odor. Primarily used as an intermediate in the synthesis of acrylic acid and as a biocide. It may be formed from the breakdown of certain pollutants in outdoor air or from the burning of organic matter including tobacco, or fuels such as gasoline or oil. (EPA, 2009)
- Benzene is a colorless liquid with a sweet odor. It is used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include volcanoes and forest fires. Benzene is also a natural part of crude oil, gasoline, and cigarette smoke. (ATSDR, 2011)
- Carbon tetrachloride is a manufactured chemical that does not occur naturally. It is a clear liquid with a sweet smell that can be detected at low levels. (ATSDR, 2011) It was produced in large quantities to make refrigerants and propellants for aerosol cans, as a solvent for oils, fats, lacquers, varnishes, rubber waxes, and resins, and as a grain fumigant and a dry cleaning agent. Consumer and fumigant uses have been discontinued and only industrial uses remain. (EPA, 2000)
- 1,3-Butadiene is a colorless gas with a mild gasoline-like odor. Most 1,3-butadiene is used to make man-made rubber, which is then used mostly for car and truck tires. 1,3-Butadiene is also used to make certain types of plastics such as acrylics. Releases of 1,3-butadiene into the air occur from vehicle exhaust, tobacco smoke, wood burning, burning of rubber and plastic, forest fires, and accidental or intentional release at manufacturing plants (ATSDR, 2012).

There were no odor complaints from residents during any of the Phase II sampling events. TRC has provided a human health risk assessment based on the results from Phase II of this monitoring program and concludes that ambient concentrations of VOCs would not be expected to represent a health concern to exposed individuals.



Table 3: Comparison of Selected VOCs of Interest

VOCs - TO-15	Orangetown Ambient Air Samples - August 2017				Orangetown Ambient Air Samples - January/February 2018									
	Average Concentration				Residential/Industrial New Jersey - December 2016		Residential/Commercial/Urban New York - October 2016		Residential/Commercial/Urban New York - September 2017		Residential/Commercial Florida - July 2017		Rural/Industrial Ohio - August 2015	
	ND = 1/2 RL				ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>
	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>										
Acetone	8.6	20.25	4.27	10.18	3.59	8.7	8.5	20.5	6.92	16.56	3.81	9.05	6.99	16.61
Acrolein	0.91	2.2	0.38	0.86	N/A	N/A	N/A	N/A	N/A	N/A	0.15	0.34	0.46	1.05
2-Butanone (MEK)	1.47	4.32	0.49	1.45	ND	ND	1.55	4.5	1.55	4.6	0.31	0.91	0.77	2.26
Ethanol	4.27	8.07	8.80	16.58	3.66	6.86	5.05	9.55	47.36	88.24	3.15	5.93	25.24	47.56
Ethylbenzene	0.06	0.26	0.07	0.30	0.06	0.27	ND	ND	0.09	0.4	ND	ND	0.98	4.26
Toluene	1.58	5.96	0.65	2.40	0.46	1.71	0.17	0.61	0.71	2.68	0.41	1.54	0.64	2.42
m&p-Xylene	0.19	0.83	0.21	0.92	0.18	0.78	0.08	0.355	0.26	1.108	0.13	0.58	3.3	14.32
o-Xylene	0.08	0.33	0.08	0.36	0.06	0.28	0.036	0.16	0.0912	0.402	ND	ND	1.66	7.21

Notes:

ND = 1/2 RL : one half the reporting limits are used as concentration for non-detect results when calculating average concentrations

N/A - Not analyzed

Table 4: Phase II Detected VOCs & NYSDEC AGC/SGC (units in µg/m<sup>3</sup>)

VOCs - TO-15	SGC	AGC	Rail Trail SW-1/20/18	Rail Trail NW-1/20/18	Murphy Ct- 1/20/18	Glenshaw- 1/20/18	Rail Trail SW-1/26/18	Rail Trail NW- 1/26/18**	Murphy Ct- 1/26/18	Glenshaw- 1/26/18	Rail Trail SW-2/1/18	Rail Trail NW-2/1/18	Murphy Ct- 2/1/18**	Glenshaw- 2/1/18
Acetone	<b>180000</b>	<b>30000</b>	9.1	<b>10</b>	9.8	<b>11</b>	9.3	5.3	9.5	9.6	5.9	8.6	22	12
Acrolein	2.5	0.35	0.55	0.93	1.1	1.5	0.73	<0.49	0.91	1.1	<0.49	0.89	0.83	1.3
Benzene	1300	0.13	1.3	1.1	1.1	1.1	0.88	0.87	0.82	0.98	0.77	0.7	1	0.82
1,3-Butadiene		0.033	0.23	0.16	0.15	0.18	0.12	0.096	0.13	0.18	0.13	<0.059	0.14	0.16
2-Butanone (MEK)	13000	5000	1.5	1.8	1.8	2.1	1.5	0.31	1.3	1.3	0.73	1.4	1.8	1.9
Carbon Disulfide	6200	700	<0.074	<0.074	<0.074	0.074	<0.074	<0.074	<0.074	<0.074	<0.074	<0.074	0.11	<0.074
Carbon Tetrachloride	1900	0.17	0.39	0.38	0.45	0.44	0.45	0.44	0.44	0.44	0.44	0.42	0.46	0.45
Chloroform	150	14.7	<0.13	0.13	<0.13	0.55	0.14	<0.13	0.15	0.45	<0.13	0.35	0.19	0.28
Chloromethane	22000	90	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1	1.2	1.2	0.96
Cyclohexane		6000	0.35	0.26	0.25	0.23	0.16	0.23	0.23	0.18	0.56	<0.071	6.7	0.24
Dichlorodifluoromethane (Freon 12)		12000	1.4	1.5	1.4	1.6	1.8	1.8	1.5	1.6	0.9	0.88	0.91	0.82
1,2-Dichloroethane		0.038	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.14	<0.10
trans-1,2-Dichloroethylene		63	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.2	<0.10
Ethanol		45000	15	14	15	13	14	7.5	14	12	9.7	10	65	9.7
Ethyl Acetate		3400	2.4	1.6	1.2	1.1	0.93	0.32	1.4	0.3	0.87	0.75	19	0.67
Ethylbenzene		1000	0.37	0.28	0.25	0.27	0.27	0.26	0.26	0.31	0.26	0.22	0.58	0.29
4-Ethyltoluene			0.13	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	0.25	<0.11
Heptane	210000	3900	0.55	0.43	0.43	0.44	0.41	0.36	0.46	0.37	0.29	0.28	0.68	0.31
Hexane		700	1	0.9	0.84	0.97	0.67	0.75	0.69	0.62	0.74	0.69	5.9	0.85
2-Hexanone (MBK)	4000	30	<0.085	<0.085	0.26	<0.085	0.13	<0.085	0.21	0.24	<0.085	0.25	0.26	0.35
Isopropanol	98000	7000	2.4	1.7	1.7	7.1	4.1	0.55	4.5	7.5	1.1	1	4.2	3.6
Methylene Chloride	14000	60	0.54	0.57	0.55	0.55	1.2	0.35	1.1	0.81	0.91	1.1	12	0.87
4-Methyl-2-pentanone (MIBK)	31000	3000	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	0.15	<0.12	<0.12	<0.12	0.21	<0.12
Naphthalene	7900	3	0.17	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	0.2	0.16	<0.16	<0.16
Propene		3000	<0.18	<0.18	<0.18	<0.18	<0.18	1.1	2	2.2	<0.18	<0.18	<0.18	<0.18
Styrene	17000	1000	0.17	0.12	0.099	0.14	0.25	<0.097	0.17	0.21	0.12	0.14	0.34	0.14
1,1,2,2-Tetrachloroethane		16	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Tetrachloroethylene	300	4	0.23	0.19	0.17	0.23	0.46	0.58	0.92	0.34	0.37	0.7	0.85	0.28
Tetrahydrofuran	30000	350	<0.071	<0.071	<0.071	<0.071	<0.071	<0.071	<0.071	<0.071	0.081	0.1	0.12	0.19
Toluene	37000	5000	2.6	1.9	1.7	4.8	1.9	1.5	2	2.1	1.8	1.5	5.1	1.9
Trichlorofluoromethane (Freon 11)	9000	5000	1.3	1.5	1.4	1.5	1.4	1.4	1.4	1.5	1.4	1.5	1.6	1.4
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)			0.59	1	0.63	0.93	0.69	0.63	0.63	0.74	0.62	0.93	0.67	0.56
1,2,4-Trimethylbenzene		6	0.49	0.32	0.3	0.32	0.32	0.27	0.31	0.37	0.3	0.28	0.75	0.34
1,3,5-Trimethylbenzene		6	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	0.22	<0.12
Vinyl Acetate	5300	200	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	0.89	<0.075	1.2
m&p-Xylene	22000	100	1.2	0.82	0.71	0.78	0.76	0.8	0.77	0.92	0.8	0.69	1.9	0.93
o-Xylene	22000	100	0.43	0.31	0.28	0.3	0.3	0.29	0.29	0.36	0.33	0.28	0.76	0.38

Notes:  
 Values in **BOLD** indicate measured concentrations above detection limit  
 SGC: Short-Term Guideline Concentrations developed by NYSDEC, 2016  
 AGC: Annual Guideline Concentrations developed by NYSDEC, 2016

## 5 Recommendations

### 5.1 Air Sampling

TRC recommends obtaining NYS DEC's data from the collocated samples during Phase II. This information will assist in data validation and further understanding the ambient air concentrations for VOCs in Orangetown.

Since, odors continue to be reported by API's residential neighbors, TRC also recommends to continue collection of VOC grab samples as warranted by odor complaints. In addition to TO-15 samples, TRC suggests sampling for aldehydes in accordance with US EPA Method TO-11. The objective of conducting air sampling specifically for aldehydes would be to 1) determine the presence and concentration of aldehydes in the air surrounding API, and 2) confirm whether or not aldehydes from API are contributing to the odors detected by residents.

### 5.2 Odor Sampling

TRC's Odor Control and Measurement group is currently performing an odor study of operations at API, and have at this point identified a number of potential odor sources, including exhaust stacks and wall fans. This group will conduct odor sampling, conduct chemical analyses on a selection of those samples, and perform dispersion modeling of pollutants of concern. Data obtained from the odor survey will be extremely valuable in developing an air monitoring program that can focus on specific pollutants to monitor and identify the impacts API, and other sources, have on air quality in Orangetown.

**Attachment A**

**Complete Results VOC Analysis Phase II**



**Attachment B**

**Laboratory Data Packages Phase II**

February 1, 2018

Melita Lihzis  
TRC Engineers, Inc.  
1430 Broadway 10th Floor  
New York, NY 10018

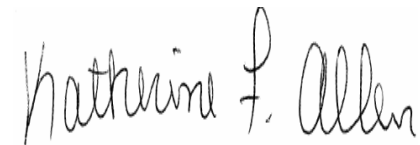
Project Location: Orangetown, NY  
Client Job Number:  
Project Number: 267443.1000.000  
Laboratory Work Order Number: 18A0800

Enclosed are results of analyses for samples received by the laboratory on January 24, 2018. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Meghan E. Kelley  
Project Manager



QA Officer  
Katherine Allen



Laboratory Manager  
Daren Damboragian



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

TRC Engineers, Inc.  
1430 Broadway 10th Floor  
New York, NY 10018  
ATTN: Melita Lihzis

REPORT DATE: 2/1/2018

PURCHASE ORDER NUMBER: 111950

PROJECT NUMBER: 267443.1000.000

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 18A0800

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Orangetown, NY

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Rail Trail SW-1/20/18	18A0800-01	Air		EPA TO-15	
Rail Trail NW-1/20/18	18A0800-02	Air		EPA TO-15	
Murphy-1/20/18	18A0800-03	Air		EPA TO-15	
Glenshaw-1/20/18	18A0800-04	Air		EPA TO-15	



**CASE NARRATIVE SUMMARY**

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Lisa A. Worthington", is written over a light gray rectangular background.

Lisa A. Worthington  
Project Manager

**ANALYTICAL RESULTS**

Project Location: Orangetown, NY  
 Date Received: 1/24/2018  
**Field Sample #: Rail Trail SW-1/20/18**  
**Sample ID: 18A0800-01**  
 Sample Matrix: Air  
 Sampled: 1/20/2018 17:50

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1073  
 Canister Size: 6 liter  
 Flow Controller ID: 3506  
 Sample Type: 24 hr

**Work Order: 18A0800**  
 Initial Vacuum(in Hg):  
 Final Vacuum(in Hg):  
 Receipt Vacuum(in Hg): -8.7  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
Acetone	3.8	1.4	0.49		9.1	3.3	0.702	1/29/18 21:28	TPH
Acrolein	0.24	0.70	0.21	J	0.55	1.6	0.702	1/29/18 21:28	TPH
Benzene	0.41	0.035	0.022		1.3	0.11	0.702	1/29/18 21:28	TPH
Benzyl chloride	ND	0.035	0.016		ND	0.18	0.702	1/29/18 21:28	TPH
Bromodichloromethane	ND	0.035	0.023		ND	0.24	0.702	1/29/18 21:28	TPH
Bromoform	ND	0.035	0.021		ND	0.36	0.702	1/29/18 21:28	TPH
Bromomethane	ND	0.035	0.028		ND	0.14	0.702	1/29/18 21:28	TPH
1,3-Butadiene	0.10	0.035	0.027		0.23	0.078	0.702	1/29/18 21:28	TPH
2-Butanone (MEK)	0.50	1.4	0.026	J	1.5	4.1	0.702	1/29/18 21:28	TPH
Carbon Disulfide	ND	0.35	0.024		ND	1.1	0.702	1/29/18 21:28	TPH
Carbon Tetrachloride	0.062	0.035	0.025		0.39	0.22	0.702	1/29/18 21:28	TPH
Chlorobenzene	ND	0.035	0.022		ND	0.16	0.702	1/29/18 21:28	TPH
Chloroethane	ND	0.035	0.029		ND	0.093	0.702	1/29/18 21:28	TPH
Chloroform	ND	0.035	0.026		ND	0.17	0.702	1/29/18 21:28	TPH
Chloromethane	0.54	0.070	0.029		1.1	0.14	0.702	1/29/18 21:28	TPH
Cyclohexane	0.10	0.035	0.020		0.35	0.12	0.702	1/29/18 21:28	TPH
Dibromochloromethane	ND	0.035	0.023		ND	0.30	0.702	1/29/18 21:28	TPH
1,2-Dibromoethane (EDB)	ND	0.035	0.023		ND	0.27	0.702	1/29/18 21:28	TPH
1,2-Dichlorobenzene	ND	0.035	0.023		ND	0.21	0.702	1/29/18 21:28	TPH
1,3-Dichlorobenzene	ND	0.035	0.021		ND	0.21	0.702	1/29/18 21:28	TPH
1,4-Dichlorobenzene	ND	0.035	0.024		ND	0.21	0.702	1/29/18 21:28	TPH
Dichlorodifluoromethane (Freon 12)	0.28	0.035	0.027		1.4	0.17	0.702	1/29/18 21:28	TPH
1,1-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	1/29/18 21:28	TPH
1,2-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	1/29/18 21:28	TPH
1,1-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	1/29/18 21:28	TPH
cis-1,2-Dichloroethylene	ND	0.035	0.024		ND	0.14	0.702	1/29/18 21:28	TPH
trans-1,2-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	1/29/18 21:28	TPH
1,2-Dichloropropane	ND	0.035	0.024		ND	0.16	0.702	1/29/18 21:28	TPH
cis-1,3-Dichloropropene	ND	0.035	0.030		ND	0.16	0.702	1/29/18 21:28	TPH
trans-1,3-Dichloropropene	ND	0.035	0.021		ND	0.16	0.702	1/29/18 21:28	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035	0.029		ND	0.25	0.702	1/29/18 21:28	TPH
1,4-Dioxane	ND	0.35	0.23		ND	1.3	0.702	1/29/18 21:28	TPH
Ethanol	7.9	1.4	0.63		15	2.6	0.702	1/29/18 21:28	TPH
Ethyl Acetate	0.66	0.035	0.030		2.4	0.13	0.702	1/29/18 21:28	TPH
Ethylbenzene	0.086	0.035	0.023		0.37	0.15	0.702	1/29/18 21:28	TPH
4-Ethyltoluene	0.027	0.035	0.023	J	0.13	0.17	0.702	1/29/18 21:28	TPH
Heptane	0.13	0.035	0.023		0.55	0.14	0.702	1/29/18 21:28	TPH

**ANALYTICAL RESULTS**

Project Location: Orangetown, NY  
 Date Received: 1/24/2018  
**Field Sample #: Rail Trail SW-1/20/18**  
**Sample ID: 18A0800-01**  
 Sample Matrix: Air  
 Sampled: 1/20/2018 17:50

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1073  
 Canister Size: 6 liter  
 Flow Controller ID: 3506  
 Sample Type: 24 hr

**Work Order: 18A0800**  
 Initial Vacuum(in Hg):  
 Final Vacuum(in Hg):  
 Receipt Vacuum(in Hg): -8.7  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
Hexachlorobutadiene	ND	0.035	0.027		ND	0.37	0.702	1/29/18 21:28	TPH
Hexane	0.30	1.4	0.062	J	1.0	4.9	0.702	1/29/18 21:28	TPH
2-Hexanone (MBK)	ND	0.035	0.021		ND	0.14	0.702	1/29/18 21:28	TPH
Isopropanol	0.97	1.4	0.043	J	2.4	3.4	0.702	1/29/18 21:28	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.024		ND	0.13	0.702	1/29/18 21:28	TPH
Methylene Chloride	0.16	0.35	0.043	J	0.54	1.2	0.702	1/29/18 21:28	TPH
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.030		ND	0.14	0.702	1/29/18 21:28	TPH
Naphthalene	0.033	0.035	0.030	J	0.17	0.18	0.702	1/29/18 21:28	TPH
Propene	ND	1.4	0.11		ND	2.4	0.702	1/29/18 21:28	TPH
Styrene	0.039	0.035	0.023		0.17	0.15	0.702	1/29/18 21:28	TPH
1,1,2,2-Tetrachloroethane	ND	0.035	0.022		ND	0.24	0.702	1/29/18 21:28	TPH
Tetrachloroethylene	0.034	0.035	0.021	J	0.23	0.24	0.702	1/29/18 21:28	TPH
Tetrahydrofuran	ND	0.035	0.024		ND	0.10	0.702	1/29/18 21:28	TPH
Toluene	0.70	0.035	0.022		2.6	0.13	0.702	1/29/18 21:28	TPH
1,2,4-Trichlorobenzene	ND	0.035	0.026		ND	0.26	0.702	1/29/18 21:28	TPH
1,1,1-Trichloroethane	ND	0.035	0.024		ND	0.19	0.702	1/29/18 21:28	TPH
1,1,2-Trichloroethane	ND	0.035	0.022		ND	0.19	0.702	1/29/18 21:28	TPH
Trichloroethylene	ND	0.035	0.022		ND	0.19	0.702	1/29/18 21:28	TPH
Trichlorofluoromethane (Freon 11)	0.24	0.14	0.029		1.3	0.79	0.702	1/29/18 21:28	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.077	0.14	0.024	J	0.59	1.1	0.702	1/29/18 21:28	TPH
1,2,4-Trimethylbenzene	0.10	0.035	0.023		0.49	0.17	0.702	1/29/18 21:28	TPH
1,3,5-Trimethylbenzene	ND	0.035	0.024		ND	0.17	0.702	1/29/18 21:28	TPH
Vinyl Acetate	ND	0.70	0.021		ND	2.5	0.702	1/29/18 21:28	TPH
Vinyl Chloride	ND	0.035	0.026		ND	0.090	0.702	1/29/18 21:28	TPH
m&p-Xylene	0.27	0.070	0.045		1.2	0.30	0.702	1/29/18 21:28	TPH
o-Xylene	0.098	0.035	0.022		0.43	0.15	0.702	1/29/18 21:28	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	94.2	70-130	1/29/18 21:28

**ANALYTICAL RESULTS**

Project Location: Orangetown, NY  
 Date Received: 1/24/2018  
**Field Sample #: Rail Trail NW-1/20/18**  
**Sample ID: 18A0800-02**  
 Sample Matrix: Air  
 Sampled: 1/20/2018 17:39

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1670  
 Canister Size: 6 liter  
 Flow Controller ID: 3505  
 Sample Type: 24 hr

**Work Order: 18A0800**  
 Initial Vacuum(in Hg):  
 Final Vacuum(in Hg):  
 Receipt Vacuum(in Hg): -6.7  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
Acetone	4.4	1.4	0.49		10	3.3	0.702	1/29/18 22:47	TPH
Acrolein	0.41	0.70	0.21	J	0.93	1.6	0.702	1/29/18 22:47	TPH
Benzene	0.35	0.035	0.022		1.1	0.11	0.702	1/29/18 22:47	TPH
Benzyl chloride	ND	0.035	0.016		ND	0.18	0.702	1/29/18 22:47	TPH
Bromodichloromethane	ND	0.035	0.023		ND	0.24	0.702	1/29/18 22:47	TPH
Bromoform	ND	0.035	0.021		ND	0.36	0.702	1/29/18 22:47	TPH
Bromomethane	ND	0.035	0.028		ND	0.14	0.702	1/29/18 22:47	TPH
1,3-Butadiene	0.072	0.035	0.027		0.16	0.078	0.702	1/29/18 22:47	TPH
2-Butanone (MEK)	0.62	1.4	0.026	J	1.8	4.1	0.702	1/29/18 22:47	TPH
Carbon Disulfide	ND	0.35	0.024		ND	1.1	0.702	1/29/18 22:47	TPH
Carbon Tetrachloride	0.060	0.035	0.025		0.38	0.22	0.702	1/29/18 22:47	TPH
Chlorobenzene	ND	0.035	0.022		ND	0.16	0.702	1/29/18 22:47	TPH
Chloroethane	ND	0.035	0.029		ND	0.093	0.702	1/29/18 22:47	TPH
Chloroform	0.026	0.035	0.026	J	0.13	0.17	0.702	1/29/18 22:47	TPH
Chloromethane	0.55	0.070	0.029		1.1	0.14	0.702	1/29/18 22:47	TPH
Cyclohexane	0.076	0.035	0.020		0.26	0.12	0.702	1/29/18 22:47	TPH
Dibromochloromethane	ND	0.035	0.023		ND	0.30	0.702	1/29/18 22:47	TPH
1,2-Dibromoethane (EDB)	ND	0.035	0.023		ND	0.27	0.702	1/29/18 22:47	TPH
1,2-Dichlorobenzene	ND	0.035	0.023		ND	0.21	0.702	1/29/18 22:47	TPH
1,3-Dichlorobenzene	ND	0.035	0.021		ND	0.21	0.702	1/29/18 22:47	TPH
1,4-Dichlorobenzene	ND	0.035	0.024		ND	0.21	0.702	1/29/18 22:47	TPH
Dichlorodifluoromethane (Freon 12)	0.31	0.035	0.027		1.5	0.17	0.702	1/29/18 22:47	TPH
1,1-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	1/29/18 22:47	TPH
1,2-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	1/29/18 22:47	TPH
1,1-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	1/29/18 22:47	TPH
cis-1,2-Dichloroethylene	ND	0.035	0.024		ND	0.14	0.702	1/29/18 22:47	TPH
trans-1,2-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	1/29/18 22:47	TPH
1,2-Dichloropropane	ND	0.035	0.024		ND	0.16	0.702	1/29/18 22:47	TPH
cis-1,3-Dichloropropene	ND	0.035	0.030		ND	0.16	0.702	1/29/18 22:47	TPH
trans-1,3-Dichloropropene	ND	0.035	0.021		ND	0.16	0.702	1/29/18 22:47	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035	0.029		ND	0.25	0.702	1/29/18 22:47	TPH
1,4-Dioxane	ND	0.35	0.23		ND	1.3	0.702	1/29/18 22:47	TPH
Ethanol	7.4	1.4	0.63		14	2.6	0.702	1/29/18 22:47	TPH
Ethyl Acetate	0.43	0.035	0.030		1.6	0.13	0.702	1/29/18 22:47	TPH
Ethylbenzene	0.064	0.035	0.023		0.28	0.15	0.702	1/29/18 22:47	TPH
4-Ethyltoluene	ND	0.035	0.023		ND	0.17	0.702	1/29/18 22:47	TPH
Heptane	0.10	0.035	0.023		0.43	0.14	0.702	1/29/18 22:47	TPH

**ANALYTICAL RESULTS**

Project Location: Orangetown, NY  
 Date Received: 1/24/2018  
**Field Sample #: Rail Trail NW-1/20/18**  
**Sample ID: 18A0800-02**  
 Sample Matrix: Air  
 Sampled: 1/20/2018 17:39

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1670  
 Canister Size: 6 liter  
 Flow Controller ID: 3505  
 Sample Type: 24 hr

**Work Order: 18A0800**  
 Initial Vacuum(in Hg):  
 Final Vacuum(in Hg):  
 Receipt Vacuum(in Hg): -6.7  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
Hexachlorobutadiene	ND	0.035	0.027		ND	0.37	0.702	1/29/18 22:47	TPH
Hexane	0.25	1.4	0.062	J	0.90	4.9	0.702	1/29/18 22:47	TPH
2-Hexanone (MBK)	ND	0.035	0.021		ND	0.14	0.702	1/29/18 22:47	TPH
Isopropanol	0.69	1.4	0.043	J	1.7	3.4	0.702	1/29/18 22:47	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.024		ND	0.13	0.702	1/29/18 22:47	TPH
Methylene Chloride	0.16	0.35	0.043	J	0.57	1.2	0.702	1/29/18 22:47	TPH
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.030		ND	0.14	0.702	1/29/18 22:47	TPH
Naphthalene	ND	0.035	0.030		ND	0.18	0.702	1/29/18 22:47	TPH
Propene	ND	1.4	0.11		ND	2.4	0.702	1/29/18 22:47	TPH
Styrene	0.028	0.035	0.023	J	0.12	0.15	0.702	1/29/18 22:47	TPH
1,1,2,2-Tetrachloroethane	ND	0.035	0.022		ND	0.24	0.702	1/29/18 22:47	TPH
Tetrachloroethylene	0.027	0.035	0.021	J	0.19	0.24	0.702	1/29/18 22:47	TPH
Tetrahydrofuran	ND	0.035	0.024		ND	0.10	0.702	1/29/18 22:47	TPH
Toluene	0.50	0.035	0.022		1.9	0.13	0.702	1/29/18 22:47	TPH
1,2,4-Trichlorobenzene	ND	0.035	0.026		ND	0.26	0.702	1/29/18 22:47	TPH
1,1,1-Trichloroethane	ND	0.035	0.024		ND	0.19	0.702	1/29/18 22:47	TPH
1,1,2-Trichloroethane	ND	0.035	0.022		ND	0.19	0.702	1/29/18 22:47	TPH
Trichloroethylene	ND	0.035	0.022		ND	0.19	0.702	1/29/18 22:47	TPH
Trichlorofluoromethane (Freon 11)	0.26	0.14	0.029		1.5	0.79	0.702	1/29/18 22:47	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.13	0.14	0.024	J	1.0	1.1	0.702	1/29/18 22:47	TPH
1,2,4-Trimethylbenzene	0.065	0.035	0.023		0.32	0.17	0.702	1/29/18 22:47	TPH
1,3,5-Trimethylbenzene	ND	0.035	0.024		ND	0.17	0.702	1/29/18 22:47	TPH
Vinyl Acetate	ND	0.70	0.021		ND	2.5	0.702	1/29/18 22:47	TPH
Vinyl Chloride	ND	0.035	0.026		ND	0.090	0.702	1/29/18 22:47	TPH
m&p-Xylene	0.19	0.070	0.045		0.82	0.30	0.702	1/29/18 22:47	TPH
o-Xylene	0.071	0.035	0.022		0.31	0.15	0.702	1/29/18 22:47	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	93.9	70-130	1/29/18 22:47

**ANALYTICAL RESULTS**

Project Location: Orangetown, NY  
 Date Received: 1/24/2018  
**Field Sample #: Murphy-1/20/18**  
**Sample ID: 18A0800-03**  
 Sample Matrix: Air  
 Sampled: 1/20/2018 18:22

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1967  
 Canister Size: 6 liter  
 Flow Controller ID: 3673  
 Sample Type: 24 hr

**Work Order: 18A0800**  
 Initial Vacuum(in Hg):  
 Final Vacuum(in Hg):  
 Receipt Vacuum(in Hg): -7.7  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analyzed		
Acetone	4.1	1.4	0.49		9.8	3.3	0.702	1/30/18	0:07	TPH
Acrolein	0.48	0.70	0.21	J	1.1	1.6	0.702	1/30/18	0:07	TPH
Benzene	0.33	0.035	0.022		1.1	0.11	0.702	1/30/18	0:07	TPH
Benzyl chloride	ND	0.035	0.016		ND	0.18	0.702	1/30/18	0:07	TPH
Bromodichloromethane	ND	0.035	0.023		ND	0.24	0.702	1/30/18	0:07	TPH
Bromoform	ND	0.035	0.021		ND	0.36	0.702	1/30/18	0:07	TPH
Bromomethane	ND	0.035	0.028		ND	0.14	0.702	1/30/18	0:07	TPH
1,3-Butadiene	0.067	0.035	0.027		0.15	0.078	0.702	1/30/18	0:07	TPH
2-Butanone (MEK)	0.60	1.4	0.026	J	1.8	4.1	0.702	1/30/18	0:07	TPH
Carbon Disulfide	ND	0.35	0.024		ND	1.1	0.702	1/30/18	0:07	TPH
Carbon Tetrachloride	0.071	0.035	0.025		0.45	0.22	0.702	1/30/18	0:07	TPH
Chlorobenzene	ND	0.035	0.022		ND	0.16	0.702	1/30/18	0:07	TPH
Chloroethane	ND	0.035	0.029		ND	0.093	0.702	1/30/18	0:07	TPH
Chloroform	ND	0.035	0.026		ND	0.17	0.702	1/30/18	0:07	TPH
Chloromethane	0.53	0.070	0.029		1.1	0.14	0.702	1/30/18	0:07	TPH
Cyclohexane	0.073	0.035	0.020		0.25	0.12	0.702	1/30/18	0:07	TPH
Dibromochloromethane	ND	0.035	0.023		ND	0.30	0.702	1/30/18	0:07	TPH
1,2-Dibromoethane (EDB)	ND	0.035	0.023		ND	0.27	0.702	1/30/18	0:07	TPH
1,2-Dichlorobenzene	ND	0.035	0.023		ND	0.21	0.702	1/30/18	0:07	TPH
1,3-Dichlorobenzene	ND	0.035	0.021		ND	0.21	0.702	1/30/18	0:07	TPH
1,4-Dichlorobenzene	ND	0.035	0.024		ND	0.21	0.702	1/30/18	0:07	TPH
Dichlorodifluoromethane (Freon 12)	0.29	0.035	0.027		1.4	0.17	0.702	1/30/18	0:07	TPH
1,1-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	1/30/18	0:07	TPH
1,2-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	1/30/18	0:07	TPH
1,1-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	1/30/18	0:07	TPH
cis-1,2-Dichloroethylene	ND	0.035	0.024		ND	0.14	0.702	1/30/18	0:07	TPH
trans-1,2-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	1/30/18	0:07	TPH
1,2-Dichloropropane	ND	0.035	0.024		ND	0.16	0.702	1/30/18	0:07	TPH
cis-1,3-Dichloropropene	ND	0.035	0.030		ND	0.16	0.702	1/30/18	0:07	TPH
trans-1,3-Dichloropropene	ND	0.035	0.021		ND	0.16	0.702	1/30/18	0:07	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035	0.029		ND	0.25	0.702	1/30/18	0:07	TPH
1,4-Dioxane	ND	0.35	0.23		ND	1.3	0.702	1/30/18	0:07	TPH
Ethanol	7.8	1.4	0.63		15	2.6	0.702	1/30/18	0:07	TPH
Ethyl Acetate	0.34	0.035	0.030		1.2	0.13	0.702	1/30/18	0:07	TPH
Ethylbenzene	0.057	0.035	0.023		0.25	0.15	0.702	1/30/18	0:07	TPH
4-Ethyltoluene	ND	0.035	0.023		ND	0.17	0.702	1/30/18	0:07	TPH
Heptane	0.11	0.035	0.023		0.43	0.14	0.702	1/30/18	0:07	TPH

**ANALYTICAL RESULTS**

Project Location: Orangetown, NY  
 Date Received: 1/24/2018  
**Field Sample #: Murphy-1/20/18**  
**Sample ID: 18A0800-03**  
 Sample Matrix: Air  
 Sampled: 1/20/2018 18:22

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1967  
 Canister Size: 6 liter  
 Flow Controller ID: 3673  
 Sample Type: 24 hr

**Work Order: 18A0800**  
 Initial Vacuum(in Hg):  
 Final Vacuum(in Hg):  
 Receipt Vacuum(in Hg): -7.7  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analyzed		
Hexachlorobutadiene	ND	0.035	0.027		ND	0.37	0.702	1/30/18	0:07	TPH
Hexane	0.24	1.4	0.062	J	0.84	4.9	0.702	1/30/18	0:07	TPH
2-Hexanone (MBK)	0.063	0.035	0.021		0.26	0.14	0.702	1/30/18	0:07	TPH
Isopropanol	0.70	1.4	0.043	J	1.7	3.4	0.702	1/30/18	0:07	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.024		ND	0.13	0.702	1/30/18	0:07	TPH
Methylene Chloride	0.16	0.35	0.043	J	0.55	1.2	0.702	1/30/18	0:07	TPH
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.030		ND	0.14	0.702	1/30/18	0:07	TPH
Naphthalene	ND	0.035	0.030		ND	0.18	0.702	1/30/18	0:07	TPH
Propene	ND	1.4	0.11		ND	2.4	0.702	1/30/18	0:07	TPH
Styrene	0.023	0.035	0.023	J	0.099	0.15	0.702	1/30/18	0:07	TPH
1,1,2,2-Tetrachloroethane	ND	0.035	0.022		ND	0.24	0.702	1/30/18	0:07	TPH
Tetrachloroethylene	0.025	0.035	0.021	J	0.17	0.24	0.702	1/30/18	0:07	TPH
Tetrahydrofuran	ND	0.035	0.024		ND	0.10	0.702	1/30/18	0:07	TPH
Toluene	0.46	0.035	0.022		1.7	0.13	0.702	1/30/18	0:07	TPH
1,2,4-Trichlorobenzene	ND	0.035	0.026		ND	0.26	0.702	1/30/18	0:07	TPH
1,1,1-Trichloroethane	ND	0.035	0.024		ND	0.19	0.702	1/30/18	0:07	TPH
1,1,2-Trichloroethane	ND	0.035	0.022		ND	0.19	0.702	1/30/18	0:07	TPH
Trichloroethylene	ND	0.035	0.022		ND	0.19	0.702	1/30/18	0:07	TPH
Trichlorofluoromethane (Freon 11)	0.24	0.14	0.029		1.4	0.79	0.702	1/30/18	0:07	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.083	0.14	0.024	J	0.63	1.1	0.702	1/30/18	0:07	TPH
1,2,4-Trimethylbenzene	0.060	0.035	0.023		0.30	0.17	0.702	1/30/18	0:07	TPH
1,3,5-Trimethylbenzene	ND	0.035	0.024		ND	0.17	0.702	1/30/18	0:07	TPH
Vinyl Acetate	ND	0.70	0.021		ND	2.5	0.702	1/30/18	0:07	TPH
Vinyl Chloride	ND	0.035	0.026		ND	0.090	0.702	1/30/18	0:07	TPH
m&p-Xylene	0.16	0.070	0.045		0.71	0.30	0.702	1/30/18	0:07	TPH
o-Xylene	0.065	0.035	0.022		0.28	0.15	0.702	1/30/18	0:07	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	93.2	70-130	1/30/18 0:07

**ANALYTICAL RESULTS**

Project Location: Orangetown, NY  
 Date Received: 1/24/2018  
**Field Sample #: Glenshaw-1/20/18**  
**Sample ID: 18A0800-04**  
 Sample Matrix: Air  
 Sampled: 1/20/2018 18:35

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2228  
 Canister Size: 6 liter  
 Flow Controller ID: 3672  
 Sample Type: 24 hr

**Work Order: 18A0800**  
 Initial Vacuum(in Hg):  
 Final Vacuum(in Hg):  
 Receipt Vacuum(in Hg): -4.6  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analized		
Acetone	4.5	1.4	0.49		11	3.3	0.702	1/30/18	1:26	TPH
Acrolein	0.64	0.70	0.21	J	1.5	1.6	0.702	1/30/18	1:26	TPH
Benzene	0.34	0.035	0.022		1.1	0.11	0.702	1/30/18	1:26	TPH
Benzyl chloride	ND	0.035	0.016		ND	0.18	0.702	1/30/18	1:26	TPH
Bromodichloromethane	ND	0.035	0.023		ND	0.24	0.702	1/30/18	1:26	TPH
Bromoform	ND	0.035	0.021		ND	0.36	0.702	1/30/18	1:26	TPH
Bromomethane	ND	0.035	0.028		ND	0.14	0.702	1/30/18	1:26	TPH
1,3-Butadiene	0.081	0.035	0.027		0.18	0.078	0.702	1/30/18	1:26	TPH
2-Butanone (MEK)	0.70	1.4	0.026	J	2.1	4.1	0.702	1/30/18	1:26	TPH
Carbon Disulfide	0.024	0.35	0.024	J	0.074	1.1	0.702	1/30/18	1:26	TPH
Carbon Tetrachloride	0.070	0.035	0.025		0.44	0.22	0.702	1/30/18	1:26	TPH
Chlorobenzene	ND	0.035	0.022		ND	0.16	0.702	1/30/18	1:26	TPH
Chloroethane	ND	0.035	0.029		ND	0.093	0.702	1/30/18	1:26	TPH
Chloroform	0.11	0.035	0.026		0.55	0.17	0.702	1/30/18	1:26	TPH
Chloromethane	0.54	0.070	0.029		1.1	0.14	0.702	1/30/18	1:26	TPH
Cyclohexane	0.067	0.035	0.020		0.23	0.12	0.702	1/30/18	1:26	TPH
Dibromochloromethane	ND	0.035	0.023		ND	0.30	0.702	1/30/18	1:26	TPH
1,2-Dibromoethane (EDB)	ND	0.035	0.023		ND	0.27	0.702	1/30/18	1:26	TPH
1,2-Dichlorobenzene	ND	0.035	0.023		ND	0.21	0.702	1/30/18	1:26	TPH
1,3-Dichlorobenzene	ND	0.035	0.021		ND	0.21	0.702	1/30/18	1:26	TPH
1,4-Dichlorobenzene	ND	0.035	0.024		ND	0.21	0.702	1/30/18	1:26	TPH
Dichlorodifluoromethane (Freon 12)	0.32	0.035	0.027		1.6	0.17	0.702	1/30/18	1:26	TPH
1,1-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	1/30/18	1:26	TPH
1,2-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	1/30/18	1:26	TPH
1,1-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	1/30/18	1:26	TPH
cis-1,2-Dichloroethylene	ND	0.035	0.024		ND	0.14	0.702	1/30/18	1:26	TPH
trans-1,2-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	1/30/18	1:26	TPH
1,2-Dichloropropane	ND	0.035	0.024		ND	0.16	0.702	1/30/18	1:26	TPH
cis-1,3-Dichloropropene	ND	0.035	0.030		ND	0.16	0.702	1/30/18	1:26	TPH
trans-1,3-Dichloropropene	ND	0.035	0.021		ND	0.16	0.702	1/30/18	1:26	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035	0.029		ND	0.25	0.702	1/30/18	1:26	TPH
1,4-Dioxane	ND	0.35	0.23		ND	1.3	0.702	1/30/18	1:26	TPH
Ethanol	6.9	1.4	0.63		13	2.6	0.702	1/30/18	1:26	TPH
Ethyl Acetate	0.32	0.035	0.030		1.1	0.13	0.702	1/30/18	1:26	TPH
Ethylbenzene	0.062	0.035	0.023		0.27	0.15	0.702	1/30/18	1:26	TPH
4-Ethyltoluene	ND	0.035	0.023		ND	0.17	0.702	1/30/18	1:26	TPH
Heptane	0.11	0.035	0.023		0.44	0.14	0.702	1/30/18	1:26	TPH



**ANALYTICAL RESULTS**

Project Location: Orangetown, NY  
 Date Received: 1/24/2018  
**Field Sample #: Glenshaw-1/20/18**  
**Sample ID: 18A0800-04**  
 Sample Matrix: Air  
 Sampled: 1/20/2018 18:35

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2228  
 Canister Size: 6 liter  
 Flow Controller ID: 3672  
 Sample Type: 24 hr

**Work Order: 18A0800**  
 Initial Vacuum(in Hg):  
 Final Vacuum(in Hg):  
 Receipt Vacuum(in Hg): -4.6  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analized		
Hexachlorobutadiene	ND	0.035	0.027		ND	0.37	0.702	1/30/18	1:26	TPH
Hexane	0.28	1.4	0.062	J	0.97	4.9	0.702	1/30/18	1:26	TPH
2-Hexanone (MBK)	ND	0.035	0.021		ND	0.14	0.702	1/30/18	1:26	TPH
Isopropanol	2.9	1.4	0.043		7.1	3.4	0.702	1/30/18	1:26	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.024		ND	0.13	0.702	1/30/18	1:26	TPH
Methylene Chloride	0.16	0.35	0.043	J	0.55	1.2	0.702	1/30/18	1:26	TPH
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.030		ND	0.14	0.702	1/30/18	1:26	TPH
Naphthalene	ND	0.035	0.030		ND	0.18	0.702	1/30/18	1:26	TPH
Propene	ND	1.4	0.11		ND	2.4	0.702	1/30/18	1:26	TPH
Styrene	0.033	0.035	0.023	J	0.14	0.15	0.702	1/30/18	1:26	TPH
1,1,2,2-Tetrachloroethane	ND	0.035	0.022		ND	0.24	0.702	1/30/18	1:26	TPH
Tetrachloroethylene	0.034	0.035	0.021	J	0.23	0.24	0.702	1/30/18	1:26	TPH
Tetrahydrofuran	ND	0.035	0.024		ND	0.10	0.702	1/30/18	1:26	TPH
Toluene	1.3	0.035	0.022		4.8	0.13	0.702	1/30/18	1:26	TPH
1,2,4-Trichlorobenzene	ND	0.035	0.026		ND	0.26	0.702	1/30/18	1:26	TPH
1,1,1-Trichloroethane	ND	0.035	0.024		ND	0.19	0.702	1/30/18	1:26	TPH
1,1,2-Trichloroethane	ND	0.035	0.022		ND	0.19	0.702	1/30/18	1:26	TPH
Trichloroethylene	ND	0.035	0.022		ND	0.19	0.702	1/30/18	1:26	TPH
Trichlorofluoromethane (Freon 11)	0.26	0.14	0.029		1.5	0.79	0.702	1/30/18	1:26	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.12	0.14	0.024	J	0.93	1.1	0.702	1/30/18	1:26	TPH
1,2,4-Trimethylbenzene	0.066	0.035	0.023		0.32	0.17	0.702	1/30/18	1:26	TPH
1,3,5-Trimethylbenzene	ND	0.035	0.024		ND	0.17	0.702	1/30/18	1:26	TPH
Vinyl Acetate	ND	0.70	0.021		ND	2.5	0.702	1/30/18	1:26	TPH
Vinyl Chloride	ND	0.035	0.026		ND	0.090	0.702	1/30/18	1:26	TPH
m&p-Xylene	0.18	0.070	0.045		0.78	0.30	0.702	1/30/18	1:26	TPH
o-Xylene	0.069	0.035	0.022		0.30	0.15	0.702	1/30/18	1:26	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	95.1	70-130	1/30/18 1:26

**Sample Extraction Data**

**Prep Method: TO-15 Prep-EPA TO-15**

<b>Lab Number [Field ID]</b>	<b>Batch</b>	<b>Pressure Dilution</b>	<b>Pre Dilution</b>	<b>Pre-Dil Initial mL</b>	<b>Pre-Dil Final mL</b>	<b>Default Injection mL</b>	<b>Actual Injection mL</b>	<b>Date</b>
18A0800-01 [Rail Trail SW-1/20/18]	B195828	1.5	1	N/A	1000	400	855	01/29/18
18A0800-02 [Rail Trail NW-1/20/18]	B195828	1.5	1	N/A	1000	400	855	01/29/18
18A0800-03 [Murphy-1/20/18]	B195828	1.5	1	N/A	1000	400	855	01/29/18
18A0800-04 [Glenshaw-1/20/18]	B195828	1.5	1	N/A	1000	400	855	01/29/18

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	RPD	Flag/Qual
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	

Batch B195828 - TO-15 Prep

Blank (B195828-BLK1)

Prepared & Analyzed: 01/29/18

Acetone	ND	1.4
Acrolein	ND	0.70
Benzene	ND	0.035
Benzyl chloride	ND	0.035
Bromodichloromethane	ND	0.035
Bromoform	ND	0.035
Bromomethane	ND	0.035
1,3-Butadiene	ND	0.035
2-Butanone (MEK)	ND	1.4
Carbon Disulfide	ND	0.35
Carbon Tetrachloride	ND	0.035
Chlorobenzene	ND	0.035
Chloroethane	ND	0.035
Chloroform	ND	0.035
Chloromethane	ND	0.070
Cyclohexane	ND	0.035
Dibromochloromethane	ND	0.035
1,2-Dibromoethane (EDB)	ND	0.035
1,2-Dichlorobenzene	ND	0.035
1,3-Dichlorobenzene	ND	0.035
1,4-Dichlorobenzene	ND	0.035
Dichlorodifluoromethane (Freon 12)	ND	0.035
1,1-Dichloroethane	ND	0.035
1,2-Dichloroethane	ND	0.035
1,1-Dichloroethylene	ND	0.035
cis-1,2-Dichloroethylene	ND	0.035
trans-1,2-Dichloroethylene	ND	0.035
1,2-Dichloropropane	ND	0.035
cis-1,3-Dichloropropene	ND	0.035
trans-1,3-Dichloropropene	ND	0.035
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035
1,4-Dioxane	ND	0.35
Ethanol	ND	1.4
Ethyl Acetate	ND	0.035
Ethylbenzene	ND	0.035
4-Ethyltoluene	ND	0.035
Heptane	ND	0.035
Hexachlorobutadiene	ND	0.035
Hexane	ND	1.4
2-Hexanone (MBK)	ND	0.035
Isopropanol	ND	1.4
Methyl tert-Butyl Ether (MTBE)	ND	0.035
Methylene Chloride	ND	0.35
4-Methyl-2-pentanone (MIBK)	ND	0.035
Naphthalene	ND	0.035
Propene	ND	1.4

**QUALITY CONTROL**

**Air Toxics by EPA Compendium Methods - Quality Control**

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag/Qual
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		

**Batch B195828 - TO-15 Prep**

**Blank (B195828-BLK1)**

Prepared & Analyzed: 01/29/18

Styrene	ND	0.035
1,1,2,2-Tetrachloroethane	ND	0.035
Tetrachloroethylene	ND	0.035
Tetrahydrofuran	ND	0.035
Toluene	ND	0.035
1,2,4-Trichlorobenzene	ND	0.035
1,1,1-Trichloroethane	ND	0.035
1,1,2-Trichloroethane	ND	0.035
Trichloroethylene	ND	0.035
Trichlorofluoromethane (Freon 11)	ND	0.14
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14
1,2,4-Trimethylbenzene	ND	0.035
1,3,5-Trimethylbenzene	ND	0.035
Vinyl Acetate	ND	0.70
Vinyl Chloride	ND	0.035
m&p-Xylene	ND	0.070
o-Xylene	ND	0.035

*Surrogate: 4-Bromofluorobenzene (1)*      7.97      8.00      99.6      70-130

**LCS (B195828-BS1)**

Prepared & Analyzed: 01/29/18

Acetone	4.83	5.00	96.7	70-130
Acrolein	4.72	5.00	94.4	70-130
Benzene	4.18	5.00	83.7	70-130
Benzyl chloride	4.79	5.00	95.7	70-130
Bromodichloromethane	4.38	5.00	87.6	70-130
Bromoform	4.93	5.00	98.6	70-130
Bromomethane	4.40	5.00	88.0	70-130
1,3-Butadiene	4.15	5.00	83.0	70-130
2-Butanone (MEK)	3.94	5.00	78.8	70-130
Carbon Disulfide	4.79	5.00	95.8	70-130
Carbon Tetrachloride	4.21	5.00	84.1	70-130
Chlorobenzene	4.50	5.00	90.0	70-130
Chloroethane	4.50	5.00	90.0	70-130
Chloroform	4.05	5.00	81.0	70-130
Chloromethane	4.03	5.00	80.7	70-130
Cyclohexane	3.92	5.00	78.4	70-130
Dibromochloromethane	4.47	5.00	89.5	70-130
1,2-Dibromoethane (EDB)	4.49	5.00	89.7	70-130
1,2-Dichlorobenzene	3.63	5.00	72.7	70-130
1,3-Dichlorobenzene	3.88	5.00	77.5	70-130
1,4-Dichlorobenzene	3.90	5.00	77.9	70-130
Dichlorodifluoromethane (Freon 12)	4.28	5.00	85.6	70-130
1,1-Dichloroethane	4.07	5.00	81.4	70-130
1,2-Dichloroethane	4.07	5.00	81.3	70-130
1,1-Dichloroethylene	4.63	5.00	92.7	70-130
cis-1,2-Dichloroethylene	4.06	5.00	81.1	70-130

**QUALITY CONTROL**

**Air Toxics by EPA Compendium Methods - Quality Control**

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag/Qual
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		
<b>Batch B195828 - TO-15 Prep</b>											
<b>LCS (B195828-BS1)</b>						Prepared & Analyzed: 01/29/18					
trans-1,2-Dichloroethylene	3.86				5.00		77.3	70-130			
1,2-Dichloropropane	4.30				5.00		86.1	70-130			
cis-1,3-Dichloropropene	4.70				5.00		94.0	70-130			
trans-1,3-Dichloropropene	4.82				5.00		96.4	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	4.22				5.00		84.4	70-130			
1,4-Dioxane	4.22				5.00		84.3	70-130			
Ethanol	5.24				5.00		105	70-130			
Ethyl Acetate	4.44				5.00		88.9	70-130			
Ethylbenzene	4.65				5.00		93.0	70-130			
4-Ethyltoluene	4.17				5.00		83.5	70-130			
Heptane	4.36				5.00		87.2	70-130			
Hexachlorobutadiene	4.49				5.00		89.8	70-130			
Hexane	3.84				5.00		76.8	70-130			
2-Hexanone (MBK)	4.58				5.00		91.6	70-130			
Isopropanol	4.17				5.00		83.5	70-130			
Methyl tert-Butyl Ether (MTBE)	3.86				5.00		77.1	70-130			
Methylene Chloride	4.35				5.00		87.0	70-130			
4-Methyl-2-pentanone (MIBK)	4.48				5.00		89.6	70-130			
Naphthalene	5.42				5.00		108	70-130			
Propene	3.98				5.00		79.5	70-130			
Styrene	4.15				5.00		83.1	70-130			
1,1,2,2-Tetrachloroethane	4.18				5.00		83.7	70-130			
Tetrachloroethylene	4.28				5.00		85.6	70-130			
Tetrahydrofuran	4.24				5.00		84.8	70-130			
Toluene	4.68				5.00		93.6	70-130			
1,2,4-Trichlorobenzene	5.36				5.00		107	70-130			
1,1,1-Trichloroethane	3.94				5.00		78.9	70-130			
1,1,2-Trichloroethane	4.41				5.00		88.3	70-130			
Trichloroethylene	4.22				5.00		84.5	70-130			
Trichlorofluoromethane (Freon 11)	4.44				5.00		88.9	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.82				5.00		96.5	70-130			
1,2,4-Trimethylbenzene	4.22				5.00		84.3	70-130			
1,3,5-Trimethylbenzene	4.13				5.00		82.7	70-130			
Vinyl Acetate	3.76				5.00		75.2	70-130			
Vinyl Chloride	4.33				5.00		86.6	70-130			
m&p-Xylene	9.73				10.0		97.3	70-130			
o-Xylene	4.73				5.00		94.5	70-130			
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	<i>8.10</i>				<i>8.00</i>		<i>101</i>	<i>70-130</i>			

**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
RL	Reporting Limit
MDL	Method Detection Limit
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
LCS Dup	Duplicate Laboratory Control Sample
MS	Matrix Spike Sample
MS Dup	Duplicate Matrix Spike Sample
REC	Recovery
QC	Quality Control
ppbv	Parts per billion volume
EPA	United States Environmental Protection Agency
% REC	Percent Recovery
ND	Not Detected
N/A	Not Applicable
DL	Detection Limit
NC	Not Calculated
LFB/LCS	Lab Fortified Blank/Lab Control Sample
ORP	Oxidation-Reduction Potential
wet	Not dry weight corrected
% wt	Percent weight
Kg	Kilogram
g	Gram
mg	Milligram
µg	Microgram
ng	Nanogram
L	Liter
mL	Milliliter
µL	Microliter
m3	Cubic Meter
EPH	Extractable Petroleum Hydrocarbons
VPH	Volatile Petroleum Hydrocarbons
APH	Air Petroleum Hydrocarbons
FID	Flame Ionization Detector
PID	Photo Ionization Detector
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

**ANALYST**

TPH     Thomas P. Hnitecki  
 RLF     Rebecca Faust  
 MEK     Meghan E. Kelley  
 KDM     Karly D. Monette

INTERNAL STANDARD AREA AND RT SUMMARY

EPA TO-15

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>Rail Trail SW-1/20/18 (18A0800-01 )</b>			Lab File ID: G012918.D			Analyzed: 01/29/18 21:28			
Bromochloromethane (1)	225662	8.571				60 - 140	8.5710	+/-0.50	
1,4-Difluorobenzene (1)	475115	10.484				60 - 140	10.4840	+/-0.50	
Chlorobenzene-d5 (1)	265829	15.271				60 - 140	15.2710	+/-0.50	
<b>Rail Trail NW-1/20/18 (18A0800-02 )</b>			Lab File ID: G012920.D			Analyzed: 01/29/18 22:47			
Bromochloromethane (1)	214981	8.571				60 - 140	8.5710	+/-0.50	
1,4-Difluorobenzene (1)	450871	10.481				60 - 140	10.4810	+/-0.50	
Chlorobenzene-d5 (1)	252396	15.271				60 - 140	15.2710	+/-0.50	
<b>Murphy-1/20/18 (18A0800-03 )</b>			Lab File ID: G012922.D			Analyzed: 01/30/18 00:07			
Bromochloromethane (1)	212953	8.571				60 - 140	8.5710	+/-0.50	
1,4-Difluorobenzene (1)	436628	10.481				60 - 140	10.4810	+/-0.50	
Chlorobenzene-d5 (1)	244287	15.272				60 - 140	15.2720	+/-0.50	
<b>Glenshaw-1/20/18 (18A0800-04 )</b>			Lab File ID: G012924.D			Analyzed: 01/30/18 01:26			
Bromochloromethane (1)	209501	8.574				60 - 140	8.5740	+/-0.50	
1,4-Difluorobenzene (1)	439165	10.484				60 - 140	10.4840	+/-0.50	
Chlorobenzene-d5 (1)	251053	15.272				60 - 140	15.2720	+/-0.50	

CONTINUING CALIBRATION CHECK

COMPOUND	TYPE			RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits



**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
Acetone	AIHA,NY,ME
Acrolein	AIHA,NJ
Benzene	AIHA,FL,NJ,NY,VA,ME
Benzyl chloride	AIHA,FL,NJ,NY,VA,ME
Bromodichloromethane	AIHA,NJ,NY,VA,ME
Bromoform	AIHA,NJ,NY,VA,ME
Bromomethane	AIHA,FL,NJ,NY,ME
1,3-Butadiene	AIHA,NJ,NY,VA,ME
2-Butanone (MEK)	AIHA,FL,NJ,NY,VA,ME
Carbon Disulfide	AIHA,NJ,NY,VA,ME
Carbon Tetrachloride	AIHA,FL,NJ,NY,VA,ME
Chlorobenzene	AIHA,FL,NJ,NY,VA,ME
Chloroethane	AIHA,FL,NJ,NY,VA,ME
Chloroform	AIHA,FL,NJ,NY,VA,ME
Chloromethane	AIHA,FL,NJ,NY,VA,ME
Cyclohexane	AIHA,NJ,NY,VA,ME
Dibromochloromethane	AIHA,NY,ME
1,2-Dibromoethane (EDB)	AIHA,NJ,NY,ME
1,2-Dichlorobenzene	AIHA,FL,NJ,NY,VA,ME
1,3-Dichlorobenzene	AIHA,NJ,NY,ME
1,4-Dichlorobenzene	AIHA,FL,NJ,NY,VA,ME
Dichlorodifluoromethane (Freon 12)	AIHA,NY,ME
1,1-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,2-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1-Dichloroethylene	AIHA,FL,NJ,NY,VA,ME
cis-1,2-Dichloroethylene	AIHA,FL,NY,VA,ME
trans-1,2-Dichloroethylene	AIHA,NJ,NY,VA,ME
1,2-Dichloropropane	AIHA,FL,NJ,NY,VA,ME
cis-1,3-Dichloropropene	AIHA,FL,NJ,NY,VA,ME
trans-1,3-Dichloropropene	AIHA,NY,ME
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,NJ,NY,VA,ME
1,4-Dioxane	AIHA,NJ,NY,VA,ME
Ethanol	AIHA
Ethyl Acetate	AIHA
Ethylbenzene	AIHA,FL,NJ,NY,VA,ME
4-Ethyltoluene	AIHA,NJ
Heptane	AIHA,NJ,NY,VA,ME
Hexachlorobutadiene	AIHA,NJ,NY,VA,ME
Hexane	AIHA,FL,NJ,NY,VA,ME
2-Hexanone (MBK)	AIHA
Isopropanol	AIHA,NY,ME
Methyl tert-Butyl Ether (MTBE)	AIHA,FL,NJ,NY,VA,ME
Methylene Chloride	AIHA,FL,NJ,NY,VA,ME
4-Methyl-2-pentanone (MIBK)	AIHA,FL,NJ,NY,ME
Naphthalene	NY,ME
Propene	AIHA
Styrene	AIHA,FL,NJ,NY,VA,ME

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,VA,ME
Tetrachloroethylene	AIHA,FL,NJ,NY,VA,ME
Tetrahydrofuran	AIHA
Toluene	AIHA,FL,NJ,NY,VA,ME
1,2,4-Trichlorobenzene	AIHA,NJ,NY,VA,ME
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,VA,ME
Trichloroethylene	AIHA,FL,NJ,NY,VA,ME
Trichlorofluoromethane (Freon 11)	AIHA,NY,ME
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIHA,NJ,NY,VA,ME
1,2,4-Trimethylbenzene	AIHA,NJ,NY,ME
1,3,5-Trimethylbenzene	AIHA,NJ,NY,ME
Vinyl Acetate	AIHA,FL,NJ,NY,VA,ME
Vinyl Chloride	AIHA,FL,NJ,NY,VA,ME
m&p-Xylene	AIHA,FL,NJ,NY,VA,ME
o-Xylene	AIHA,FL,NJ,NY,VA,ME

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2018
CT	Connecticut Department of Public Health	PH-0567	09/30/2019
NY	New York State Department of Health	10899 NELAP	04/1/2018
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2018
RI	Rhode Island Department of Health	LAO00112	12/30/2018
NC	North Carolina Div. of Water Quality	652	12/31/2018
NJ	New Jersey DEP	MA007 NELAP	06/30/2018
FL	Florida Department of Health	E871027 NELAP	06/30/2018
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2018
ME	State of Maine	2011028	06/9/2019
VA	Commonwealth of Virginia	460217	12/14/2018
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2018
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2018
NC-DW	North Carolina Department of Health	25703	07/31/2018





**IMPORTANT!**

FedEx is closely monitoring the winter storms across the U.S. [Learn More](#)

FedEx Tracking

**771229014610**

Ship date:

**Mon 1/22/2018**

AUSTIN, TX US



**Delivered**

Signed for by: B.BECCA

Actual delivery:

**Wed 1/24/2018 9:50 am**

EAST LONGMEADOW, MA US

**Travel History**

Date/Time	Activity	Location
- 1/24/2018 - Wednesday		
9:50 am	Delivered	EAST LONGMEADOW, MA
7:37 am	On FedEx vehicle for delivery	WINDSOR LOCKS, CT
7:28 am	At local FedEx facility	WINDSOR LOCKS, CT
- 1/23/2018 - Tuesday		
6:54 pm	At destination sort facility	EAST GRANBY, CT
3:41 pm	Departed FedEx location	MEMPHIS, TN
- 1/22/2018 - Monday		
8:47 pm	Arrived at FedEx location	NEWARK, NJ
8:25 pm	Left FedEx origin facility	STATEN ISLAND, NY
6:03 pm	Picked up	STATEN ISLAND, NY
- 1/16/2018 - Tuesday		
1:58 pm	Shipment information sent to FedEx	

**Shipment Facts**

<b>Tracking Number</b>	771229014610	<b>Service</b>	FedEx 2Day
<b>Weight</b>	36 lbs / 16.33 kgs	<b>Dimensions</b>	22x18x14 in.
<b>Delivered To</b>	Shipping/Receiving	<b>Total pieces</b>	1
<b>Total shipment weight</b>	36 lbs / 16.33 kgs	<b>Terms</b>	Shipper
<b>Shipper reference</b>	267443.1000.0000	<b>Packaging</b>	Your Packaging
<b>Special handling section</b>	Deliver Weekday	<b>Standard transit</b>	1/24/2018 by 4:30 pm

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 ANALYTICAL LABORATORY

Doc# 278 Rev 6 2017

**Air Media Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False**

Client TRC

Received By RLF Date 11/24/18 Time 9:30

How were the samples received? In Cooler                      On Ice                      No Ice                       
 In Box T Ambient T Melted Ice                     

Were samples within Temperature Compliance? 2-6°C NA By Gun #                      Actual Temp -                       
 By Blank #                      Actual Temp -                     

Was Custody Seal Intact? NA Were Samples Tampered with? NA  
 Was COC Relinquished? T Does Chain Agree With Samples? T

Are there any loose caps/valves on any samples? F

Is COC in ink/ Legible? T

Did COC Include all Pertinent Information? Client T Analysis T Sampler Name T  
 Project T ID's T Collection Dates/Times T

Are Sample Labels filled out and legible? T

Are there Rushes? F Who was notified?                     

Samples are received within holding time? T

Proper Media Used? T Individually Certified Cans? F  
 Are there Trip Blanks? F Is there enough Volume? T

Containers:	#	Size	Regulator	Duration	Accessories:		
Summa Cans	4	6L	4	24hr	Nut/Ferrule		IC Train
Tedlar Bags					Tubing		
TO-17 Tubes					T-Connector		Shipping Charges
Radiello					Syringe		
Pufs/TO-11s					Tedlar		

Can #'s	Reg #'s
1573	3526
1670	3525
1967	3673
2228	3672
Unused Media	Pufs/TO-17's

**Comments:**

Air tags not filled out so did not know pressures

February 8, 2018

Melita Lihzis  
TRC Engineers, Inc.  
1430 Broadway 10th Floor  
New York, NY 10018

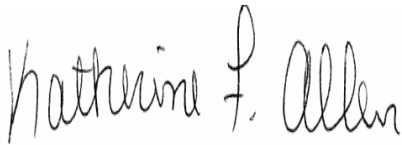
Project Location: Orangetown, NY  
Client Job Number:  
Project Number: 267443.1000.000  
Laboratory Work Order Number: 18A1061

Enclosed are results of analyses for samples received by the laboratory on January 30, 2018. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Meghan E. Kelley  
Project Manager



QA Officer  
Katherine Allen



Laboratory Manager  
Daren Damboragian

TRC Engineers, Inc.  
1430 Broadway 10th Floor  
New York, NY 10018  
ATTN: Melita Lihzis

REPORT DATE: 2/8/2018

PURCHASE ORDER NUMBER: 111950

PROJECT NUMBER: 267443.1000.000

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 18A1061

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Orangetown, NY

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Rail Trail SW-1/26/18	18A1061-01	Air		EPA TO-15	
Rail Trail NW-1/26/18	18A1061-02	Air		EPA TO-15	
Murphy-1/26/18	18A1061-03	Air		EPA TO-15	
Glenshaw-1/26/18	18A1061-04	Air		EPA TO-15	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

EPA TO-15

Qualifications:

---

Duplicate relative percent difference (RPD) is a less useful indicator of sample precision for sample results that are <5 times the reporting limit (RL).

Analyte & Samples(s) Qualified:

2-Hexanone (MBK)  
B196437-DUP1

---

Continuing calibration did not meet method specifications and was biased on the high side for this compound. Reported result is estimated.

Analyte & Samples(s) Qualified:

Heptane  
18A1061-01[Rail Trail SW-1/26/18], 18A1061-02[Rail Trail NW-1/26/18], 18A1061-03[Murphy-1/26/18], 18A1061-04[Glenshaw-1/26/18], B196437-BS1, B196437-DUP1, S019971-CCV1

---

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

1,4-Dioxane, Naphthalene, trans-1,3-Dichloropropene  
B196437-BS1, S019971-CCV1

---

Sample had a final pressure of zero.

Analyte & Samples(s) Qualified:

18A1061-02[Rail Trail NW-1/26/18]

---

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington  
Project Manager



**ANALYTICAL RESULTS**

Project Location: Orangetown, NY  
 Date Received: 1/30/2018  
**Field Sample #: Rail Trail SW-1/26/18**  
**Sample ID: 18A1061-01**  
 Sample Matrix: Air  
 Sampled: 1/26/2018 08:18

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1508  
 Canister Size: 6 liter  
 Flow Controller ID: 3356  
 Sample Type: 24 hr

**Work Order: 18A1061**  
 Initial Vacuum(in Hg):  
 Final Vacuum(in Hg):  
 Receipt Vacuum(in Hg): -4.5  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
Acetone	3.9	1.4	0.49		9.3	3.3	0.702	1/31/18 20:22	CMR
Acrolein	0.32	0.70	0.21	J	0.73	1.6	0.702	1/31/18 20:22	CMR
Benzene	0.28	0.035	0.022		0.88	0.11	0.702	1/31/18 20:22	CMR
Benzyl chloride	ND	0.035	0.016		ND	0.18	0.702	1/31/18 20:22	CMR
Bromodichloromethane	ND	0.035	0.023		ND	0.24	0.702	1/31/18 20:22	CMR
Bromoform	ND	0.035	0.021		ND	0.36	0.702	1/31/18 20:22	CMR
Bromomethane	ND	0.035	0.028		ND	0.14	0.702	1/31/18 20:22	CMR
1,3-Butadiene	0.055	0.035	0.027		0.12	0.078	0.702	1/31/18 20:22	CMR
2-Butanone (MEK)	0.51	1.4	0.026	J	1.5	4.1	0.702	1/31/18 20:22	CMR
Carbon Disulfide	ND	0.35	0.024		ND	1.1	0.702	1/31/18 20:22	CMR
Carbon Tetrachloride	0.071	0.035	0.025		0.45	0.22	0.702	1/31/18 20:22	CMR
Chlorobenzene	ND	0.035	0.022		ND	0.16	0.702	1/31/18 20:22	CMR
Chloroethane	ND	0.035	0.029		ND	0.093	0.702	1/31/18 20:22	CMR
Chloroform	0.029	0.035	0.026	J	0.14	0.17	0.702	1/31/18 20:22	CMR
Chloromethane	0.55	0.070	0.029		1.1	0.14	0.702	1/31/18 20:22	CMR
Cyclohexane	0.048	0.035	0.020		0.16	0.12	0.702	1/31/18 20:22	CMR
Dibromochloromethane	ND	0.035	0.023		ND	0.30	0.702	1/31/18 20:22	CMR
1,2-Dibromoethane (EDB)	ND	0.035	0.023		ND	0.27	0.702	1/31/18 20:22	CMR
1,2-Dichlorobenzene	ND	0.035	0.023		ND	0.21	0.702	1/31/18 20:22	CMR
1,3-Dichlorobenzene	ND	0.035	0.021		ND	0.21	0.702	1/31/18 20:22	CMR
1,4-Dichlorobenzene	ND	0.035	0.024		ND	0.21	0.702	1/31/18 20:22	CMR
Dichlorodifluoromethane (Freon 12)	0.37	0.035	0.027		1.8	0.17	0.702	1/31/18 20:22	CMR
1,1-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	1/31/18 20:22	CMR
1,2-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	1/31/18 20:22	CMR
1,1-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	1/31/18 20:22	CMR
cis-1,2-Dichloroethylene	ND	0.035	0.024		ND	0.14	0.702	1/31/18 20:22	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	1/31/18 20:22	CMR
1,2-Dichloropropane	ND	0.035	0.024		ND	0.16	0.702	1/31/18 20:22	CMR
cis-1,3-Dichloropropene	ND	0.035	0.030		ND	0.16	0.702	1/31/18 20:22	CMR
trans-1,3-Dichloropropene	ND	0.035	0.021		ND	0.16	0.702	1/31/18 20:22	CMR
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035	0.029		ND	0.25	0.702	1/31/18 20:22	CMR
1,4-Dioxane	ND	0.35	0.23		ND	1.3	0.702	1/31/18 20:22	CMR
Ethanol	7.5	1.4	0.63		14	2.6	0.702	1/31/18 20:22	CMR
Ethyl Acetate	0.26	0.035	0.030		0.93	0.13	0.702	1/31/18 20:22	CMR
Ethylbenzene	0.061	0.035	0.023		0.27	0.15	0.702	1/31/18 20:22	CMR
4-Ethyltoluene	ND	0.035	0.023		ND	0.17	0.702	1/31/18 20:22	CMR
Heptane	0.099	0.035	0.023	V-06	0.41	0.14	0.702	1/31/18 20:22	CMR

**ANALYTICAL RESULTS**

Project Location: Orangetown, NY  
 Date Received: 1/30/2018  
**Field Sample #: Rail Trail SW-1/26/18**  
**Sample ID: 18A1061-01**  
 Sample Matrix: Air  
 Sampled: 1/26/2018 08:18

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1508  
 Canister Size: 6 liter  
 Flow Controller ID: 3356  
 Sample Type: 24 hr

**Work Order: 18A1061**  
 Initial Vacuum(in Hg):  
 Final Vacuum(in Hg):  
 Receipt Vacuum(in Hg): -4.5  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
Hexachlorobutadiene	ND	0.035	0.027		ND	0.37	0.702	1/31/18 20:22	CMR
Hexane	0.19	1.4	0.062	J	0.67	4.9	0.702	1/31/18 20:22	CMR
2-Hexanone (MBK)	0.031	0.035	0.021	J	0.13	0.14	0.702	1/31/18 20:22	CMR
Isopropanol	1.7	1.4	0.043		4.1	3.4	0.702	1/31/18 20:22	CMR
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.024		ND	0.13	0.702	1/31/18 20:22	CMR
Methylene Chloride	0.35	0.35	0.043		1.2	1.2	0.702	1/31/18 20:22	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.030		ND	0.14	0.702	1/31/18 20:22	CMR
Naphthalene	ND	0.035	0.030		ND	0.18	0.702	1/31/18 20:22	CMR
Propene	ND	1.4	0.11		ND	2.4	0.702	1/31/18 20:22	CMR
Styrene	0.058	0.035	0.023		0.25	0.15	0.702	1/31/18 20:22	CMR
1,1,2,2-Tetrachloroethane	ND	0.035	0.022		ND	0.24	0.702	1/31/18 20:22	CMR
Tetrachloroethylene	0.068	0.035	0.021		0.46	0.24	0.702	1/31/18 20:22	CMR
Tetrahydrofuran	ND	0.035	0.024		ND	0.10	0.702	1/31/18 20:22	CMR
Toluene	0.51	0.035	0.022		1.9	0.13	0.702	1/31/18 20:22	CMR
1,2,4-Trichlorobenzene	ND	0.035	0.026		ND	0.26	0.702	1/31/18 20:22	CMR
1,1,1-Trichloroethane	ND	0.035	0.024		ND	0.19	0.702	1/31/18 20:22	CMR
1,1,2-Trichloroethane	ND	0.035	0.022		ND	0.19	0.702	1/31/18 20:22	CMR
Trichloroethylene	ND	0.035	0.022		ND	0.19	0.702	1/31/18 20:22	CMR
Trichlorofluoromethane (Freon 11)	0.26	0.14	0.029		1.4	0.79	0.702	1/31/18 20:22	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.091	0.14	0.024	J	0.69	1.1	0.702	1/31/18 20:22	CMR
1,2,4-Trimethylbenzene	0.065	0.035	0.023		0.32	0.17	0.702	1/31/18 20:22	CMR
1,3,5-Trimethylbenzene	ND	0.035	0.024		ND	0.17	0.702	1/31/18 20:22	CMR
Vinyl Acetate	ND	0.70	0.021		ND	2.5	0.702	1/31/18 20:22	CMR
Vinyl Chloride	ND	0.035	0.026		ND	0.090	0.702	1/31/18 20:22	CMR
m&p-Xylene	0.17	0.070	0.045		0.76	0.30	0.702	1/31/18 20:22	CMR
o-Xylene	0.069	0.035	0.022		0.30	0.15	0.702	1/31/18 20:22	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	94.7	70-130	1/31/18 20:22

**ANALYTICAL RESULTS**

Project Location: Orangetown, NY  
 Date Received: 1/30/2018  
**Field Sample #: Rail Trail NW-1/26/18**  
**Sample ID: 18A1061-02**  
 Sample Matrix: Air  
 Sampled: 1/26/2018 07:28

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1449  
 Canister Size: 6 liter  
 Flow Controller ID: 3261  
 Sample Type: 24 hr

**Work Order: 18A1061**  
 Initial Vacuum(in Hg):  
 Final Vacuum(in Hg):  
 Receipt Vacuum(in Hg): -3  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Sample Flags: Z-01

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
Acetone	2.2	1.4	0.49		5.3	3.3	0.702	1/31/18 21:06	CMR
Acrolein	ND	0.70	0.21		ND	1.6	0.702	1/31/18 21:06	CMR
Benzene	0.27	0.035	0.022		0.87	0.11	0.702	1/31/18 21:06	CMR
Benzyl chloride	ND	0.035	0.016		ND	0.18	0.702	1/31/18 21:06	CMR
Bromodichloromethane	ND	0.035	0.023		ND	0.24	0.702	1/31/18 21:06	CMR
Bromoform	ND	0.035	0.021		ND	0.36	0.702	1/31/18 21:06	CMR
Bromomethane	ND	0.035	0.028		ND	0.14	0.702	1/31/18 21:06	CMR
1,3-Butadiene	0.044	0.035	0.027		0.096	0.078	0.702	1/31/18 21:06	CMR
2-Butanone (MEK)	0.10	1.4	0.026	J	0.31	4.1	0.702	1/31/18 21:06	CMR
Carbon Disulfide	ND	0.35	0.024		ND	1.1	0.702	1/31/18 21:06	CMR
Carbon Tetrachloride	0.069	0.035	0.025		0.44	0.22	0.702	1/31/18 21:06	CMR
Chlorobenzene	ND	0.035	0.022		ND	0.16	0.702	1/31/18 21:06	CMR
Chloroethane	ND	0.035	0.029		ND	0.093	0.702	1/31/18 21:06	CMR
Chloroform	ND	0.035	0.026		ND	0.17	0.702	1/31/18 21:06	CMR
Chloromethane	0.53	0.070	0.029		1.1	0.14	0.702	1/31/18 21:06	CMR
Cyclohexane	0.067	0.035	0.020		0.23	0.12	0.702	1/31/18 21:06	CMR
Dibromochloromethane	ND	0.035	0.023		ND	0.30	0.702	1/31/18 21:06	CMR
1,2-Dibromoethane (EDB)	ND	0.035	0.023		ND	0.27	0.702	1/31/18 21:06	CMR
1,2-Dichlorobenzene	ND	0.035	0.023		ND	0.21	0.702	1/31/18 21:06	CMR
1,3-Dichlorobenzene	ND	0.035	0.021		ND	0.21	0.702	1/31/18 21:06	CMR
1,4-Dichlorobenzene	ND	0.035	0.024		ND	0.21	0.702	1/31/18 21:06	CMR
Dichlorodifluoromethane (Freon 12)	0.36	0.035	0.027		1.8	0.17	0.702	1/31/18 21:06	CMR
1,1-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	1/31/18 21:06	CMR
1,2-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	1/31/18 21:06	CMR
1,1-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	1/31/18 21:06	CMR
cis-1,2-Dichloroethylene	ND	0.035	0.024		ND	0.14	0.702	1/31/18 21:06	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	1/31/18 21:06	CMR
1,2-Dichloropropane	ND	0.035	0.024		ND	0.16	0.702	1/31/18 21:06	CMR
cis-1,3-Dichloropropene	ND	0.035	0.030		ND	0.16	0.702	1/31/18 21:06	CMR
trans-1,3-Dichloropropene	ND	0.035	0.021		ND	0.16	0.702	1/31/18 21:06	CMR
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035	0.029		ND	0.25	0.702	1/31/18 21:06	CMR
1,4-Dioxane	ND	0.35	0.23		ND	1.3	0.702	1/31/18 21:06	CMR
Ethanol	4.0	1.4	0.63		7.5	2.6	0.702	1/31/18 21:06	CMR
Ethyl Acetate	0.088	0.035	0.030		0.32	0.13	0.702	1/31/18 21:06	CMR
Ethylbenzene	0.060	0.035	0.023		0.26	0.15	0.702	1/31/18 21:06	CMR
4-Ethyltoluene	ND	0.035	0.023		ND	0.17	0.702	1/31/18 21:06	CMR
Heptane	0.087	0.035	0.023	V-06	0.36	0.14	0.702	1/31/18 21:06	CMR

**ANALYTICAL RESULTS**

Project Location: Orangetown, NY  
 Date Received: 1/30/2018  
**Field Sample #: Rail Trail NW-1/26/18**  
**Sample ID: 18A1061-02**  
 Sample Matrix: Air  
 Sampled: 1/26/2018 07:28

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1449  
 Canister Size: 6 liter  
 Flow Controller ID: 3261  
 Sample Type: 24 hr

**Work Order: 18A1061**  
 Initial Vacuum(in Hg):  
 Final Vacuum(in Hg):  
 Receipt Vacuum(in Hg): -3  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Sample Flags: Z-01

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analyzed		
Hexachlorobutadiene	ND	0.035	0.027		ND	0.37	0.702	1/31/18 21:06	CMR	
Hexane	0.21	1.4	0.062	J	0.75	4.9	0.702	1/31/18 21:06	CMR	
2-Hexanone (MBK)	ND	0.035	0.021		ND	0.14	0.702	1/31/18 21:06	CMR	
Isopropanol	0.23	1.4	0.043	J	0.55	3.4	0.702	1/31/18 21:06	CMR	
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.024		ND	0.13	0.702	1/31/18 21:06	CMR	
Methylene Chloride	0.10	0.35	0.043	J	0.35	1.2	0.702	1/31/18 21:06	CMR	
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.030		ND	0.14	0.702	1/31/18 21:06	CMR	
Naphthalene	ND	0.035	0.030		ND	0.18	0.702	1/31/18 21:06	CMR	
Propene	0.66	1.4	0.11	J	1.1	2.4	0.702	1/31/18 21:06	CMR	
Styrene	ND	0.035	0.023		ND	0.15	0.702	1/31/18 21:06	CMR	
1,1,2,2-Tetrachloroethane	ND	0.035	0.022		ND	0.24	0.702	1/31/18 21:06	CMR	
Tetrachloroethylene	0.086	0.035	0.021		0.58	0.24	0.702	1/31/18 21:06	CMR	
Tetrahydrofuran	ND	0.035	0.024		ND	0.10	0.702	1/31/18 21:06	CMR	
Toluene	0.41	0.035	0.022		1.5	0.13	0.702	1/31/18 21:06	CMR	
1,2,4-Trichlorobenzene	ND	0.035	0.026		ND	0.26	0.702	1/31/18 21:06	CMR	
1,1,1-Trichloroethane	ND	0.035	0.024		ND	0.19	0.702	1/31/18 21:06	CMR	
1,1,2-Trichloroethane	ND	0.035	0.022		ND	0.19	0.702	1/31/18 21:06	CMR	
Trichloroethylene	ND	0.035	0.022		ND	0.19	0.702	1/31/18 21:06	CMR	
Trichlorofluoromethane (Freon 11)	0.24	0.14	0.029		1.4	0.79	0.702	1/31/18 21:06	CMR	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.083	0.14	0.024	J	0.63	1.1	0.702	1/31/18 21:06	CMR	
1,2,4-Trimethylbenzene	0.054	0.035	0.023		0.27	0.17	0.702	1/31/18 21:06	CMR	
1,3,5-Trimethylbenzene	ND	0.035	0.024		ND	0.17	0.702	1/31/18 21:06	CMR	
Vinyl Acetate	ND	0.70	0.021		ND	2.5	0.702	1/31/18 21:06	CMR	
Vinyl Chloride	ND	0.035	0.026		ND	0.090	0.702	1/31/18 21:06	CMR	
m&p-Xylene	0.18	0.070	0.045		0.80	0.30	0.702	1/31/18 21:06	CMR	
o-Xylene	0.066	0.035	0.022		0.29	0.15	0.702	1/31/18 21:06	CMR	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	94.8	70-130	1/31/18 21:06

**ANALYTICAL RESULTS**

Project Location: Orangetown, NY  
 Date Received: 1/30/2018  
**Field Sample #: Murphy-1/26/18**  
**Sample ID: 18A1061-03**  
 Sample Matrix: Air  
 Sampled: 1/26/2018 08:42

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2222  
 Canister Size: 6 liter  
 Flow Controller ID: 3533  
 Sample Type: 24 hr

**Work Order: 18A1061**  
 Initial Vacuum(in Hg):  
 Final Vacuum(in Hg):  
 Receipt Vacuum(in Hg): -5.6  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
Acetone	4.0	1.4	0.49		9.5	3.3	0.702	1/31/18 21:50	CMR
Acrolein	0.40	0.70	0.21	J	0.91	1.6	0.702	1/31/18 21:50	CMR
Benzene	0.26	0.035	0.022		0.82	0.11	0.702	1/31/18 21:50	CMR
Benzyl chloride	ND	0.035	0.016		ND	0.18	0.702	1/31/18 21:50	CMR
Bromodichloromethane	ND	0.035	0.023		ND	0.24	0.702	1/31/18 21:50	CMR
Bromoform	ND	0.035	0.021		ND	0.36	0.702	1/31/18 21:50	CMR
Bromomethane	ND	0.035	0.028		ND	0.14	0.702	1/31/18 21:50	CMR
1,3-Butadiene	0.058	0.035	0.027		0.13	0.078	0.702	1/31/18 21:50	CMR
2-Butanone (MEK)	0.45	1.4	0.026	J	1.3	4.1	0.702	1/31/18 21:50	CMR
Carbon Disulfide	ND	0.35	0.024		ND	1.1	0.702	1/31/18 21:50	CMR
Carbon Tetrachloride	0.069	0.035	0.025		0.44	0.22	0.702	1/31/18 21:50	CMR
Chlorobenzene	ND	0.035	0.022		ND	0.16	0.702	1/31/18 21:50	CMR
Chloroethane	ND	0.035	0.029		ND	0.093	0.702	1/31/18 21:50	CMR
Chloroform	0.030	0.035	0.026	J	0.15	0.17	0.702	1/31/18 21:50	CMR
Chloromethane	0.53	0.070	0.029		1.1	0.14	0.702	1/31/18 21:50	CMR
Cyclohexane	0.067	0.035	0.020		0.23	0.12	0.702	1/31/18 21:50	CMR
Dibromochloromethane	ND	0.035	0.023		ND	0.30	0.702	1/31/18 21:50	CMR
1,2-Dibromoethane (EDB)	ND	0.035	0.023		ND	0.27	0.702	1/31/18 21:50	CMR
1,2-Dichlorobenzene	ND	0.035	0.023		ND	0.21	0.702	1/31/18 21:50	CMR
1,3-Dichlorobenzene	ND	0.035	0.021		ND	0.21	0.702	1/31/18 21:50	CMR
1,4-Dichlorobenzene	ND	0.035	0.024		ND	0.21	0.702	1/31/18 21:50	CMR
Dichlorodifluoromethane (Freon 12)	0.31	0.035	0.027		1.5	0.17	0.702	1/31/18 21:50	CMR
1,1-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	1/31/18 21:50	CMR
1,2-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	1/31/18 21:50	CMR
1,1-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	1/31/18 21:50	CMR
cis-1,2-Dichloroethylene	ND	0.035	0.024		ND	0.14	0.702	1/31/18 21:50	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	1/31/18 21:50	CMR
1,2-Dichloropropane	ND	0.035	0.024		ND	0.16	0.702	1/31/18 21:50	CMR
cis-1,3-Dichloropropene	ND	0.035	0.030		ND	0.16	0.702	1/31/18 21:50	CMR
trans-1,3-Dichloropropene	ND	0.035	0.021		ND	0.16	0.702	1/31/18 21:50	CMR
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035	0.029		ND	0.25	0.702	1/31/18 21:50	CMR
1,4-Dioxane	ND	0.35	0.23		ND	1.3	0.702	1/31/18 21:50	CMR
Ethanol	7.4	1.4	0.63		14	2.6	0.702	1/31/18 21:50	CMR
Ethyl Acetate	0.39	0.035	0.030		1.4	0.13	0.702	1/31/18 21:50	CMR
Ethylbenzene	0.060	0.035	0.023		0.26	0.15	0.702	1/31/18 21:50	CMR
4-Ethyltoluene	ND	0.035	0.023		ND	0.17	0.702	1/31/18 21:50	CMR
Heptane	0.11	0.035	0.023	V-06	0.46	0.14	0.702	1/31/18 21:50	CMR

**ANALYTICAL RESULTS**

Project Location: Orangetown, NY  
 Date Received: 1/30/2018  
**Field Sample #: Murphy-1/26/18**  
**Sample ID: 18A1061-03**  
 Sample Matrix: Air  
 Sampled: 1/26/2018 08:42

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2222  
 Canister Size: 6 liter  
 Flow Controller ID: 3533  
 Sample Type: 24 hr

**Work Order: 18A1061**  
 Initial Vacuum(in Hg):  
 Final Vacuum(in Hg):  
 Receipt Vacuum(in Hg): -5.6  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
Hexachlorobutadiene	ND	0.035	0.027		ND	0.37	0.702	1/31/18 21:50	CMR
Hexane	0.20	1.4	0.062	J	0.69	4.9	0.702	1/31/18 21:50	CMR
2-Hexanone (MBK)	0.052	0.035	0.021		0.21	0.14	0.702	1/31/18 21:50	CMR
Isopropanol	1.8	1.4	0.043		4.5	3.4	0.702	1/31/18 21:50	CMR
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.024		ND	0.13	0.702	1/31/18 21:50	CMR
Methylene Chloride	0.32	0.35	0.043	J	1.1	1.2	0.702	1/31/18 21:50	CMR
4-Methyl-2-pentanone (MIBK)	0.036	0.035	0.030		0.15	0.14	0.702	1/31/18 21:50	CMR
Naphthalene	ND	0.035	0.030		ND	0.18	0.702	1/31/18 21:50	CMR
Propene	1.1	1.4	0.11	J	2.0	2.4	0.702	1/31/18 21:50	CMR
Styrene	0.041	0.035	0.023		0.17	0.15	0.702	1/31/18 21:50	CMR
1,1,2,2-Tetrachloroethane	ND	0.035	0.022		ND	0.24	0.702	1/31/18 21:50	CMR
Tetrachloroethylene	0.14	0.035	0.021		0.92	0.24	0.702	1/31/18 21:50	CMR
Tetrahydrofuran	ND	0.035	0.024		ND	0.10	0.702	1/31/18 21:50	CMR
Toluene	0.54	0.035	0.022		2.0	0.13	0.702	1/31/18 21:50	CMR
1,2,4-Trichlorobenzene	ND	0.035	0.026		ND	0.26	0.702	1/31/18 21:50	CMR
1,1,1-Trichloroethane	ND	0.035	0.024		ND	0.19	0.702	1/31/18 21:50	CMR
1,1,2-Trichloroethane	ND	0.035	0.022		ND	0.19	0.702	1/31/18 21:50	CMR
Trichloroethylene	ND	0.035	0.022		ND	0.19	0.702	1/31/18 21:50	CMR
Trichlorofluoromethane (Freon 11)	0.25	0.14	0.029		1.4	0.79	0.702	1/31/18 21:50	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.082	0.14	0.024	J	0.63	1.1	0.702	1/31/18 21:50	CMR
1,2,4-Trimethylbenzene	0.063	0.035	0.023		0.31	0.17	0.702	1/31/18 21:50	CMR
1,3,5-Trimethylbenzene	ND	0.035	0.024		ND	0.17	0.702	1/31/18 21:50	CMR
Vinyl Acetate	ND	0.70	0.021		ND	2.5	0.702	1/31/18 21:50	CMR
Vinyl Chloride	ND	0.035	0.026		ND	0.090	0.702	1/31/18 21:50	CMR
m&p-Xylene	0.18	0.070	0.045		0.77	0.30	0.702	1/31/18 21:50	CMR
o-Xylene	0.067	0.035	0.022		0.29	0.15	0.702	1/31/18 21:50	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	94.0	70-130	1/31/18 21:50

**ANALYTICAL RESULTS**

Project Location: Orangetown, NY  
 Date Received: 1/30/2018  
**Field Sample #: Glenshaw-1/26/18**  
**Sample ID: 18A1061-04**  
 Sample Matrix: Air  
 Sampled: 1/26/2018 08:59

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2135  
 Canister Size: 6 liter  
 Flow Controller ID: 3532  
 Sample Type: 24 hr

**Work Order: 18A1061**  
 Initial Vacuum(in Hg):  
 Final Vacuum(in Hg):  
 Receipt Vacuum(in Hg): -6.5  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
Acetone	4.1	1.4	0.49		9.6	3.3	0.702	1/31/18 22:33	CMR
Acrolein	0.50	0.70	0.21	J	1.1	1.6	0.702	1/31/18 22:33	CMR
Benzene	0.31	0.035	0.022		0.98	0.11	0.702	1/31/18 22:33	CMR
Benzyl chloride	ND	0.035	0.016		ND	0.18	0.702	1/31/18 22:33	CMR
Bromodichloromethane	ND	0.035	0.023		ND	0.24	0.702	1/31/18 22:33	CMR
Bromoform	ND	0.035	0.021		ND	0.36	0.702	1/31/18 22:33	CMR
Bromomethane	ND	0.035	0.028		ND	0.14	0.702	1/31/18 22:33	CMR
1,3-Butadiene	0.084	0.035	0.027		0.18	0.078	0.702	1/31/18 22:33	CMR
2-Butanone (MEK)	0.45	1.4	0.026	J	1.3	4.1	0.702	1/31/18 22:33	CMR
Carbon Disulfide	ND	0.35	0.024		ND	1.1	0.702	1/31/18 22:33	CMR
Carbon Tetrachloride	0.069	0.035	0.025		0.44	0.22	0.702	1/31/18 22:33	CMR
Chlorobenzene	ND	0.035	0.022		ND	0.16	0.702	1/31/18 22:33	CMR
Chloroethane	ND	0.035	0.029		ND	0.093	0.702	1/31/18 22:33	CMR
Chloroform	0.092	0.035	0.026		0.45	0.17	0.702	1/31/18 22:33	CMR
Chloromethane	0.52	0.070	0.029		1.1	0.14	0.702	1/31/18 22:33	CMR
Cyclohexane	0.053	0.035	0.020		0.18	0.12	0.702	1/31/18 22:33	CMR
Dibromochloromethane	ND	0.035	0.023		ND	0.30	0.702	1/31/18 22:33	CMR
1,2-Dibromoethane (EDB)	ND	0.035	0.023		ND	0.27	0.702	1/31/18 22:33	CMR
1,2-Dichlorobenzene	ND	0.035	0.023		ND	0.21	0.702	1/31/18 22:33	CMR
1,3-Dichlorobenzene	ND	0.035	0.021		ND	0.21	0.702	1/31/18 22:33	CMR
1,4-Dichlorobenzene	ND	0.035	0.024		ND	0.21	0.702	1/31/18 22:33	CMR
Dichlorodifluoromethane (Freon 12)	0.32	0.035	0.027		1.6	0.17	0.702	1/31/18 22:33	CMR
1,1-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	1/31/18 22:33	CMR
1,2-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	1/31/18 22:33	CMR
1,1-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	1/31/18 22:33	CMR
cis-1,2-Dichloroethylene	ND	0.035	0.024		ND	0.14	0.702	1/31/18 22:33	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	1/31/18 22:33	CMR
1,2-Dichloropropane	ND	0.035	0.024		ND	0.16	0.702	1/31/18 22:33	CMR
cis-1,3-Dichloropropene	ND	0.035	0.030		ND	0.16	0.702	1/31/18 22:33	CMR
trans-1,3-Dichloropropene	ND	0.035	0.021		ND	0.16	0.702	1/31/18 22:33	CMR
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035	0.029		ND	0.25	0.702	1/31/18 22:33	CMR
1,4-Dioxane	ND	0.35	0.23		ND	1.3	0.702	1/31/18 22:33	CMR
Ethanol	6.1	1.4	0.63		12	2.6	0.702	1/31/18 22:33	CMR
Ethyl Acetate	0.083	0.035	0.030		0.30	0.13	0.702	1/31/18 22:33	CMR
Ethylbenzene	0.071	0.035	0.023		0.31	0.15	0.702	1/31/18 22:33	CMR
4-Ethyltoluene	ND	0.035	0.023		ND	0.17	0.702	1/31/18 22:33	CMR
Heptane	0.089	0.035	0.023	V-06	0.37	0.14	0.702	1/31/18 22:33	CMR

**ANALYTICAL RESULTS**

Project Location: Orangetown, NY  
 Date Received: 1/30/2018  
**Field Sample #: Glenshaw-1/26/18**  
**Sample ID: 18A1061-04**  
 Sample Matrix: Air  
 Sampled: 1/26/2018 08:59

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2135  
 Canister Size: 6 liter  
 Flow Controller ID: 3532  
 Sample Type: 24 hr

**Work Order: 18A1061**  
 Initial Vacuum(in Hg):  
 Final Vacuum(in Hg):  
 Receipt Vacuum(in Hg): -6.5  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
Hexachlorobutadiene	ND	0.035	0.027		ND	0.37	0.702	1/31/18 22:33	CMR
Hexane	0.17	1.4	0.062	J	0.62	4.9	0.702	1/31/18 22:33	CMR
2-Hexanone (MBK)	0.059	0.035	0.021		0.24	0.14	0.702	1/31/18 22:33	CMR
Isopropanol	3.1	1.4	0.043		7.5	3.4	0.702	1/31/18 22:33	CMR
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.024		ND	0.13	0.702	1/31/18 22:33	CMR
Methylene Chloride	0.23	0.35	0.043	J	0.81	1.2	0.702	1/31/18 22:33	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.030		ND	0.14	0.702	1/31/18 22:33	CMR
Naphthalene	ND	0.035	0.030		ND	0.18	0.702	1/31/18 22:33	CMR
Propene	1.3	1.4	0.11	J	2.2	2.4	0.702	1/31/18 22:33	CMR
Styrene	0.049	0.035	0.023		0.21	0.15	0.702	1/31/18 22:33	CMR
1,1,2,2-Tetrachloroethane	ND	0.035	0.022		ND	0.24	0.702	1/31/18 22:33	CMR
Tetrachloroethylene	0.050	0.035	0.021		0.34	0.24	0.702	1/31/18 22:33	CMR
Tetrahydrofuran	ND	0.035	0.024		ND	0.10	0.702	1/31/18 22:33	CMR
Toluene	0.56	0.035	0.022		2.1	0.13	0.702	1/31/18 22:33	CMR
1,2,4-Trichlorobenzene	ND	0.035	0.026		ND	0.26	0.702	1/31/18 22:33	CMR
1,1,1-Trichloroethane	ND	0.035	0.024		ND	0.19	0.702	1/31/18 22:33	CMR
1,1,2-Trichloroethane	ND	0.035	0.022		ND	0.19	0.702	1/31/18 22:33	CMR
Trichloroethylene	ND	0.035	0.022		ND	0.19	0.702	1/31/18 22:33	CMR
Trichlorofluoromethane (Freon 11)	0.26	0.14	0.029		1.5	0.79	0.702	1/31/18 22:33	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.097	0.14	0.024	J	0.74	1.1	0.702	1/31/18 22:33	CMR
1,2,4-Trimethylbenzene	0.075	0.035	0.023		0.37	0.17	0.702	1/31/18 22:33	CMR
1,3,5-Trimethylbenzene	ND	0.035	0.024		ND	0.17	0.702	1/31/18 22:33	CMR
Vinyl Acetate	ND	0.70	0.021		ND	2.5	0.702	1/31/18 22:33	CMR
Vinyl Chloride	ND	0.035	0.026		ND	0.090	0.702	1/31/18 22:33	CMR
m&p-Xylene	0.21	0.070	0.045		0.92	0.30	0.702	1/31/18 22:33	CMR
o-Xylene	0.082	0.035	0.022		0.36	0.15	0.702	1/31/18 22:33	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	92.4	70-130	1/31/18 22:33



**Sample Extraction Data**

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
18A1061-01 [Rail Trail SW-1/26/18]	B196437	1.5	1	N/A	1000	400	855	01/31/18
18A1061-02 [Rail Trail NW-1/26/18]	B196437	1.5	1	N/A	1000	400	855	01/31/18
18A1061-03 [Murphy-1/26/18]	B196437	1.5	1	N/A	1000	400	855	01/31/18
18A1061-04 [Glenshaw-1/26/18]	B196437	1.5	1	N/A	1000	400	855	01/31/18

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	RPD	Flag/Qual
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	

Batch B196437 - TO-15 Prep

Blank (B196437-BLK1)

Prepared & Analyzed: 01/31/18

Acetone	ND	1.4
Acrolein	ND	0.70
Benzene	ND	0.035
Benzyl chloride	ND	0.035
Bromodichloromethane	ND	0.035
Bromoform	ND	0.035
Bromomethane	ND	0.035
1,3-Butadiene	ND	0.035
2-Butanone (MEK)	ND	1.4
Carbon Disulfide	ND	0.35
Carbon Tetrachloride	ND	0.035
Chlorobenzene	ND	0.035
Chloroethane	ND	0.035
Chloroform	ND	0.035
Chloromethane	ND	0.070
Cyclohexane	ND	0.035
Dibromochloromethane	ND	0.035
1,2-Dibromoethane (EDB)	ND	0.035
1,2-Dichlorobenzene	ND	0.035
1,3-Dichlorobenzene	ND	0.035
1,4-Dichlorobenzene	ND	0.035
Dichlorodifluoromethane (Freon 12)	ND	0.035
1,1-Dichloroethane	ND	0.035
1,2-Dichloroethane	ND	0.035
1,1-Dichloroethylene	ND	0.035
cis-1,2-Dichloroethylene	ND	0.035
trans-1,2-Dichloroethylene	ND	0.035
1,2-Dichloropropane	ND	0.035
cis-1,3-Dichloropropene	ND	0.035
trans-1,3-Dichloropropene	ND	0.035
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035
1,4-Dioxane	ND	0.35
Ethanol	ND	1.4
Ethyl Acetate	ND	0.035
Ethylbenzene	ND	0.035
4-Ethyltoluene	ND	0.035
Heptane	ND	0.035
Hexachlorobutadiene	ND	0.035
Hexane	ND	1.4
2-Hexanone (MBK)	ND	0.035
Isopropanol	ND	1.4
Methyl tert-Butyl Ether (MTBE)	ND	0.035
Methylene Chloride	ND	0.35
4-Methyl-2-pentanone (MIBK)	ND	0.035
Naphthalene	ND	0.035
Propene	ND	1.4

**QUALITY CONTROL**

**Air Toxics by EPA Compendium Methods - Quality Control**

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag/Qual
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		

**Batch B196437 - TO-15 Prep**

**Blank (B196437-BLK1)**

Prepared & Analyzed: 01/31/18

Styrene	ND	0.035
1,1,2,2-Tetrachloroethane	ND	0.035
Tetrachloroethylene	ND	0.035
Tetrahydrofuran	ND	0.035
Toluene	ND	0.035
1,2,4-Trichlorobenzene	ND	0.035
1,1,1-Trichloroethane	ND	0.035
1,1,2-Trichloroethane	ND	0.035
Trichloroethylene	ND	0.035
Trichlorofluoromethane (Freon 11)	ND	0.14
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14
1,2,4-Trimethylbenzene	ND	0.035
1,3,5-Trimethylbenzene	ND	0.035
Vinyl Acetate	ND	0.70
Vinyl Chloride	ND	0.035
m&p-Xylene	ND	0.070
o-Xylene	ND	0.035

*Surrogate: 4-Bromofluorobenzene (1)*      7.67      8.00      95.8      70-130

**LCS (B196437-BS1)**

Prepared & Analyzed: 01/31/18

Acetone	4.76	5.00	95.1	70-130
Acrolein	4.52	5.00	90.4	70-130
Benzene	4.17	5.00	83.5	70-130
Benzyl chloride	5.33	5.00	107	70-130
Bromodichloromethane	4.29	5.00	85.7	70-130
Bromoform	4.87	5.00	97.3	70-130
Bromomethane	4.32	5.00	86.4	70-130
1,3-Butadiene	4.10	5.00	82.0	70-130
2-Butanone (MEK)	3.74	5.00	74.9	70-130
Carbon Disulfide	3.64	5.00	72.7	70-130
Carbon Tetrachloride	4.21	5.00	84.1	70-130
Chlorobenzene	4.70	5.00	94.1	70-130
Chloroethane	4.42	5.00	88.5	70-130
Chloroform	3.85	5.00	77.0	70-130
Chloromethane	3.96	5.00	79.2	70-130
Cyclohexane	3.99	5.00	79.8	70-130
Dibromochloromethane	4.72	5.00	94.4	70-130
1,2-Dibromoethane (EDB)	4.86	5.00	97.3	70-130
1,2-Dichlorobenzene	3.91	5.00	78.2	70-130
1,3-Dichlorobenzene	4.04	5.00	80.8	70-130
1,4-Dichlorobenzene	3.99	5.00	79.8	70-130
Dichlorodifluoromethane (Freon 12)	4.08	5.00	81.7	70-130
1,1-Dichloroethane	3.89	5.00	77.7	70-130
1,2-Dichloroethane	3.86	5.00	77.3	70-130
1,1-Dichloroethylene	4.52	5.00	90.5	70-130
cis-1,2-Dichloroethylene	3.88	5.00	77.7	70-130

**QUALITY CONTROL**

**Air Toxics by EPA Compendium Methods - Quality Control**

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag/Qual
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		
<b>Batch B196437 - TO-15 Prep</b>											
<b>LCS (B196437-BS1)</b>											
Prepared & Analyzed: 01/31/18											
trans-1,2-Dichloroethylene	3.62				5.00		72.4	70-130			
1,2-Dichloropropane	4.27				5.00		85.3	70-130			
cis-1,3-Dichloropropene	4.56				5.00		91.3	70-130			
trans-1,3-Dichloropropene	4.72				5.00		94.4	70-130			V-20
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	4.13				5.00		82.5	70-130			
1,4-Dioxane	4.30				5.00		86.1	70-130			V-20
Ethanol	5.24				5.00		105	70-130			
Ethyl Acetate	4.05				5.00		81.0	70-130			
Ethylbenzene	4.76				5.00		95.2	70-130			
4-Ethyltoluene	4.29				5.00		85.8	70-130			
Heptane	4.48				5.00		89.6	70-130			V-06
Hexachlorobutadiene	5.15				5.00		103	70-130			
Hexane	3.68				5.00		73.6	70-130			
2-Hexanone (MBK)	5.20				5.00		104	70-130			
Isopropanol	4.03				5.00		80.6	70-130			
Methyl tert-Butyl Ether (MTBE)	3.65				5.00		73.0	70-130			
Methylene Chloride	4.30				5.00		85.9	70-130			
4-Methyl-2-pentanone (MIBK)	4.65				5.00		92.9	70-130			
Naphthalene	6.19				5.00		124	70-130			V-20
Propene	3.89				5.00		77.8	70-130			
Styrene	4.16				5.00		83.2	70-130			
1,1,2,2-Tetrachloroethane	4.53				5.00		90.6	70-130			
Tetrachloroethylene	4.66				5.00		93.3	70-130			
Tetrahydrofuran	4.06				5.00		81.2	70-130			
Toluene	5.05				5.00		101	70-130			
1,2,4-Trichlorobenzene	6.30				5.00		126	70-130			
1,1,1-Trichloroethane	3.91				5.00		78.3	70-130			
1,1,2-Trichloroethane	4.86				5.00		97.3	70-130			
Trichloroethylene	4.24				5.00		84.9	70-130			
Trichlorofluoromethane (Freon 11)	4.36				5.00		87.1	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	3.81				5.00		76.2	70-130			
1,2,4-Trimethylbenzene	4.54				5.00		90.8	70-130			
1,3,5-Trimethylbenzene	4.41				5.00		88.1	70-130			
Vinyl Acetate	3.52				5.00		70.4	70-130			
Vinyl Chloride	4.23				5.00		84.6	70-130			
m&p-Xylene	10.1				10.0		101	70-130			
o-Xylene	4.82				5.00		96.4	70-130			
Surrogate: 4-Bromofluorobenzene (1)	7.40				8.00		92.4	70-130			

**QUALITY CONTROL**

**Air Toxics by EPA Compendium Methods - Quality Control**

Analyte	ppbv		ug/m3		Spike Level ppbv	Source Result	%REC Limits	RPD	RPD Limit	Flag/Qual
	Results	RL	Results	RL						
<b>Batch B196437 - TO-15 Prep</b>										
<b>Duplicate (B196437-DUP1)</b>		<b>Source: 18A1061-04</b>				<b>Prepared &amp; Analyzed: 01/31/18</b>				
Acetone	4.2	1.4	9.9	3.3		4.1		2.93	25	
Acrolein	0.53	0.70	1.2	1.6		0.50		5.18	25	J
Benzene	0.32	0.035	1.0	0.11		0.31		4.27	25	
Benzyl chloride	ND	0.035	ND	0.18		ND			25	
Bromodichloromethane	ND	0.035	ND	0.24		ND			25	
Bromoform	ND	0.035	ND	0.36		ND			25	
Bromomethane	ND	0.035	ND	0.14		ND			25	
1,3-Butadiene	0.084	0.035	0.18	0.078		0.084		0.00	25	
2-Butanone (MEK)	0.46	1.4	1.4	4.1		0.45		2.77	25	J
Carbon Disulfide	ND	0.35	ND	1.1		ND			25	
Carbon Tetrachloride	0.072	0.035	0.45	0.22		0.069		3.96	25	
Chlorobenzene	ND	0.035	ND	0.16		ND			25	
Chloroethane	ND	0.035	ND	0.093		ND			25	
Chloroform	0.093	0.035	0.46	0.17		0.092		1.52	25	
Chloromethane	0.54	0.070	1.1	0.14		0.52		4.52	25	
Cyclohexane	0.052	0.035	0.18	0.12		0.053		1.34	25	
Dibromochloromethane	ND	0.035	ND	0.30		ND			25	
1,2-Dibromoethane (EDB)	ND	0.035	ND	0.27		ND			25	
1,2-Dichlorobenzene	ND	0.035	ND	0.21		ND			25	
1,3-Dichlorobenzene	ND	0.035	ND	0.21		ND			25	
1,4-Dichlorobenzene	ND	0.035	ND	0.21		ND			25	
Dichlorodifluoromethane (Freon 12)	0.27	0.035	1.3	0.17		0.32		19.1	25	
1,1-Dichloroethane	ND	0.035	ND	0.14		ND			25	
1,2-Dichloroethane	ND	0.035	ND	0.14		ND			25	
1,1-Dichloroethylene	ND	0.035	ND	0.14		ND			25	
cis-1,2-Dichloroethylene	ND	0.035	ND	0.14		ND			25	
trans-1,2-Dichloroethylene	ND	0.035	ND	0.14		ND			25	
1,2-Dichloropropane	ND	0.035	ND	0.16		ND			25	
cis-1,3-Dichloropropene	ND	0.035	ND	0.16		ND			25	
trans-1,3-Dichloropropene	ND	0.035	ND	0.16		ND			25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035	ND	0.25		ND			25	
1,4-Dioxane	ND	0.35	ND	1.3		ND			25	
Ethanol	6.5	1.4	12	2.6		6.1		5.35	25	
Ethyl Acetate	0.084	0.035	0.30	0.13		0.083		1.68	25	
Ethylbenzene	0.073	0.035	0.32	0.15		0.071		2.93	25	
4-Ethyltoluene	ND	0.035	ND	0.17		ND			25	
Heptane	0.090	0.035	0.37	0.14		0.089		0.784	25	V-06
Hexachlorobutadiene	ND	0.035	ND	0.37		ND			25	
Hexane	0.17	1.4	0.62	4.9		0.17		0.00	25	J
2-Hexanone (MBK)	0.039	0.035	0.16	0.14		0.059		40.0	25	R-04
Isopropanol	3.2	1.4	7.7	3.4		3.1		2.85	25	
Methyl tert-Butyl Ether (MTBE)	ND	0.035	ND	0.13		ND			25	
Methylene Chloride	0.24	0.35	0.82	1.2		0.23		1.80	25	J
4-Methyl-2-pentanone (MIBK)	ND	0.035	ND	0.14		ND			25	
Naphthalene	ND	0.035	ND	0.18		ND			25	
Propene	1.3	1.4	2.3	2.4		1.3		2.63	25	J

**QUALITY CONTROL**

**Air Toxics by EPA Compendium Methods - Quality Control**

Analyte	ppbv		ug/m3		Spike Level ppbv	Source Result	%REC Limits	RPD	RPD Limit	Flag/Qual
	Results	RL	Results	RL						
<b>Batch B196437 - TO-15 Prep</b>										
<b>Duplicate (B196437-DUP1)</b>		<b>Source: 18A1061-04</b>				<b>Prepared &amp; Analyzed: 01/31/18</b>				
Styrene	0.050	0.035	0.21	0.15		0.049		1.42	25	
1,1,2,2-Tetrachloroethane	ND	0.035	ND	0.24		ND			25	
Tetrachloroethylene	0.055	0.035	0.37	0.24		0.050		9.40	25	
Tetrahydrofuran	ND	0.035	ND	0.10		ND			25	
Toluene	0.57	0.035	2.2	0.13		0.56		2.11	25	
1,2,4-Trichlorobenzene	ND	0.035	ND	0.26		ND			25	
1,1,1-Trichloroethane	ND	0.035	ND	0.19		ND			25	
1,1,2-Trichloroethane	ND	0.035	ND	0.19		ND			25	
Trichloroethylene	ND	0.035	ND	0.19		ND			25	
Trichlorofluoromethane (Freon 11)	0.27	0.14	1.5	0.79		0.26		1.33	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.098	0.14	0.75	1.1		0.097		0.722	25	J
1,2,4-Trimethylbenzene	0.074	0.035	0.36	0.17		0.075		1.89	25	
1,3,5-Trimethylbenzene	ND	0.035	ND	0.17		ND			25	
Vinyl Acetate	ND	0.70	ND	2.5		ND			25	
Vinyl Chloride	ND	0.035	ND	0.090		ND			25	
m&p-Xylene	0.22	0.070	0.94	0.30		0.21		2.62	25	
o-Xylene	0.085	0.035	0.37	0.15		0.082		3.36	25	
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	<i>7.50</i>				<i>8.00</i>		<i>93.7</i>	<i>70-130</i>		

**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
RL	Reporting Limit
MDL	Method Detection Limit
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
LCS Dup	Duplicate Laboratory Control Sample
MS	Matrix Spike Sample
MS Dup	Duplicate Matrix Spike Sample
REC	Recovery
QC	Quality Control
ppbv	Parts per billion volume
EPA	United States Environmental Protection Agency
% REC	Percent Recovery
ND	Not Detected
N/A	Not Applicable
DL	Detection Limit
NC	Not Calculated
LFB/LCS	Lab Fortified Blank/Lab Control Sample
ORP	Oxidation-Reduction Potential
wet	Not dry weight corrected
% wt	Percent weight
Kg	Kilogram
g	Gram
mg	Milligram
µg	Microgram
ng	Nanogram
L	Liter
mL	Milliliter
µL	Microliter
m3	Cubic Meter
EPH	Extractable Petroleum Hydrocarbons
VPH	Volatile Petroleum Hydrocarbons
APH	Air Petroleum Hydrocarbons
FID	Flame Ionization Detector
PID	Photo Ionization Detector
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
R-04	Duplicate relative percent difference (RPD) is a less useful indicator of sample precision for sample results that are <5 times the reporting limit (RL).
V-06	Continuing calibration did not meet method specifications and was biased on the high side for this compound. Reported result is estimated.
V-20	Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
Z-01	Sample had a final pressure of zero.

**ANALYST**

RLF Rebecca Faust  
RAP Raisa A. Petraitis  
MEK Meghan E. Kelley  
JLH Jessica L. Hoffman  
CMR Catherine M. Rouleau



INTERNAL STANDARD AREA AND RT SUMMARY

EPA TO-15

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>Calibration Check (S019971-CCV1 )</b>									
			Lab File ID: G013103.D			Analyzed: 01/31/18 12:56			
Bromochloromethane (1)	223551	8.568	263096	8.574	85	60 - 140	-0.0060	+/-0.50	
1,4-Difluorobenzene (1)	387081	10.481	585299	10.484	66	60 - 140	-0.0030	+/-0.50	
Chlorobenzene-d5 (1)	247760	15.272	341334	15.275	73	60 - 140	-0.0030	+/-0.50	
<b>LCS (B196437-BS1 )</b>									
			Lab File ID: G013105.D			Analyzed: 01/31/18 14:09			
Bromochloromethane (1)	243897	8.567	223551	8.568	109	60 - 140	-0.0010	+/-0.50	
1,4-Difluorobenzene (1)	482102	10.477	387081	10.481	125	60 - 140	-0.0040	+/-0.50	
Chlorobenzene-d5 (1)	254800	15.271	247760	15.272	103	60 - 140	-0.0010	+/-0.50	
<b>Blank (B196437-BLK1 )</b>									
			Lab File ID: G013107.D			Analyzed: 01/31/18 15:55			
Bromochloromethane (1)	237261	8.571	223551	8.568	106	60 - 140	0.0030	+/-0.50	
1,4-Difluorobenzene (1)	500539	10.481	387081	10.481	129	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	272188	15.271	247760	15.272	110	60 - 140	-0.0010	+/-0.50	
<b>Rail Trail SW-1/26/18 (18A1061-01 )</b>									
			Lab File ID: G013113.D			Analyzed: 01/31/18 20:22			
Bromochloromethane (1)	240662	8.567	223551	8.568	108	60 - 140	-0.0010	+/-0.50	
1,4-Difluorobenzene (1)	485004	10.477	387081	10.481	125	60 - 140	-0.0040	+/-0.50	
Chlorobenzene-d5 (1)	275764	15.268	247760	15.272	111	60 - 140	-0.0040	+/-0.50	
<b>Rail Trail NW-1/26/18 (18A1061-02 )</b>									
			Lab File ID: G013114.D			Analyzed: 01/31/18 21:06			
Bromochloromethane (1)	240116	8.567	223551	8.568	107	60 - 140	-0.0010	+/-0.50	
1,4-Difluorobenzene (1)	490491	10.477	387081	10.481	127	60 - 140	-0.0040	+/-0.50	
Chlorobenzene-d5 (1)	267544	15.271	247760	15.272	108	60 - 140	-0.0010	+/-0.50	
<b>Murphy-1/26/18 (18A1061-03 )</b>									
			Lab File ID: G013115.D			Analyzed: 01/31/18 21:50			
Bromochloromethane (1)	238040	8.571	223551	8.568	106	60 - 140	0.0030	+/-0.50	
1,4-Difluorobenzene (1)	484364	10.48	387081	10.481	125	60 - 140	-0.0010	+/-0.50	
Chlorobenzene-d5 (1)	263915	15.271	247760	15.272	107	60 - 140	-0.0010	+/-0.50	
<b>Glenshaw-1/26/18 (18A1061-04 )</b>									
			Lab File ID: G013116.D			Analyzed: 01/31/18 22:33			
Bromochloromethane (1)	241789	8.568	223551	8.568	108	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (1)	497573	10.481	387081	10.481	129	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	277597	15.272	247760	15.272	112	60 - 140	0.0000	+/-0.50	
<b>Duplicate (B196437-DUP1 )</b>									
			Lab File ID: G013117.D			Analyzed: 01/31/18 23:17			
Bromochloromethane (1)	238047	8.571	223551	8.568	106	60 - 140	0.0030	+/-0.50	
1,4-Difluorobenzene (1)	474197	10.481	387081	10.481	123	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	269299	15.271	247760	15.272	109	60 - 140	-0.0010	+/-0.50	

CONTINUING CALIBRATION CHECK

EPA TO-15

S019971-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	5.00	5.08	1.412798	1.436859		1.7	30
Benzene	A	5.00	5.91	0.8148238	0.9625603		18.1	30
Benzyl chloride	A	5.00	5.57	1.014906	1.131088		11.4	30
Bromodichloromethane	A	5.00	6.19	0.5478282	0.6786466		23.9	30
Bromoform	A	5.00	6.22	0.5491019	0.6833839		24.5	30
Bromomethane	A	5.00	5.19	0.6317124	0.6555497		3.8	30
1,3-Butadiene	A	5.00	4.96	0.643986	0.6390023		-0.8	30
2-Butanone (MEK)	A	5.00	4.66	1.461547	1.362345		-6.8	30
Carbon Disulfide	A	5.00	4.03	1.960181	1.579566		-19.4	30
Carbon Tetrachloride	A	5.00	5.96	0.4964057	0.5918596		19.2	30
Chlorobenzene	A	5.00	5.92	0.9440229	1.117081		18.3	30
Chloroethane	A	5.00	5.31	0.3898832	0.4140514		6.2	30
Chloroform	A	5.00	4.77	1.268636	1.210104		-4.6	30
Chloromethane	A	5.00	5.02	0.7714252	0.7751896		0.5	30
Cyclohexane	A	5.00	5.86	0.3497699	0.4099814		17.2	30
Dibromochloromethane	A	5.00	5.96	0.689223	0.8214336		19.2	30
1,2-Dibromoethane (EDB)	A	5.00	5.88	0.6551804	0.7705974		17.6	30
1,2-Dichlorobenzene	A	5.00	4.51	0.8995452	0.8119277		-9.7	30
1,3-Dichlorobenzene	A	5.00	4.85	0.9210795	0.8937811		-3.0	30
1,4-Dichlorobenzene	A	5.00	4.64	0.8778448	0.8154537		-7.1	30
Dichlorodifluoromethane (Freon 12)	A	5.00	5.03	1.600442	1.609791		0.6	30
1,1-Dichloroethane	A	5.00	4.67	1.184108	1.106303		-6.6	30
1,2-Dichloroethane	A	5.00	4.78	0.8573408	0.8192708		-4.4	30
1,1-Dichloroethylene	A	5.00	5.26	1.245684	1.311479		5.3	30
cis-1,2-Dichloroethylene	A	5.00	4.74	0.8362847	0.7922309		-5.3	30
trans-1,2-Dichloroethylene	A	5.00	4.66	0.900405	0.8398835		-6.7	30
1,2-Dichloropropane	A	5.00	6.12	0.3002661	0.3677205		22.5	30
cis-1,3-Dichloropropene	A	5.00	6.42	0.4006674	0.5145548		28.4	30
trans-1,3-Dichloropropene	A	5.00	6.59	0.3447357	0.454061		31.7	30 *
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 113)	A	5.00	5.38	1.820957	1.957467		7.5	30
1,4-Dioxane	A	5.00	6.80	0.1421247	0.1932536		36.0	30 *
Ethanol	A	5.00	5.54	0.2506489	0.2776852		10.8	30
Ethyl Acetate	A	5.00	5.18	0.2088726	0.2164052		3.6	30
Ethylbenzene	A	5.00	6.19	1.512202	1.873368		23.9	30
4-Ethyltoluene	A	5.00	5.40	1.666175	1.799522		8.0	30
Heptane	A	5.00	6.52	0.2599417	0.3386785		30.3	30 *
Hexachlorobutadiene	A	5.00	5.25	0.8551033	0.898321		5.1	30
Hexane	A	5.00	4.64	0.879214	0.816186		-7.2	30

CONTINUING CALIBRATION CHECK

EPA TO-15

S019971-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
2-Hexanone (MBK)	A	5.00	6.12	1.208021	1.478876		22.4	30
Isopropanol	A	5.00	5.09	1.536564	1.564464		1.8	30
Methyl tert-Butyl Ether (MTBE)	A	5.00	4.60	1.580286	1.455446		-7.9	30
Methylene Chloride	A	5.00	5.25	0.9915177	1.041473		5.0	30
4-Methyl-2-pentanone (MIBK)	A	5.00	6.49	0.7753173	1.006132		29.8	30
Naphthalene	A	5.00	6.76	1.805522	2.442299		35.3	30 *
Propene	A	5.00	4.76	0.5355822	0.5096144		-4.8	30
Styrene	A	5.00	5.95	0.8328317	0.9907588		19.0	30
1,1,2,2-Tetrachloroethane	A	5.00	5.42	1.192141	1.292141		8.4	30
Tetrachloroethylene	A	5.00	5.62	0.5506067	0.6183662		12.3	30
Tetrahydrofuran	A	5.00	5.12	0.2544111	0.2605365		2.4	30
Toluene	A	5.00	6.03	1.261016	1.521621		20.7	30
1,2,4-Trichlorobenzene	A	5.00	6.27	0.7087607	0.8893316		25.5	30
1,1,1-Trichloroethane	A	5.00	5.94	0.507284	0.6028878		18.8	30
1,1,2-Trichloroethane	A	5.00	6.02	0.4418987	0.531947		20.4	30
Trichloroethylene	A	5.00	6.05	0.3340933	0.4042482		21.0	30
Trichlorofluoromethane (Freon 11)	A	5.00	5.32	1.751036	1.864809		6.5	30
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	A	5.00	4.47	1.241477	1.110769		-10.5	30
1,2,4-Trimethylbenzene	A	5.00	5.38	1.413947	1.522312		7.7	30
1,3,5-Trimethylbenzene	A	5.00	5.43	1.533726	1.66651		8.7	30
Vinyl Acetate	A	5.00	4.80	1.918986	1.841033		-4.1	30
Vinyl Chloride	A	5.00	5.17	0.7979185	0.8255119		3.5	30
m&p-Xylene	A	10.0	12.7	1.192469	1.516206		27.1	30
o-Xylene	A	5.00	6.06	1.198676	1.451824		21.1	30

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
Acetone	AIHA,NY,ME
Acrolein	AIHA,NJ
Benzene	AIHA,FL,NJ,NY,VA,ME
Benzyl chloride	AIHA,FL,NJ,NY,VA,ME
Bromodichloromethane	AIHA,NJ,NY,VA,ME
Bromoform	AIHA,NJ,NY,VA,ME
Bromomethane	AIHA,FL,NJ,NY,ME
1,3-Butadiene	AIHA,NJ,NY,VA,ME
2-Butanone (MEK)	AIHA,FL,NJ,NY,VA,ME
Carbon Disulfide	AIHA,NJ,NY,VA,ME
Carbon Tetrachloride	AIHA,FL,NJ,NY,VA,ME
Chlorobenzene	AIHA,FL,NJ,NY,VA,ME
Chloroethane	AIHA,FL,NJ,NY,VA,ME
Chloroform	AIHA,FL,NJ,NY,VA,ME
Chloromethane	AIHA,FL,NJ,NY,VA,ME
Cyclohexane	AIHA,NJ,NY,VA,ME
Dibromochloromethane	AIHA,NY,ME
1,2-Dibromoethane (EDB)	AIHA,NJ,NY,ME
1,2-Dichlorobenzene	AIHA,FL,NJ,NY,VA,ME
1,3-Dichlorobenzene	AIHA,NJ,NY,ME
1,4-Dichlorobenzene	AIHA,FL,NJ,NY,VA,ME
Dichlorodifluoromethane (Freon 12)	AIHA,NY,ME
1,1-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,2-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1-Dichloroethylene	AIHA,FL,NJ,NY,VA,ME
cis-1,2-Dichloroethylene	AIHA,FL,NY,VA,ME
trans-1,2-Dichloroethylene	AIHA,NJ,NY,VA,ME
1,2-Dichloropropane	AIHA,FL,NJ,NY,VA,ME
cis-1,3-Dichloropropene	AIHA,FL,NJ,NY,VA,ME
trans-1,3-Dichloropropene	AIHA,NY,ME
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,NJ,NY,VA,ME
1,4-Dioxane	AIHA,NJ,NY,VA,ME
Ethanol	AIHA
Ethyl Acetate	AIHA
Ethylbenzene	AIHA,FL,NJ,NY,VA,ME
4-Ethyltoluene	AIHA,NJ
Heptane	AIHA,NJ,NY,VA,ME
Hexachlorobutadiene	AIHA,NJ,NY,VA,ME
Hexane	AIHA,FL,NJ,NY,VA,ME
2-Hexanone (MBK)	AIHA
Isopropanol	AIHA,NY,ME
Methyl tert-Butyl Ether (MTBE)	AIHA,FL,NJ,NY,VA,ME
Methylene Chloride	AIHA,FL,NJ,NY,VA,ME
4-Methyl-2-pentanone (MIBK)	AIHA,FL,NJ,NY,ME
Naphthalene	NY,ME
Propene	AIHA
Styrene	AIHA,FL,NJ,NY,VA,ME

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,VA,ME
Tetrachloroethylene	AIHA,FL,NJ,NY,VA,ME
Tetrahydrofuran	AIHA
Toluene	AIHA,FL,NJ,NY,VA,ME
1,2,4-Trichlorobenzene	AIHA,NJ,NY,VA,ME
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,VA,ME
Trichloroethylene	AIHA,FL,NJ,NY,VA,ME
Trichlorofluoromethane (Freon 11)	AIHA,NY,ME
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIHA,NJ,NY,VA,ME
1,2,4-Trimethylbenzene	AIHA,NJ,NY,ME
1,3,5-Trimethylbenzene	AIHA,NJ,NY,ME
Vinyl Acetate	AIHA,FL,NJ,NY,VA,ME
Vinyl Chloride	AIHA,FL,NJ,NY,VA,ME
m&p-Xylene	AIHA,FL,NJ,NY,VA,ME
o-Xylene	AIHA,FL,NJ,NY,VA,ME

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	03/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2018
CT	Connecticut Department of Public Health	PH-0567	09/30/2019
NY	New York State Department of Health	10899 NELAP	04/1/2018
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2019
RI	Rhode Island Department of Health	LAO00112	12/30/2018
NC	North Carolina Div. of Water Quality	652	12/31/2018
NJ	New Jersey DEP	MA007 NELAP	06/30/2018
FL	Florida Department of Health	E871027 NELAP	06/30/2018
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2018
ME	State of Maine	2011028	06/9/2019
VA	Commonwealth of Virginia	460217	12/14/2018
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2018
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2018
NC-DW	North Carolina Department of Health	25703	07/31/2018

CHAIN OF CUSTODY RECORD

18A01001

Project Name: Orangetown Air Sampling

Project No.: 267443.1000.0000

Sampling Date(s): 1/26/18 - 1/27/18

Laboratory: Con-Test

Laboratory P.O.: 111950

Shipping Date(s): 1/29/2018

Send Results to: mlh@tris@resolutions.com

Shipper's Name: Oleg Markov

Sample Name	Sampled Date	Container	
		Size	G/S
Rail Trail SW - 1/26/18 01	1-26-18 0818	6L	SUMMA
Rail Trail NW - 1/26/18 02	1-26-18 0728	6L	SUMMA
Murphy - 1/26/18 03	1-26-18 0842	6L	SUMMA
Glenshaw - 1/26/18 04	1-26-18 0859	6L	SUMMA

MATRIX	Aqueous	Organic Solvent	Ash/Soil/Sediment (Solid)	Acidic	Basic	Ambient Air	Description
						X	VOCs TO-15
						X	VOCs TO-15
						X	VOCs TO-15
						X	VOCs TO-15

ANALYSIS	Trace Metals*	Mercury	HCl	Cl2	Particulate Matter	PCDD/PCDF	Semivolatile Organics	Volatile Organics	Physical Parameters*	AHERA Mod. (TEM/SEM)	Canister ID	Flow Controller ID	Duration (min)
											1508	3356	~23.5 Hr
								X			1508	3356	~23.5 Hr
								X			1449	3261	~24 Hr
								X			2222	3533	~23.5 Hr
								X			2135	3532	

Relinquished by: O. Markov Date/Time: 1-27-18 0945

Received by: [Signature] Date/Time: 1/30/18 1013

Risks (\*): None



**IMPORTANT!**

FedEx will be operating in the Minneapolis metro area during Super Bowl LII. [Learn More](#)

FedEx<sup>®</sup> Tracking

**771315753841**

Ship date:

**Sat 1/27/2018**

AUSTIN, TX US



**Delivered**

Signed for by: B.BECCA

Actual delivery:

**Tue 1/30/2018 10:13 am**

EAST LONGMEADOW, MA US

Travel History

▲ Date/Time	Activity	Location
■ 1/30/2018 - Tuesday		
10:13 am	Delivered	EAST LONGMEADOW, MA
7:14 am	On FedEx vehicle for delivery	WINDSOR LOCKS, CT
7:05 am	At local FedEx facility	WINDSOR LOCKS, CT
■ 1/28/2018 - Sunday		
6:34 pm	At destination sort facility	EAST GRANBY, CT
3:27 pm	Departed FedEx location	MEMPHIS, TN
■ 1/27/2018 - Saturday		
6:35 pm	Left FedEx origin facility	MAHWAH, NJ
4:02 pm	Picked up	MAHWAH, NJ
9:45 am	Picked up	HANUET, NY
	Tendered at FedEx Office	
■ 1/24/2018 - Wednesday		
2:24 pm	Shipment information sent to FedEx	

Shipment Facts

<b>Tracking Number</b>	771315753841	<b>Service</b>	FedEx 2Day
<b>Weight</b>	35 lbs / 15.88 kgs	<b>Dimensions</b>	21x18x14 in.
<b>Delivered To</b>	Shipping/Receiving	<b>Total pieces</b>	1
<b>Total shipment weight</b>	35 lbs / 15.88 kgs	<b>Terms</b>	Shipper
<b>Shipper reference</b>	267443.1000.0000	<b>Packaging</b>	Your Packaging
<b>Special handling section</b>	Deliver Weekday	<b>Standard transit</b>	1/31/2018 by 4:30 pm

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 ANALYTICAL LABORATORY

Doc# 278 Rev 6 2017

**Air Media Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False**

Client TRC

Received By RAP Date 1/30/18 Time 1013

How were the samples received? In Cooler      On Ice      No Ice       
 In Box T Ambient      Melted Ice     

Were samples within Temperature Compliance? 2-6°C By Gun #      Actual Temp -       
 By Blank #      Actual Temp -     

Was Custody Seal Intact? NA Were Samples Tampered with? NA  
 Was COC Relinquished? T Does Chain Agree With Samples? T

Are there any loose caps/valves on any samples? F

Is COC in ink/ Legible? T

Did COC Include all Pertinent Information? Client T Analysis T Sampler Name T  
 Project T ID's T Collection Dates/Times T

Are Sample Labels filled out and legible? T

Are there Rushes? F Who was notified?     

Samples are received within holding time? T

Proper Media Used? T Individually Certified Cans? F  
 Are there Trip Blanks? F Is there enough Volume? T

Containers:	#	Size	Regulator	Duration	Accessories:		
Summa Cans	4	6L	4	244r	Nut/Ferrule		IC Train
Tedlar Bags					Tubing		
TO-17 Tubes					T-Connector		Shipping Charges
Radiello					Syringe		
Pufs/TO-11s					Tedlar		

Can #'s	Reg #'s
1508	3356
1449	3261
2222	3533
2135	3532
Unused Media	Pufs/TO-17's

Comments:



February 15, 2018

Melita Lihzis  
TRC Engineers, Inc.  
1430 Broadway 10th Floor  
New York, NY 10018

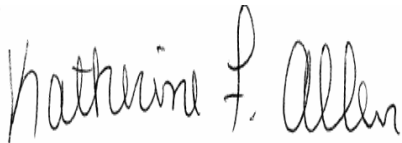
Project Location: Orangetown  
Client Job Number:  
Project Number: 267443.1000.000  
Laboratory Work Order Number: 18B0249

Enclosed are results of analyses for samples received by the laboratory on February 6, 2018. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Meghan E. Kelley  
Project Manager



QA Officer  
Katherine Allen



Laboratory Manager  
Daren Damboragian

TRC Engineers, Inc.  
1430 Broadway 10th Floor  
New York, NY 10018  
ATTN: Melita Lihzis

REPORT DATE: 2/15/2018

PURCHASE ORDER NUMBER: 111950

PROJECT NUMBER: 267443.1000.000

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 18B0249

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Orangetown

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Rail Trail SW-2/1/18	18B0249-01	Air		EPA TO-15	
Rail Trail NW-2/1/18	18B0249-02	Air		EPA TO-15	
Murphy-2/1/18	18B0249-03	Air		EPA TO-15	
Glenshaw-2/1/18	18B0249-04	Air		EPA TO-15	

**CASE NARRATIVE SUMMARY**

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

**EPA TO-15**

**Qualifications:**

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Laboratory fortified blank /laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.

**Analyte & Samples(s) Qualified:**

**1,2,4-Trichlorobenzene, Hexachlorobutadiene**  
B196969-BS1

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Surrogate outside of control limits.

**Analyte & Samples(s) Qualified:**

**4-Bromofluorobenzene (1)**  
18B0249-04[Glenshaw-2/1/18]

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Compound fails the method requirement of 70-130% recovery for the LCS. Is classified by the lab as a difficult compound and passes the in house limits of 50-150%.

**Analyte & Samples(s) Qualified:**

**Naphthalene**  
18B0249-01[Rail Trail SW-2/1/18], B196969-BS1

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Sample had a final pressure of zero.

**Analyte & Samples(s) Qualified:**

18B0249-03[Murphy-2/1/18]

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The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing. I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington  
Project Manager

**ANALYTICAL RESULTS**

Project Location: Orangetown  
 Date Received: 2/6/2018  
**Field Sample #: Rail Trail SW-2/1/18**  
**Sample ID: 18B0249-01**  
 Sample Matrix: Air  
 Sampled: 2/1/2018 08:37

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2071  
 Canister Size: 6 liter  
 Flow Controller ID: 3424  
 Sample Type: 24 hr

**Work Order: 18B0249**  
 Initial Vacuum(in Hg): -  
 Final Vacuum(in Hg): -  
 Receipt Vacuum(in Hg): -5.1  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analyzed		
Acetone	2.5	1.4	0.49		5.9	3.3	0.702	2/15/18	0:17	CMR
Acrolein	ND	0.70	0.21		ND	1.6	0.702	2/15/18	0:17	CMR
Benzene	0.24	0.035	0.022		0.77	0.11	0.702	2/15/18	0:17	CMR
Benzyl chloride	ND	0.035	0.016		ND	0.18	0.702	2/15/18	0:17	CMR
Bromodichloromethane	ND	0.035	0.023		ND	0.24	0.702	2/15/18	0:17	CMR
Bromoform	ND	0.035	0.021		ND	0.36	0.702	2/15/18	0:17	CMR
Bromomethane	ND	0.035	0.028		ND	0.14	0.702	2/15/18	0:17	CMR
1,3-Butadiene	0.060	0.035	0.027		0.13	0.078	0.702	2/15/18	0:17	CMR
2-Butanone (MEK)	0.25	1.4	0.026	J	0.73	4.1	0.702	2/15/18	0:17	CMR
Carbon Disulfide	ND	0.35	0.024		ND	1.1	0.702	2/15/18	0:17	CMR
Carbon Tetrachloride	0.069	0.035	0.025		0.44	0.22	0.702	2/15/18	0:17	CMR
Chlorobenzene	ND	0.035	0.022		ND	0.16	0.702	2/15/18	0:17	CMR
Chloroethane	ND	0.035	0.029		ND	0.093	0.702	2/15/18	0:17	CMR
Chloroform	ND	0.035	0.026		ND	0.17	0.702	2/15/18	0:17	CMR
Chloromethane	0.48	0.070	0.029		1.00	0.14	0.702	2/15/18	0:17	CMR
Cyclohexane	0.16	0.035	0.020		0.56	0.12	0.702	2/15/18	0:17	CMR
Dibromochloromethane	ND	0.035	0.023		ND	0.30	0.702	2/15/18	0:17	CMR
1,2-Dibromoethane (EDB)	ND	0.035	0.023		ND	0.27	0.702	2/15/18	0:17	CMR
1,2-Dichlorobenzene	ND	0.035	0.023		ND	0.21	0.702	2/15/18	0:17	CMR
1,3-Dichlorobenzene	ND	0.035	0.021		ND	0.21	0.702	2/15/18	0:17	CMR
1,4-Dichlorobenzene	ND	0.035	0.024		ND	0.21	0.702	2/15/18	0:17	CMR
Dichlorodifluoromethane (Freon 12)	0.18	0.035	0.027		0.90	0.17	0.702	2/15/18	0:17	CMR
1,1-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	2/15/18	0:17	CMR
1,2-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	2/15/18	0:17	CMR
1,1-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	2/15/18	0:17	CMR
cis-1,2-Dichloroethylene	ND	0.035	0.024		ND	0.14	0.702	2/15/18	0:17	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	2/15/18	0:17	CMR
1,2-Dichloropropane	ND	0.035	0.024		ND	0.16	0.702	2/15/18	0:17	CMR
cis-1,3-Dichloropropene	ND	0.035	0.030		ND	0.16	0.702	2/15/18	0:17	CMR
trans-1,3-Dichloropropene	ND	0.035	0.021		ND	0.16	0.702	2/15/18	0:17	CMR
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035	0.029		ND	0.25	0.702	2/15/18	0:17	CMR
1,4-Dioxane	ND	0.35	0.23		ND	1.3	0.702	2/15/18	0:17	CMR
Ethanol	5.1	1.4	0.63		9.7	2.6	0.702	2/15/18	0:17	CMR
Ethyl Acetate	0.24	0.035	0.030		0.87	0.13	0.702	2/15/18	0:17	CMR
Ethylbenzene	0.060	0.035	0.023		0.26	0.15	0.702	2/15/18	0:17	CMR
4-Ethyltoluene	ND	0.035	0.023		ND	0.17	0.702	2/15/18	0:17	CMR
Heptane	0.072	0.035	0.023		0.29	0.14	0.702	2/15/18	0:17	CMR

**ANALYTICAL RESULTS**

Project Location: Orangetown  
 Date Received: 2/6/2018  
**Field Sample #: Rail Trail SW-2/1/18**  
**Sample ID: 18B0249-01**  
 Sample Matrix: Air  
 Sampled: 2/1/2018 08:37

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2071  
 Canister Size: 6 liter  
 Flow Controller ID: 3424  
 Sample Type: 24 hr

**Work Order: 18B0249**  
 Initial Vacuum(in Hg): -  
 Final Vacuum(in Hg): -  
 Receipt Vacuum(in Hg): -5.1  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analized		
Hexachlorobutadiene	ND	0.035	0.027		ND	0.37	0.702	2/15/18	0:17	CMR
Hexane	0.21	1.4	0.062	J	0.74	4.9	0.702	2/15/18	0:17	CMR
2-Hexanone (MBK)	ND	0.035	0.021		ND	0.14	0.702	2/15/18	0:17	CMR
Isopropanol	0.46	1.4	0.043	J	1.1	3.4	0.702	2/15/18	0:17	CMR
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.024		ND	0.13	0.702	2/15/18	0:17	CMR
Methylene Chloride	0.26	0.35	0.043	J	0.91	1.2	0.702	2/15/18	0:17	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.030		ND	0.14	0.702	2/15/18	0:17	CMR
Naphthalene	0.038	0.035	0.030	Z-01	0.20	0.18	0.702	2/15/18	0:17	CMR
Propene	ND	1.4	0.11		ND	2.4	0.702	2/15/18	0:17	CMR
Styrene	0.027	0.035	0.023	J	0.12	0.15	0.702	2/15/18	0:17	CMR
1,1,2,2-Tetrachloroethane	ND	0.035	0.022		ND	0.24	0.702	2/15/18	0:17	CMR
Tetrachloroethylene	0.055	0.035	0.021		0.37	0.24	0.702	2/15/18	0:17	CMR
Tetrahydrofuran	0.027	0.035	0.024	J	0.081	0.10	0.702	2/15/18	0:17	CMR
Toluene	0.46	0.035	0.022		1.8	0.13	0.702	2/15/18	0:17	CMR
1,2,4-Trichlorobenzene	ND	0.035	0.026		ND	0.26	0.702	2/15/18	0:17	CMR
1,1,1-Trichloroethane	ND	0.035	0.024		ND	0.19	0.702	2/15/18	0:17	CMR
1,1,2-Trichloroethane	ND	0.035	0.022		ND	0.19	0.702	2/15/18	0:17	CMR
Trichloroethylene	ND	0.035	0.022		ND	0.19	0.702	2/15/18	0:17	CMR
Trichlorofluoromethane (Freon 11)	0.26	0.14	0.029		1.4	0.79	0.702	2/15/18	0:17	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.081	0.14	0.024	J	0.62	1.1	0.702	2/15/18	0:17	CMR
1,2,4-Trimethylbenzene	0.061	0.035	0.023		0.30	0.17	0.702	2/15/18	0:17	CMR
1,3,5-Trimethylbenzene	ND	0.035	0.024		ND	0.17	0.702	2/15/18	0:17	CMR
Vinyl Acetate	ND	0.70	0.021		ND	2.5	0.702	2/15/18	0:17	CMR
Vinyl Chloride	ND	0.035	0.026		ND	0.090	0.702	2/15/18	0:17	CMR
m&p-Xylene	0.18	0.070	0.045		0.80	0.30	0.702	2/15/18	0:17	CMR
o-Xylene	0.075	0.035	0.022		0.33	0.15	0.702	2/15/18	0:17	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	129	70-130	2/15/18 0:17

**ANALYTICAL RESULTS**

Project Location: Orangetown  
 Date Received: 2/6/2018  
**Field Sample #: Rail Trail NW-2/1/18**  
**Sample ID: 18B0249-02**  
 Sample Matrix: Air  
 Sampled: 2/1/2018 08:21

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1003  
 Canister Size: 6 liter  
 Flow Controller ID: 3425  
 Sample Type: 24 hr

**Work Order: 18B0249**  
 Initial Vacuum(in Hg): -  
 Final Vacuum(in Hg): -  
 Receipt Vacuum(in Hg): -5.5  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analized		
Acetone	3.6	1.4	0.49		8.6	3.3	0.702	2/15/18	1:05	CMR
Acrolein	0.39	0.70	0.21	J	0.89	1.6	0.702	2/15/18	1:05	CMR
Benzene	0.22	0.035	0.022		0.70	0.11	0.702	2/15/18	1:05	CMR
Benzyl chloride	ND	0.035	0.016		ND	0.18	0.702	2/15/18	1:05	CMR
Bromodichloromethane	ND	0.035	0.023		ND	0.24	0.702	2/15/18	1:05	CMR
Bromoform	ND	0.035	0.021		ND	0.36	0.702	2/15/18	1:05	CMR
Bromomethane	ND	0.035	0.028		ND	0.14	0.702	2/15/18	1:05	CMR
1,3-Butadiene	ND	0.035	0.027		ND	0.078	0.702	2/15/18	1:05	CMR
2-Butanone (MEK)	0.48	1.4	0.026	J	1.4	4.1	0.702	2/15/18	1:05	CMR
Carbon Disulfide	ND	0.35	0.024		ND	1.1	0.702	2/15/18	1:05	CMR
Carbon Tetrachloride	0.067	0.035	0.025		0.42	0.22	0.702	2/15/18	1:05	CMR
Chlorobenzene	ND	0.035	0.022		ND	0.16	0.702	2/15/18	1:05	CMR
Chloroethane	ND	0.035	0.029		ND	0.093	0.702	2/15/18	1:05	CMR
Chloroform	0.072	0.035	0.026		0.35	0.17	0.702	2/15/18	1:05	CMR
Chloromethane	0.57	0.070	0.029		1.2	0.14	0.702	2/15/18	1:05	CMR
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	2/15/18	1:05	CMR
Dibromochloromethane	ND	0.035	0.023		ND	0.30	0.702	2/15/18	1:05	CMR
1,2-Dibromoethane (EDB)	ND	0.035	0.023		ND	0.27	0.702	2/15/18	1:05	CMR
1,2-Dichlorobenzene	ND	0.035	0.023		ND	0.21	0.702	2/15/18	1:05	CMR
1,3-Dichlorobenzene	ND	0.035	0.021		ND	0.21	0.702	2/15/18	1:05	CMR
1,4-Dichlorobenzene	ND	0.035	0.024		ND	0.21	0.702	2/15/18	1:05	CMR
Dichlorodifluoromethane (Freon 12)	0.18	0.035	0.027		0.88	0.17	0.702	2/15/18	1:05	CMR
1,1-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	2/15/18	1:05	CMR
1,2-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	2/15/18	1:05	CMR
1,1-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	2/15/18	1:05	CMR
cis-1,2-Dichloroethylene	ND	0.035	0.024		ND	0.14	0.702	2/15/18	1:05	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	2/15/18	1:05	CMR
1,2-Dichloropropane	ND	0.035	0.024		ND	0.16	0.702	2/15/18	1:05	CMR
cis-1,3-Dichloropropene	ND	0.035	0.030		ND	0.16	0.702	2/15/18	1:05	CMR
trans-1,3-Dichloropropene	ND	0.035	0.021		ND	0.16	0.702	2/15/18	1:05	CMR
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035	0.029		ND	0.25	0.702	2/15/18	1:05	CMR
1,4-Dioxane	ND	0.35	0.23		ND	1.3	0.702	2/15/18	1:05	CMR
Ethanol	5.4	1.4	0.63		10	2.6	0.702	2/15/18	1:05	CMR
Ethyl Acetate	0.21	0.035	0.030		0.75	0.13	0.702	2/15/18	1:05	CMR
Ethylbenzene	0.051	0.035	0.023		0.22	0.15	0.702	2/15/18	1:05	CMR
4-Ethyltoluene	ND	0.035	0.023		ND	0.17	0.702	2/15/18	1:05	CMR
Heptane	0.069	0.035	0.023		0.28	0.14	0.702	2/15/18	1:05	CMR

**ANALYTICAL RESULTS**

Project Location: Orangetown  
 Date Received: 2/6/2018  
**Field Sample #: Rail Trail NW-2/1/18**  
**Sample ID: 18B0249-02**  
 Sample Matrix: Air  
 Sampled: 2/1/2018 08:21

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1003  
 Canister Size: 6 liter  
 Flow Controller ID: 3425  
 Sample Type: 24 hr

**Work Order: 18B0249**  
 Initial Vacuum(in Hg): -  
 Final Vacuum(in Hg): -  
 Receipt Vacuum(in Hg): -5.5  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analyzed		
Hexachlorobutadiene	ND	0.035	0.027		ND	0.37	0.702	2/15/18	1:05	CMR
Hexane	0.20	1.4	0.062	J	0.69	4.9	0.702	2/15/18	1:05	CMR
2-Hexanone (MBK)	0.060	0.035	0.021		0.25	0.14	0.702	2/15/18	1:05	CMR
Isopropanol	0.41	1.4	0.043	J	1.0	3.4	0.702	2/15/18	1:05	CMR
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.024		ND	0.13	0.702	2/15/18	1:05	CMR
Methylene Chloride	0.30	0.35	0.043	J	1.1	1.2	0.702	2/15/18	1:05	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.030		ND	0.14	0.702	2/15/18	1:05	CMR
Naphthalene	0.031	0.035	0.030	J	0.16	0.18	0.702	2/15/18	1:05	CMR
Propene	ND	1.4	0.11		ND	2.4	0.702	2/15/18	1:05	CMR
Styrene	0.032	0.035	0.023	J	0.14	0.15	0.702	2/15/18	1:05	CMR
1,1,2,2-Tetrachloroethane	ND	0.035	0.022		ND	0.24	0.702	2/15/18	1:05	CMR
Tetrachloroethylene	0.10	0.035	0.021		0.70	0.24	0.702	2/15/18	1:05	CMR
Tetrahydrofuran	0.034	0.035	0.024	J	0.10	0.10	0.702	2/15/18	1:05	CMR
Toluene	0.39	0.035	0.022		1.5	0.13	0.702	2/15/18	1:05	CMR
1,2,4-Trichlorobenzene	ND	0.035	0.026		ND	0.26	0.702	2/15/18	1:05	CMR
1,1,1-Trichloroethane	ND	0.035	0.024		ND	0.19	0.702	2/15/18	1:05	CMR
1,1,2-Trichloroethane	ND	0.035	0.022		ND	0.19	0.702	2/15/18	1:05	CMR
Trichloroethylene	ND	0.035	0.022		ND	0.19	0.702	2/15/18	1:05	CMR
Trichlorofluoromethane (Freon 11)	0.26	0.14	0.029		1.5	0.79	0.702	2/15/18	1:05	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.12	0.14	0.024	J	0.92	1.1	0.702	2/15/18	1:05	CMR
1,2,4-Trimethylbenzene	0.058	0.035	0.023		0.28	0.17	0.702	2/15/18	1:05	CMR
1,3,5-Trimethylbenzene	ND	0.035	0.024		ND	0.17	0.702	2/15/18	1:05	CMR
Vinyl Acetate	0.25	0.70	0.021	J	0.89	2.5	0.702	2/15/18	1:05	CMR
Vinyl Chloride	ND	0.035	0.026		ND	0.090	0.702	2/15/18	1:05	CMR
m&p-Xylene	0.16	0.070	0.045		0.69	0.30	0.702	2/15/18	1:05	CMR
o-Xylene	0.065	0.035	0.022		0.28	0.15	0.702	2/15/18	1:05	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	129	70-130	2/15/18 1:05

**ANALYTICAL RESULTS**

Project Location: Orangetown  
 Date Received: 2/6/2018  
**Field Sample #: Murphy-2/1/18**  
**Sample ID: 18B0249-03**  
 Sample Matrix: Air  
 Sampled: 2/1/2018 09:01

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1510  
 Canister Size: 6 liter  
 Flow Controller ID: 3692  
 Sample Type: 24 hr

**Work Order: 18B0249**  
 Initial Vacuum(in Hg): -  
 Final Vacuum(in Hg): -  
 Receipt Vacuum(in Hg): -.2  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Sample Flags: Z-01a

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analized		
Acetone	9.1	1.4	0.49		22	3.3	0.702	2/15/18	1:54	CMR
Acrolein	0.36	0.70	0.21	J	0.83	1.6	0.702	2/15/18	1:54	CMR
Benzene	0.33	0.035	0.022		1.0	0.11	0.702	2/15/18	1:54	CMR
Benzyl chloride	ND	0.035	0.016		ND	0.18	0.702	2/15/18	1:54	CMR
Bromodichloromethane	ND	0.035	0.023		ND	0.24	0.702	2/15/18	1:54	CMR
Bromoform	ND	0.035	0.021		ND	0.36	0.702	2/15/18	1:54	CMR
Bromomethane	ND	0.035	0.028		ND	0.14	0.702	2/15/18	1:54	CMR
1,3-Butadiene	0.063	0.035	0.027		0.14	0.078	0.702	2/15/18	1:54	CMR
2-Butanone (MEK)	0.60	1.4	0.026	J	1.8	4.1	0.702	2/15/18	1:54	CMR
Carbon Disulfide	0.035	0.35	0.024	J	0.11	1.1	0.702	2/15/18	1:54	CMR
Carbon Tetrachloride	0.073	0.035	0.025		0.46	0.22	0.702	2/15/18	1:54	CMR
Chlorobenzene	ND	0.035	0.022		ND	0.16	0.702	2/15/18	1:54	CMR
Chloroethane	ND	0.035	0.029		ND	0.093	0.702	2/15/18	1:54	CMR
Chloroform	0.039	0.035	0.026		0.19	0.17	0.702	2/15/18	1:54	CMR
Chloromethane	0.56	0.070	0.029		1.2	0.14	0.702	2/15/18	1:54	CMR
Cyclohexane	1.9	0.035	0.020		6.7	0.12	0.702	2/15/18	1:54	CMR
Dibromochloromethane	ND	0.035	0.023		ND	0.30	0.702	2/15/18	1:54	CMR
1,2-Dibromoethane (EDB)	ND	0.035	0.023		ND	0.27	0.702	2/15/18	1:54	CMR
1,2-Dichlorobenzene	ND	0.035	0.023		ND	0.21	0.702	2/15/18	1:54	CMR
1,3-Dichlorobenzene	ND	0.035	0.021		ND	0.21	0.702	2/15/18	1:54	CMR
1,4-Dichlorobenzene	ND	0.035	0.024		ND	0.21	0.702	2/15/18	1:54	CMR
Dichlorodifluoromethane (Freon 12)	0.18	0.035	0.027		0.91	0.17	0.702	2/15/18	1:54	CMR
1,1-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	2/15/18	1:54	CMR
1,2-Dichloroethane	0.034	0.035	0.025	J	0.14	0.14	0.702	2/15/18	1:54	CMR
1,1-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	2/15/18	1:54	CMR
cis-1,2-Dichloroethylene	ND	0.035	0.024		ND	0.14	0.702	2/15/18	1:54	CMR
trans-1,2-Dichloroethylene	0.051	0.035	0.026		0.20	0.14	0.702	2/15/18	1:54	CMR
1,2-Dichloropropane	ND	0.035	0.024		ND	0.16	0.702	2/15/18	1:54	CMR
cis-1,3-Dichloropropene	ND	0.035	0.030		ND	0.16	0.702	2/15/18	1:54	CMR
trans-1,3-Dichloropropene	ND	0.035	0.021		ND	0.16	0.702	2/15/18	1:54	CMR
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035	0.029		ND	0.25	0.702	2/15/18	1:54	CMR
1,4-Dioxane	ND	0.35	0.23		ND	1.3	0.702	2/15/18	1:54	CMR
Ethanol	35	1.4	0.63		65	2.6	0.702	2/15/18	1:54	CMR
Ethyl Acetate	5.2	0.035	0.030		19	0.13	0.702	2/15/18	1:54	CMR
Ethylbenzene	0.13	0.035	0.023		0.58	0.15	0.702	2/15/18	1:54	CMR
4-Ethyltoluene	0.051	0.035	0.023		0.25	0.17	0.702	2/15/18	1:54	CMR
Heptane	0.17	0.035	0.023		0.68	0.14	0.702	2/15/18	1:54	CMR



**ANALYTICAL RESULTS**

Project Location: Orangetown  
 Date Received: 2/6/2018  
**Field Sample #: Murphy-2/1/18**  
**Sample ID: 18B0249-03**  
 Sample Matrix: Air  
 Sampled: 2/1/2018 09:01

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1510  
 Canister Size: 6 liter  
 Flow Controller ID: 3692  
 Sample Type: 24 hr

**Work Order: 18B0249**  
 Initial Vacuum(in Hg): -  
 Final Vacuum(in Hg): -  
 Receipt Vacuum(in Hg): -.2  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Sample Flags: Z-01a

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analyzed		
Hexachlorobutadiene	ND	0.035	0.027		ND	0.37	0.702	2/15/18	1:54	CMR
Hexane	1.7	1.4	0.062		5.9	4.9	0.702	2/15/18	1:54	CMR
2-Hexanone (MBK)	0.062	0.035	0.021		0.26	0.14	0.702	2/15/18	1:54	CMR
Isopropanol	1.7	1.4	0.043		4.2	3.4	0.702	2/15/18	1:54	CMR
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.024		ND	0.13	0.702	2/15/18	1:54	CMR
Methylene Chloride	3.5	0.35	0.043		12	1.2	0.702	2/15/18	1:54	CMR
4-Methyl-2-pentanone (MIBK)	0.052	0.035	0.030		0.21	0.14	0.702	2/15/18	1:54	CMR
Naphthalene	ND	0.035	0.030		ND	0.18	0.702	2/15/18	1:54	CMR
Propene	ND	1.4	0.11		ND	2.4	0.702	2/15/18	1:54	CMR
Styrene	0.081	0.035	0.023		0.34	0.15	0.702	2/15/18	1:54	CMR
1,1,2,2-Tetrachloroethane	ND	0.035	0.022		ND	0.24	0.702	2/15/18	1:54	CMR
Tetrachloroethylene	0.12	0.035	0.021		0.85	0.24	0.702	2/15/18	1:54	CMR
Tetrahydrofuran	0.039	0.035	0.024		0.12	0.10	0.702	2/15/18	1:54	CMR
Toluene	1.4	0.035	0.022		5.1	0.13	0.702	2/15/18	1:54	CMR
1,2,4-Trichlorobenzene	ND	0.035	0.026		ND	0.26	0.702	2/15/18	1:54	CMR
1,1,1-Trichloroethane	ND	0.035	0.024		ND	0.19	0.702	2/15/18	1:54	CMR
1,1,2-Trichloroethane	ND	0.035	0.022		ND	0.19	0.702	2/15/18	1:54	CMR
Trichloroethylene	ND	0.035	0.022		ND	0.19	0.702	2/15/18	1:54	CMR
Trichlorofluoromethane (Freon 11)	0.28	0.14	0.029		1.6	0.79	0.702	2/15/18	1:54	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.088	0.14	0.024	J	0.67	1.1	0.702	2/15/18	1:54	CMR
1,2,4-Trimethylbenzene	0.15	0.035	0.023		0.75	0.17	0.702	2/15/18	1:54	CMR
1,3,5-Trimethylbenzene	0.044	0.035	0.024		0.22	0.17	0.702	2/15/18	1:54	CMR
Vinyl Acetate	ND	0.70	0.021		ND	2.5	0.702	2/15/18	1:54	CMR
Vinyl Chloride	ND	0.035	0.026		ND	0.090	0.702	2/15/18	1:54	CMR
m&p-Xylene	0.43	0.070	0.045		1.9	0.30	0.702	2/15/18	1:54	CMR
o-Xylene	0.18	0.035	0.022		0.76	0.15	0.702	2/15/18	1:54	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	128	70-130	2/15/18 1:54

**ANALYTICAL RESULTS**

Project Location: Orangetown  
 Date Received: 2/6/2018  
**Field Sample #: Glenshaw-2/1/18**  
**Sample ID: 18B0249-04**  
 Sample Matrix: Air  
 Sampled: 2/1/2018 09:18

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2202  
 Canister Size: 6 liter  
 Flow Controller ID: 3682  
 Sample Type: 24 hr

**Work Order: 18B0249**  
 Initial Vacuum(in Hg): -  
 Final Vacuum(in Hg): -  
 Receipt Vacuum(in Hg): -7.2  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analized		
Acetone	5.0	1.4	0.49		12	3.3	0.702	2/15/18	2:48	CMR
Acrolein	0.57	0.70	0.21	J	1.3	1.6	0.702	2/15/18	2:48	CMR
Benzene	0.26	0.035	0.022		0.82	0.11	0.702	2/15/18	2:48	CMR
Benzyl chloride	ND	0.035	0.016		ND	0.18	0.702	2/15/18	2:48	CMR
Bromodichloromethane	ND	0.035	0.023		ND	0.24	0.702	2/15/18	2:48	CMR
Bromoform	ND	0.035	0.021		ND	0.36	0.702	2/15/18	2:48	CMR
Bromomethane	ND	0.035	0.028		ND	0.14	0.702	2/15/18	2:48	CMR
1,3-Butadiene	0.070	0.035	0.027		0.16	0.078	0.702	2/15/18	2:48	CMR
2-Butanone (MEK)	0.63	1.4	0.026	J	1.9	4.1	0.702	2/15/18	2:48	CMR
Carbon Disulfide	ND	0.35	0.024		ND	1.1	0.702	2/15/18	2:48	CMR
Carbon Tetrachloride	0.071	0.035	0.025		0.45	0.22	0.702	2/15/18	2:48	CMR
Chlorobenzene	ND	0.035	0.022		ND	0.16	0.702	2/15/18	2:48	CMR
Chloroethane	ND	0.035	0.029		ND	0.093	0.702	2/15/18	2:48	CMR
Chloroform	0.058	0.035	0.026		0.28	0.17	0.702	2/15/18	2:48	CMR
Chloromethane	0.46	0.070	0.029		0.96	0.14	0.702	2/15/18	2:48	CMR
Cyclohexane	0.069	0.035	0.020		0.24	0.12	0.702	2/15/18	2:48	CMR
Dibromochloromethane	ND	0.035	0.023		ND	0.30	0.702	2/15/18	2:48	CMR
1,2-Dibromoethane (EDB)	ND	0.035	0.023		ND	0.27	0.702	2/15/18	2:48	CMR
1,2-Dichlorobenzene	ND	0.035	0.023		ND	0.21	0.702	2/15/18	2:48	CMR
1,3-Dichlorobenzene	ND	0.035	0.021		ND	0.21	0.702	2/15/18	2:48	CMR
1,4-Dichlorobenzene	ND	0.035	0.024		ND	0.21	0.702	2/15/18	2:48	CMR
Dichlorodifluoromethane (Freon 12)	0.17	0.035	0.027		0.82	0.17	0.702	2/15/18	2:48	CMR
1,1-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	2/15/18	2:48	CMR
1,2-Dichloroethane	ND	0.035	0.025		ND	0.14	0.702	2/15/18	2:48	CMR
1,1-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	2/15/18	2:48	CMR
cis-1,2-Dichloroethylene	ND	0.035	0.024		ND	0.14	0.702	2/15/18	2:48	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.026		ND	0.14	0.702	2/15/18	2:48	CMR
1,2-Dichloropropane	ND	0.035	0.024		ND	0.16	0.702	2/15/18	2:48	CMR
cis-1,3-Dichloropropene	ND	0.035	0.030		ND	0.16	0.702	2/15/18	2:48	CMR
trans-1,3-Dichloropropene	ND	0.035	0.021		ND	0.16	0.702	2/15/18	2:48	CMR
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035	0.029		ND	0.25	0.702	2/15/18	2:48	CMR
1,4-Dioxane	ND	0.35	0.23		ND	1.3	0.702	2/15/18	2:48	CMR
Ethanol	5.1	1.4	0.63		9.7	2.6	0.702	2/15/18	2:48	CMR
Ethyl Acetate	0.19	0.035	0.030		0.67	0.13	0.702	2/15/18	2:48	CMR
Ethylbenzene	0.066	0.035	0.023		0.29	0.15	0.702	2/15/18	2:48	CMR
4-Ethyltoluene	ND	0.035	0.023		ND	0.17	0.702	2/15/18	2:48	CMR
Heptane	0.076	0.035	0.023		0.31	0.14	0.702	2/15/18	2:48	CMR

**ANALYTICAL RESULTS**

Project Location: Orangetown  
 Date Received: 2/6/2018  
**Field Sample #: Glenshaw-2/1/18**  
**Sample ID: 18B0249-04**  
 Sample Matrix: Air  
 Sampled: 2/1/2018 09:18

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2202  
 Canister Size: 6 liter  
 Flow Controller ID: 3682  
 Sample Type: 24 hr

**Work Order: 18B0249**  
 Initial Vacuum(in Hg): -  
 Final Vacuum(in Hg): -  
 Receipt Vacuum(in Hg): -7.2  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analized		
Hexachlorobutadiene	ND	0.035	0.027		ND	0.37	0.702	2/15/18	2:48	CMR
Hexane	0.24	1.4	0.062	J	0.85	4.9	0.702	2/15/18	2:48	CMR
2-Hexanone (MBK)	0.085	0.035	0.021		0.35	0.14	0.702	2/15/18	2:48	CMR
Isopropanol	1.5	1.4	0.043		3.6	3.4	0.702	2/15/18	2:48	CMR
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.024		ND	0.13	0.702	2/15/18	2:48	CMR
Methylene Chloride	0.25	0.35	0.043	J	0.87	1.2	0.702	2/15/18	2:48	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.030		ND	0.14	0.702	2/15/18	2:48	CMR
Naphthalene	ND	0.035	0.030		ND	0.18	0.702	2/15/18	2:48	CMR
Propene	ND	1.4	0.11		ND	2.4	0.702	2/15/18	2:48	CMR
Styrene	0.033	0.035	0.023	J	0.14	0.15	0.702	2/15/18	2:48	CMR
1,1,2,2-Tetrachloroethane	ND	0.035	0.022		ND	0.24	0.702	2/15/18	2:48	CMR
Tetrachloroethylene	0.041	0.035	0.021		0.28	0.24	0.702	2/15/18	2:48	CMR
Tetrahydrofuran	0.065	0.035	0.024		0.19	0.10	0.702	2/15/18	2:48	CMR
Toluene	0.51	0.035	0.022		1.9	0.13	0.702	2/15/18	2:48	CMR
1,2,4-Trichlorobenzene	ND	0.035	0.026		ND	0.26	0.702	2/15/18	2:48	CMR
1,1,1-Trichloroethane	ND	0.035	0.024		ND	0.19	0.702	2/15/18	2:48	CMR
1,1,2-Trichloroethane	ND	0.035	0.022		ND	0.19	0.702	2/15/18	2:48	CMR
Trichloroethylene	ND	0.035	0.022		ND	0.19	0.702	2/15/18	2:48	CMR
Trichlorofluoromethane (Freon 11)	0.25	0.14	0.029		1.4	0.79	0.702	2/15/18	2:48	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.073	0.14	0.024	J	0.56	1.1	0.702	2/15/18	2:48	CMR
1,2,4-Trimethylbenzene	0.070	0.035	0.023		0.34	0.17	0.702	2/15/18	2:48	CMR
1,3,5-Trimethylbenzene	ND	0.035	0.024		ND	0.17	0.702	2/15/18	2:48	CMR
Vinyl Acetate	0.34	0.70	0.021	J	1.2	2.5	0.702	2/15/18	2:48	CMR
Vinyl Chloride	ND	0.035	0.026		ND	0.090	0.702	2/15/18	2:48	CMR
m&p-Xylene	0.21	0.070	0.045		0.93	0.30	0.702	2/15/18	2:48	CMR
o-Xylene	0.088	0.035	0.022		0.38	0.15	0.702	2/15/18	2:48	CMR

Surrogates	% Recovery	% REC Limits		
4-Bromofluorobenzene (1)	133*	S-26	70-130	2/15/18 2:48

**Sample Extraction Data**

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
18B0249-01 [Rail Trail SW-2/1/18]	B196969	1.5	1	N/A	1000	400	855	02/14/18
18B0249-02 [Rail Trail NW-2/1/18]	B196969	1.5	1	N/A	1000	400	855	02/14/18
18B0249-03 [Murphy-2/1/18]	B196969	1.5	1	N/A	1000	400	855	02/14/18
18B0249-04 [Glenshaw-2/1/18]	B196969	1.5	1	N/A	1000	400	855	02/14/18

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag/Qual
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		

Batch B196969 - TO-15 Prep

Blank (B196969-BLK1)

Prepared & Analyzed: 02/14/18

Acetone	ND	1.4
Acrolein	ND	0.68
Benzene	ND	0.034
Benzyl chloride	ND	0.034
Bromodichloromethane	ND	0.034
Bromoform	ND	0.034
Bromomethane	ND	0.034
1,3-Butadiene	ND	0.034
2-Butanone (MEK)	ND	1.4
Carbon Disulfide	ND	0.34
Carbon Tetrachloride	ND	0.034
Chlorobenzene	ND	0.034
Chloroethane	ND	0.034
Chloroform	ND	0.034
Chloromethane	ND	0.068
Cyclohexane	ND	0.034
Dibromochloromethane	ND	0.034
1,2-Dibromoethane (EDB)	ND	0.034
1,2-Dichlorobenzene	ND	0.034
1,3-Dichlorobenzene	ND	0.034
1,4-Dichlorobenzene	ND	0.034
Dichlorodifluoromethane (Freon 12)	ND	0.034
1,1-Dichloroethane	ND	0.034
1,2-Dichloroethane	ND	0.034
1,1-Dichloroethylene	ND	0.034
cis-1,2-Dichloroethylene	ND	0.034
trans-1,2-Dichloroethylene	ND	0.034
1,2-Dichloropropane	ND	0.034
cis-1,3-Dichloropropene	ND	0.034
trans-1,3-Dichloropropene	ND	0.034
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.034
1,4-Dioxane	ND	0.34
Ethanol	ND	1.4
Ethyl Acetate	ND	0.034
Ethylbenzene	ND	0.034
4-Ethyltoluene	ND	0.034
Heptane	ND	0.034
Hexachlorobutadiene	ND	0.034
Hexane	ND	1.4
2-Hexanone (MBK)	ND	0.034
Isopropanol	ND	1.4
Methyl tert-Butyl Ether (MTBE)	ND	0.034
Methylene Chloride	0.096	0.34
4-Methyl-2-pentanone (MIBK)	ND	0.034
Naphthalene	ND	0.034
Propene	ND	1.4

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**QUALITY CONTROL**

**Air Toxics by EPA Compendium Methods - Quality Control**

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag/Qual
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		

**Batch B196969 - TO-15 Prep**

**Blank (B196969-BLK1)**

Prepared & Analyzed: 02/14/18

Styrene	ND	0.034
1,1,2,2-Tetrachloroethane	ND	0.034
Tetrachloroethylene	ND	0.034
Tetrahydrofuran	ND	0.034
Toluene	ND	0.034
1,2,4-Trichlorobenzene	ND	0.034
1,1,1-Trichloroethane	ND	0.034
1,1,2-Trichloroethane	ND	0.034
Trichloroethylene	ND	0.034
Trichlorofluoromethane (Freon 11)	ND	0.14
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14
1,2,4-Trimethylbenzene	ND	0.034
1,3,5-Trimethylbenzene	ND	0.034
Vinyl Acetate	ND	0.68
Vinyl Chloride	ND	0.034
m&p-Xylene	ND	0.068
o-Xylene	ND	0.034

*Surrogate: 4-Bromofluorobenzene (1)*      9.31      8.00      116      70-130

**LCS (B196969-BS1)**

Prepared & Analyzed: 02/14/18

Acetone	4.45	5.00	89.1	70-130
Acrolein	4.48	5.00	89.6	70-130
Benzene	3.84	5.00	76.9	70-130
Benzyl chloride	6.43	5.00	129	70-130
Bromodichloromethane	3.93	5.00	78.6	70-130
Bromoform	5.58	5.00	112	70-130
Bromomethane	5.07	5.00	101	70-130
1,3-Butadiene	4.59	5.00	91.8	70-130
2-Butanone (MEK)	4.35	5.00	87.0	70-130
Carbon Disulfide	5.34	5.00	107	70-130
Carbon Tetrachloride	4.38	5.00	87.6	70-130
Chlorobenzene	5.02	5.00	100	70-130
Chloroethane	4.96	5.00	99.3	70-130
Chloroform	5.23	5.00	105	70-130
Chloromethane	4.07	5.00	81.4	70-130
Cyclohexane	3.62	5.00	72.5	70-130
Dibromochloromethane	4.74	5.00	94.8	70-130
1,2-Dibromoethane (EDB)	4.52	5.00	90.3	70-130
1,2-Dichlorobenzene	6.09	5.00	122	70-130
1,3-Dichlorobenzene	6.32	5.00	126	70-130
1,4-Dichlorobenzene	6.38	5.00	128	70-130
Dichlorodifluoromethane (Freon 12)	4.19	5.00	83.8	70-130
1,1-Dichloroethane	4.83	5.00	96.5	70-130
1,2-Dichloroethane	5.00	5.00	100	70-130
1,1-Dichloroethylene	4.38	5.00	87.6	70-130
cis-1,2-Dichloroethylene	5.03	5.00	101	70-130

**QUALITY CONTROL**

**Air Toxics by EPA Compendium Methods - Quality Control**

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag/Qual
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		
<b>Batch B196969 - TO-15 Prep</b>											
<b>LCS (B196969-BS1)</b>											
						Prepared & Analyzed: 02/14/18					
trans-1,2-Dichloroethylene	4.74				5.00		94.9	70-130			
1,2-Dichloropropane	3.74				5.00		74.8	70-130			
cis-1,3-Dichloropropene	4.24				5.00		84.7	70-130			
trans-1,3-Dichloropropene	4.47				5.00		89.5	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	4.82				5.00		96.5	70-130			
1,4-Dioxane	4.02				5.00		80.4	70-130			
Ethanol	5.75				5.00		115	70-130			
Ethyl Acetate	5.45				5.00		109	70-130			
Ethylbenzene	4.61				5.00		92.2	70-130			
4-Ethyltoluene	5.46				5.00		109	70-130			
Heptane	3.62				5.00		72.4	70-130			
Hexachlorobutadiene	7.30				5.00		<b>146</b> *	70-130			L-01
Hexane	4.79				5.00		95.8	70-130			
2-Hexanone (MBK)	4.58				5.00		91.5	70-130			
Isopropanol	4.20				5.00		84.1	70-130			
Methyl tert-Butyl Ether (MTBE)	5.15				5.00		103	70-130			
Methylene Chloride	4.39				5.00		87.8	70-130			
4-Methyl-2-pentanone (MIBK)	4.35				5.00		87.0	70-130			
Naphthalene	6.77				5.00		<b>135</b> *	70-130			Z-01
Propene	3.71				5.00		74.1	70-130			
Styrene	5.49				5.00		110	70-130			
1,1,2,2-Tetrachloroethane	4.63				5.00		92.7	70-130			
Tetrachloroethylene	5.06				5.00		101	70-130			
Tetrahydrofuran	4.88				5.00		97.6	70-130			
Toluene	4.54				5.00		90.8	70-130			
1,2,4-Trichlorobenzene	7.43				5.00		<b>149</b> *	70-130			L-01
1,1,1-Trichloroethane	3.80				5.00		76.0	70-130			
1,1,2-Trichloroethane	4.32				5.00		86.5	70-130			
Trichloroethylene	4.17				5.00		83.4	70-130			
Trichlorofluoromethane (Freon 11)	5.32				5.00		106	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5.42				5.00		108	70-130			
1,2,4-Trimethylbenzene	5.39				5.00		108	70-130			
1,3,5-Trimethylbenzene	5.27				5.00		105	70-130			
Vinyl Acetate	4.29				5.00		85.7	70-130			
Vinyl Chloride	4.68				5.00		93.6	70-130			
m&p-Xylene	9.43				10.0		94.3	70-130			
o-Xylene	5.00				5.00		99.9	70-130			
Surrogate: 4-Bromofluorobenzene (1)	10.1				8.00		126	70-130			

**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
RL	Reporting Limit
MDL	Method Detection Limit
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
LCS Dup	Duplicate Laboratory Control Sample
MS	Matrix Spike Sample
MS Dup	Duplicate Matrix Spike Sample
REC	Recovery
QC	Quality Control
ppbv	Parts per billion volume
EPA	United States Environmental Protection Agency
% REC	Percent Recovery
ND	Not Detected
N/A	Not Applicable
DL	Detection Limit
NC	Not Calculated
LFB/LCS	Lab Fortified Blank/Lab Control Sample
ORP	Oxidation-Reduction Potential
wet	Not dry weight corrected
% wt	Percent weight
Kg	Kilogram
g	Gram
mg	Milligram
µg	Microgram
ng	Nanogram
L	Liter
mL	Milliliter
µL	Microliter
m3	Cubic Meter
EPH	Extractable Petroleum Hydrocarbons
VPH	Volatile Petroleum Hydrocarbons
APH	Air Petroleum Hydrocarbons
FID	Flame Ionization Detector
PID	Photo Ionization Detector
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
L-01	Laboratory fortified blank /laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
S-26	Surrogate outside of control limits.
Z-01	Compound fails the method requirement of 70-130% recovery for the LCS. Is classified by the lab as a difficult compound and passes the in house limits of 50-150%.
Z-01a	Sample had a final pressure of zero.



**ANALYST**

PEB Paula E. Blakeborough  
MEK Meghan E. Kelley  
KDM Karly D. Monette  
CMR Catherine M. Rouleau

INTERNAL STANDARD AREA AND RT SUMMARY

EPA TO-15

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>Rail Trail SW-2/1/18 (18B0249-01)</b>			Lab File ID: F021413.D			Analyzed: 02/15/18 00:17			
Bromochloromethane (1)	232087	8.41				60 - 140	8.4100	+/-0.50	
1,4-Difluorobenzene (1)	797043	10.145				60 - 140	10.1450	+/-0.50	
Chlorobenzene-d5 (1)	666547	14.481				60 - 140	14.4810	+/-0.50	
<b>Rail Trail NW-2/1/18 (18B0249-02)</b>			Lab File ID: F021414.D			Analyzed: 02/15/18 01:05			
Bromochloromethane (1)	237861	8.411				60 - 140	8.4110	+/-0.50	
1,4-Difluorobenzene (1)	815966	10.145				60 - 140	10.1450	+/-0.50	
Chlorobenzene-d5 (1)	695902	14.482				60 - 140	14.4820	+/-0.50	
<b>Murphy-2/1/18 (18B0249-03)</b>			Lab File ID: F021415.D			Analyzed: 02/15/18 01:54			
Bromochloromethane (1)	245630	8.403				60 - 140	8.4030	+/-0.50	
1,4-Difluorobenzene (1)	841671	10.145				60 - 140	10.1450	+/-0.50	
Chlorobenzene-d5 (1)	697506	14.482				60 - 140	14.4820	+/-0.50	
<b>Glenshaw-2/1/18 (18B0249-04)</b>			Lab File ID: F021416.D			Analyzed: 02/15/18 02:48			
Bromochloromethane (1)	242671	8.41				60 - 140	8.4100	+/-0.50	
1,4-Difluorobenzene (1)	820883	10.145				60 - 140	10.1450	+/-0.50	
Chlorobenzene-d5 (1)	644419	14.481				60 - 140	14.4810	+/-0.50	

CONTINUING CALIBRATION CHECK

COMPOUND	TYPE			RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
Acetone	AIHA,NY,ME
Acrolein	AIHA,NJ
Benzene	AIHA,FL,NJ,NY,VA,ME
Benzyl chloride	AIHA,FL,NJ,NY,VA,ME
Bromodichloromethane	AIHA,NJ,NY,VA,ME
Bromoform	AIHA,NJ,NY,VA,ME
Bromomethane	AIHA,FL,NJ,NY,ME
1,3-Butadiene	AIHA,NJ,NY,VA,ME
2-Butanone (MEK)	AIHA,FL,NJ,NY,VA,ME
Carbon Disulfide	AIHA,NJ,NY,VA,ME
Carbon Tetrachloride	AIHA,FL,NJ,NY,VA,ME
Chlorobenzene	AIHA,FL,NJ,NY,VA,ME
Chloroethane	AIHA,FL,NJ,NY,VA,ME
Chloroform	AIHA,FL,NJ,NY,VA,ME
Chloromethane	AIHA,FL,NJ,NY,VA,ME
Cyclohexane	AIHA,NJ,NY,VA,ME
Dibromochloromethane	AIHA,NY,ME
1,2-Dibromoethane (EDB)	AIHA,NJ,NY,ME
1,2-Dichlorobenzene	AIHA,FL,NJ,NY,VA,ME
1,3-Dichlorobenzene	AIHA,NJ,NY,ME
1,4-Dichlorobenzene	AIHA,FL,NJ,NY,VA,ME
Dichlorodifluoromethane (Freon 12)	AIHA,NY,ME
1,1-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,2-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1-Dichloroethylene	AIHA,FL,NJ,NY,VA,ME
cis-1,2-Dichloroethylene	AIHA,FL,NY,VA,ME
trans-1,2-Dichloroethylene	AIHA,NJ,NY,VA,ME
1,2-Dichloropropane	AIHA,FL,NJ,NY,VA,ME
cis-1,3-Dichloropropene	AIHA,FL,NJ,NY,VA,ME
trans-1,3-Dichloropropene	AIHA,NY,ME
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,NJ,NY,VA,ME
1,4-Dioxane	AIHA,NJ,NY,VA,ME
Ethanol	AIHA
Ethyl Acetate	AIHA
Ethylbenzene	AIHA,FL,NJ,NY,VA,ME
4-Ethyltoluene	AIHA,NJ
Heptane	AIHA,NJ,NY,VA,ME
Hexachlorobutadiene	AIHA,NJ,NY,VA,ME
Hexane	AIHA,FL,NJ,NY,VA,ME
2-Hexanone (MBK)	AIHA
Isopropanol	AIHA,NY,ME
Methyl tert-Butyl Ether (MTBE)	AIHA,FL,NJ,NY,VA,ME
Methylene Chloride	AIHA,FL,NJ,NY,VA,ME
4-Methyl-2-pentanone (MIBK)	AIHA,FL,NJ,NY,ME
Naphthalene	NY,ME
Propene	AIHA
Styrene	AIHA,FL,NJ,NY,VA,ME

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,VA,ME
Tetrachloroethylene	AIHA,FL,NJ,NY,VA,ME
Tetrahydrofuran	AIHA
Toluene	AIHA,FL,NJ,NY,VA,ME
1,2,4-Trichlorobenzene	AIHA,NJ,NY,VA,ME
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,VA,ME
Trichloroethylene	AIHA,FL,NJ,NY,VA,ME
Trichlorofluoromethane (Freon 11)	AIHA,NY,ME
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIHA,NJ,NY,VA,ME
1,2,4-Trimethylbenzene	AIHA,NJ,NY,ME
1,3,5-Trimethylbenzene	AIHA,NJ,NY,ME
Vinyl Acetate	AIHA,FL,NJ,NY,VA,ME
Vinyl Chloride	AIHA,FL,NJ,NY,VA,ME
m&p-Xylene	AIHA,FL,NJ,NY,VA,ME
o-Xylene	AIHA,FL,NJ,NY,VA,ME

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	03/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2018
CT	Connecticut Department of Public Health	PH-0567	09/30/2019
NY	New York State Department of Health	10899 NELAP	04/1/2018
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2019
RI	Rhode Island Department of Health	LAO00112	12/30/2018
NC	North Carolina Div. of Water Quality	652	12/31/2018
NJ	New Jersey DEP	MA007 NELAP	06/30/2018
FL	Florida Department of Health	E871027 NELAP	06/30/2018
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2018
ME	State of Maine	2011028	06/9/2019
VA	Commonwealth of Virginia	460217	12/14/2018
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2018
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2018
NC-DW	North Carolina Department of Health	25703	07/31/2018

**CHAIN OF CUSTODY RECORD**

Project Name: Orangetown Air Sampling  
 Project No.: 267443.1000.0000  
 Sampling Date(s): 2/1/18 - 2/2/18  
 Laboratory: Con-Test  
 Laboratory P.O.: 111950  
 Shipping Date(s): 2/2/2018  
 Send Results to: mlhizis@trcsolutions.com  
 Shipper's Name: Oleg Markov

18B0249

**MATRIX**

Aqueous
Organic Solvent
Ash/Soil/Sediment (Solid)
Acidic
Basic
Ambient Air

Sample Name	Sampled Date	Container	
		Size	G/S
Rail Trail SW - 2/1/18	2-1-18 0837	6L	SUMMA
Rail Trail NW - 2/1/18	2-1-18 0821	6L	SUMMA
Murphy - 2/1/18	2-1-18 0901	6L	SUMMA
Glenshaw - 2/1/18	2-1-18 0918	6L	SUMMA

Description
VOCs TO-15
VOCs TO-15
VOCs TO-15
VOCs TO-15

Trace Metals*	Mercury	HCl	Cl2	Particulate Matter	PCDD/PCDF	Semivolatile Organics	Volatile Organics	Physical Parameters*	AHERA Mod. (TEM/SEM)
							X		
							X		
							X		
							X		

Canister ID	Flow Controller ID	Duration (min)
2071	3424	~24 HR
1003	3425	~24 HR
1510	3692	~24 HR
22202	3682	~24 HR

Relinquished by: J. Markov Date/Time: 2-2-18 1020  
 Received by: [Signature] Date/Time: 2-6-18 10:05  
 Initials (\*): Nesic

TRC



# FedEx® Tracking

**771375339018**

Ship date:

**Fri 2/02/2018**

AUSTIN, TX US

Actual delivery:

**Tue 2/06/2018 10:05 am**

EAST LONGMEADOW, MA US



**Delivered**

Signed for by: *B.BECCA*

## Travel History

▲ Date/Time	Activity	Location
- 2/06/2018 - Tuesday		
10:05 am	Delivered	EAST LONGMEADOW, MA
7:37 am	On FedEx vehicle for delivery	WINDSOR LOCKS, CT
7:25 am	At local FedEx facility	WINDSOR LOCKS, CT
- 2/05/2018 - Monday		
6:23 am	At local FedEx facility	WINDSOR LOCKS, CT
- 2/03/2018 - Saturday		
5:30 pm	At destination sort facility	EAST GRANBY, CT
4:55 pm	Departed FedEx location	NEWARK, NJ
- 2/02/2018 - Friday		
11:15 pm	Arrived at FedEx location	NEWARK, NJ
10:45 pm	Left FedEx origin facility	MOONACHIE, NJ
5:46 pm	Picked up	MOONACHIE, NJ
10:36 am	Picked up	FORT LEE, NJ
	Tendered at FedEx Office	
- 1/31/2018 - Wednesday		
4:18 pm	Shipment information sent to FedEx	

## Shipment Facts

<b>Tracking Number</b>	771375339018	<b>Service</b>	FedEx 2Day
<b>Weight</b>	35 lbs / 15.88 kgs	<b>Dimensions</b>	22x19x14 in.
<b>Delivered To</b>	Shipping/Receiving	<b>Total pieces</b>	1
<b>Total shipment weight</b>	35 lbs / 15.88 kgs	<b>Terms</b>	Shipper
<b>Shipper reference</b>	267443.1000.0000	<b>Packaging</b>	Your Packaging
<b>Special handling section</b>	Deliver Weekday	<b>Standard transit</b>	2/06/2018 by 4:30 pm

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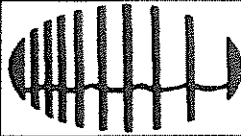
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 ANALYTICAL LABORATORY

Doc# 278 - Rev 6 2017

**Air Media Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False**

Client TRC

Received By PB Date 2-6-18 Time 10:05

How were the samples received? In Cooler \_\_\_\_\_ On Ice \_\_\_\_\_ No Ice \_\_\_\_\_  
 In Box T Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_

Were samples within Temperature Compliance? 2-6°C NA By Gun # \_\_\_\_\_ Actual Temp - \_\_\_\_\_  
 By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_

Was Custody Seal Intact? NA Were Samples Tampered with? NA

Was COC Relinquished? T Does Chain Agree With Samples? T

Are there any loose caps/valves on any samples? F

Is COC in ink/ Legible? T

Did COC Include all Client T Analysis T Sampler Name T  
 Pertinent Information? Project T ID's T Collection Dates/Times T

Are Sample Labels filled out and legible? T

Are there Rushes? F Who was notified? \_\_\_\_\_

Samples are received within holding time? T

Proper Media Used? F Individually Certified Cans? F  
 Are there Trip Blanks? F Is there enough Volume? T

Containers:	#	Size	Regulator	Duration	Accessories:		
Summa Cans	4	64t	4	24 hr	Nut/Ferrule		IC Train
Tedlar Bags					Tubing		
TO-17 Tubes					T-Connector		Shipping Charges
Radiello					Syringe		
Pufs/TO-11s					Tedlar		

Can #'s	Reg #'s	Unused Media	Pufs/TO-17's
2071	2446		
1003	3424		
1510	3425		
2202	3682		
	3692		

**Comments:**

add NO Date or times on any can tags