SAMPLING & ANALYSIS OF VOLATILE ORGANIC COMPOUNDS IN AIR AT FIVE LOCATIONS

Quarterly Monitoring Period
July 1, 2020 through September 24, 2020

Annual Summary Period
September 4, 2019 through September 24, 2020

Prepared for:

Bridgeton Landfill, LLC
Bridgeton, Missouri

November 15, 2020

Prepared by:

Engineering for a Better World
FEEZOR ENGINEERING, INC.

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LIST OF ACRONYMS

C&D – Construction and Demolition Waste
COC – Chain of Custody
º F – degrees Fahrenheit
FEI – Feezor Engineering, Inc.
IRIS – Integrated Risk Information System
MDL – Method Detection Limit
MDNR – Missouri Department of Natural Resources
MEK – Methyl Ethyl Ketone
MPH – Miles Per Hour
MSW – Municipal Solid Waste
OU – Operable Unit
RfC – Reference Concentration-Inhalation
RL – Reporting Limit
ug/m^3 – micrograms per cubic meter
USEPA – United States Environmental Protection Agency
VOC – Volatile Organic Compound

1.0 INTRODUCTION

This Report describes the results of quarterly air monitoring for concentrations of volatile organic compounds (VOCs) at five locations on the Bridgeton Landfill property in Bridgeton, Missouri (**Figure 1**) during the period from July 1, 2020 through September 24, 2020. The Report also provides an annual summary of the concentrations of VOCs detected at the five locations during the preceding approximately 13-month period. Sampling of air for VOCs at Bridgeton Landfill is accomplished using passive absorption and laboratory carbon disulfide desorption of compounds collected on small cartridges of activated charcoal deployed at and collected from each location. Each cartridge utilizes a cylinder of stainless steel mesh to contain the charcoal and a diffusive body to house the cylinder.

Samples are collected (and new cartridges deployed) on an approximate 14-day frequency from five (5) locations (**Figure 2**). A duplicate sample, deployed at a different sampling location on a rotating basis, is collected during each sampling event and submitted for analyses. A trip blank sample accompanies each shipment of cartridges to the laboratory. During the quarterly period covered by this report, six (6) sample collection events were performed and a total of 42 cartridges were analyzed for the compounds listed in Section 1.3.

1.1 Site Description

The closed Bridgeton Landfill is located at 13570 St. Charles Rock Road in Bridgeton, Missouri, approximately one mile north of the intersection of Interstates 70 and 270. Municipal solid waste (MSW), construction and demolition wastes (C&D) and industrial wastes were disposed at various portions of the landfill property from the early 1950s until December 31, 2004. The facility includes two closed quarry-fill areas (North Quarry and South Quarry), a closed C&D landfill unit, two closed areas (Area 1 and Area 2) that comprise the West Lake Landfill, and an inactive sanitary landfill. The West Lake Landfill areas encompass Operable Unit 1 (OU-1) at the facility, while the remaining areas collectively comprise Operable Unit 2 (OU-2). The groundwater regime underlying OU-1 and OU-2 has been designated Operable Unit 3 (OU-3).

Land use surrounding Bridgeton Landfill is primarily commercial and industrial. Residential areas in the vicinity of the landfill include the Terrisan Reste mobile home park to the southeast and the Spanish Village residential subdivision located to the south near the intersection of St. Charles Rock Road and I-270.

1.2 Program Background

Bridgeton Landfill accepted both MSW and C&D waste for disposal during its operating period. VOC monitoring was initiated in May 2015 as part of a perimeter air monitoring program developed and implemented in accordance with the United States Environmental Protection Agency's (USEPA's) Record of Decision regarding cleanup of OU-1 (West Lake Landfill). On August 15, 2019, USEPA approved a requested suspension of VOC monitoring activities at the facility (USEPA, 2019). However, pursuant to a Final Consent Judgment entered into between the Missouri Department of Natural Resources (MDNR) and Bridgeton Landfill, LLC on June 29, 2018, sampling for VOCs on the Bridgeton Landfill property has continued to date in accordance with the USEPA-approved plan (MDNR, 2018). The USEPA-approved plan requires bi-weekly sample collection/deployment of passive VOC samplers from five (5) locations (**Figure 2**) and quarterly reporting to MDNR. This report represents the fourth quarterly submittal (and

first annual summary) to the state agency since USEPA's approval to suspend West Lake Landfill VOC monitoring.

1.3 Constituents of Concern

The constituents of concern for the VOC Sampling and Analyses program at Bridgeton Landfill is comprised of the following analytes:

Ethanol	1,1,1-Trichloroethane	Trichloroethene	m,p-Xylene
Methyl tert-butyl Ether	Cyclohexane	4-Methyl-2-Pentanone	o-Xylene
Hexane	Carbon Tetrachloride	Toluene	Styrene
Ethyl Acetate	Benzene	Tetrachloroethene	Propylbenzene
2-Butanone (MEK)	1,2-Dichloroethane	Chlorobenzene	1,4-Dichlorobenzene
Chloroform	Heptane	Ethyl Benzene	Naphthalene

This list was revised by Eurofins Air Toxics, Inc. in 2019 and reflects common VOCs for which sampling rates have been calculated for the passive sampling media (Radiello™ 130).

2.0 AIR MONITORING APPROACH AND SAMPLING METHOD

An integrated system of thirteen (13) air monitoring stations has been installed around the Bridgeton Landfill/West Lake Landfill property. Twelve of these stations are located around the perimeters of the OU-1 areas. The thirteenth station is located near the southeast corner of the South Quarry of Bridgeton Landfill. These locations were selected to ensure that the air monitoring network encompassed the entirety of OU-1 and included the main entry to the property and the access road through the center of the property. **Figure 2** depicts the locations of the air monitoring stations. As previously noted, five of the thirteen stations (#1, #5, #7, #8, and #12) are equipped with passive VOC samplers.

An on-site meteorological station measures and logs air temperature (°F), barometric pressure (inches water), wind speed (mph) and wind direction (degrees), precipitation rate, and total daily precipitation (inches). The station is located adjacent to the landfill office building at 13570 St. Charles Rock Road.

The air sampling locations near the center of the property are arranged in a broad line generally oriented southeast to northwest, parallel to predominant wind directions. Other stations are located transverse to this orientation, parallel to the less dominant southwest and northeast wind directions. As shown in **Figures 3** and **4** respectively, the peak wind directions during the monitoring periods of this report were from the east during the quarterly period and from the southwest during the preceding 12 months. Wind roses for each of the six (6) sampling periods that make up the quarterly monitoring period for this report are presented in **Figures 5a** and **5b**. Passive VOC samplers (and other air monitoring equipment) for the five stations so equipped are mounted under protective hoods to keep them out of direct sunlight and precipitation. Information regarding daily precipitation events that occurred during the quarterly and annual monitoring periods of this report is depicted on **Figures 6** and **7**, respectively.

2.1 Sample Collection, Shipment, and Analyses

Sampling of VOCs at the five stations so equipped is performed using the Radiello™ 130 chemical adsorbing cartridge diffusion samplers, left in place to be collected every fourteen (14) days (with a new cartridge deployed after collection of each "used" one). Each Radiello™ 130 cartridge consists of a stainless steel mesh cylinder packed with activated charcoal. The cylinder is housed in a white diffusive body that is threaded onto a triangular plate and mounted under a protective hood. Ambient air passes through the white diffusive body and the activated charcoal cylinder inside it for approximately two weeks, at which point the diffusive body is unthreaded from the plate and the cartridge is collected into a stoppered glass tube. Unique identifier labels that include the date and time of sample deployment and collection are affixed to the glass tubes. After all the samples have been collected during an event, the labeled sample tubes are weighed individually, packaged together in a padded envelope and small sealed box, and shipped to the laboratory under chain-of-custody (COC) procedures. Each COC includes the sampler's name/signature, a list of the stations sampled, information from the unique identifier labels affixed to the glass tubes, and the air temperature at the time each sample was collected. On a rotating basis, a field duplicate sampler is mounted at one of the five stations; the duplicate is deployed and collected at the same date/time as that station's routine sample and is included on the COC for that event. A trip blank cartridge, left in its glass tube and not deployed in the field, is also included on each COC and accompanies the samples to the laboratory. **Appendix 1** includes the COCs associated with the VOC sampling events performed during the quarterly monitoring period of this report.

Following receipt by the laboratory, VOCs in the air that passed through a given cartridge and were adsorbed onto the activated charcoal contained in it are recovered by carbon disulfide displacement. Gas chromatography/mass spectrometry are used to identify and quantify, if present in the sample extract above detection limits, any of the compounds listed in Section 1.3 of this report.

2.2 Data Management, Validation, and Quality Assessment

The laboratory performing VOC analyses (Eurofins Air Toxics, Inc.) supplies Level IV data packages with all analytical results to Feezor Engineering, Inc. (FEI). Level IV data packages are comprehensive reports that include analytical results, duplicate summaries, recovery information, performance checks, calibration data, and other information that allows for evaluations of data usability. The laboratory also supplies analytical results in an electronic spreadsheet to FEI.

The primary goal of data verification and validation is to ensure that decisions are supported by data of the type and quality needed and expected for the intended use. Data verification is the process of evaluating the completeness, correctness, and consistency of a laboratory package or final data to assure that laboratory conditions and operations are compliant with project plan documents. Data validation addresses the reliability of the data. VOC results are evaluated to determine the presence or absence of an analyte and the uncertainty of the measurement process for constituents of concern. Scientific and statistical evaluation of the data may be required to determine if the quality of the data can support its intended use. FEI generated data validation summary reports for the analytical results associated with the VOC sampling events performed during the quarterly monitoring period for this report (**Appendix 3**).

3.0 SUMMARY OF QUARTERLY RESULTS

The quarterly monitoring period for this report included six (6) sample collection/deployment events that took place between July 16, 2020 and September 24, 2020 on an approximately two-week cycle. There were no additional/special VOC sampling events during the quarterly monitoring period. The following information summarizes field conditions during each of the six events:

Event Date	Avg Temp at Collection	Peak Wind Direction During Sampling Period
July 16, 2020	74.2 °F	East (**Fig 5a**)
July 31, 2020	72.0 °F	Southwest (**Fig 5a**)
August 13, 2020	77.6 °F	Southeast (**Fig 5a**)
August 28, 2020	81.2 °F	Southwest (**Fig 5b**)
September 10, 2020	81.0 °F	Southwest (**Fig 5b**)
September 24, 2020	66.2 °F	East (**Fig 5b**)

Changes to the air monitoring program following its approval by USEPA have occurred since the initiation of VOC sampling. Prior to August 2015, Eurofins Air Toxics, Inc. reported twenty-six (26) VOCs for Radiello™ 130 sample analysis. The laboratory issued a request to discontinue reporting 2-propanol (rubbing alcohol) from the Radiello™ 130 reporting list; USEPA approved the request via email on August 11, 2015. Also, in accordance with a USEPA suggestion of October 16, 2015, VOC sampling was moved from Station #11 to Station #12 (Auxier, 2019). Finally, on August 28, 2019 the laboratory informed FEI that acetone (a common lab contaminant) was removed from its Radiello™ 130 list of VOC analytes due to challenges with performance and recovery on its analytical instrumentation.

Table 1 provides a tabulation of the results obtained from analyses of the samples collected during the quarterly monitoring period for this report. In addition, the table includes a statistical summary of VOC concentrations detected above their reporting limits in analyses performed on samples collected since May 1, 2015, inclusive of results from the six (6) events noted above. Values in **Table 1** are presented in $\mu g/m^3$, and the statistical summary reflects the range of "detected" values only. Anomalous results have been excluded from the statistical summary (see Section 4.0). The analytical reports from Eurofins Air Toxics, Inc. for the six most recent quarterly events are included in **Appendix 2**.

USEPA performed off-site sampling for VOCs using passive samplers from December 2014 to March 2015. The following table presents comparisons of the results (for compounds that were analyzed/detected by both programs) obtained from the five on-site VOC sampling stations during the quarterly monitoring period for this report to the results obtained from USEPA's off-site monitoring program. Concentrations are reported in ug/m^3. The on-site concentrations detected during the quarterly monitoring period (excluding the anomalous values reported at A-5 and A-7 for the September 10, 2020 event) were noticeably less than those obtained from the off-site locations in 2014-2015. For all analytes but one (toluene), the maximum validated concentrations of the VOCs detected on-site during the period July 1, 2020 through September 24, 2020 were below those detected during the 2014-2015 USEPA sampling. The on-site toluene concentration of 1.2 ug/m^3 detected during the quarterly monitoring period represents a maximum value; it does not represent a regulatory exceedance. The RfC for toluene is 5,000 ug/m^3, a value provided by USEPA's Integrated Risk Information System (IRIS) that represents an estimated concentration likely to be without an appreciable risk of deleterious effects during a person's lifetime of continuous inhalation exposure.

VOC	USEPA Off-Site Conc. Range	USEPA MDL[1]	On-Site Conc. Range[2] 7/1/20-9/24/20	On-Site RL Range 7/1/20-9/24/20
Benzene	0.41-0.70	0.05-1.0	0.23-0.38 ug/m^3	0.23-0.27 ug/m^3
Ethyl Benzene	0.13-0.37	0.05-1.0	0.078-0.17 ug/m^3	0.067-0.080 ug/m^3
m,p-Xylene	0.32-1.10	0.05-1.0	0.21-0.58 ug/m^3	0.065-0.077 ug/m^3
o-Xylene	0.12-0.39	0.05-1.0	0.073-0.22 ug/m^3	0.070-0.083 ug/m^3
Toluene	1.1-1.2	0.05-1.0	0.36-1.2 ug/m^3	0.061-0.073 ug/m^3
Tetrachloroethene	0.084-0.460	0.05-1.0	0.082-0.11 ug/m^3	0.077-0.092 ug/m^3

[1] Method Detection Limit of TO-15 for 7-day Radiello™ exposures (FEI, 2020)
[2] Anomalous results excluded

4.0 SUMMARY OF VOC SAMPLING & ANALYSES SINCE PROGRAM START-UP

Twenty-eight (28) bi-weekly VOC sampling/analysis events have been performed in accordance with the 2018 Final Consent Judgment since September 4, 2019. **Figure 4** depicts the wind rose for the Bridgeton Landfill based on wind speed and wind direction measurements made by the on-site meteorological weather station during the period September 4, 2019 through September 24, 2020. **Figure 7** provides a time series of daily precipitation recorded at the landfill by the weather station during the same period.

Tables 2a through **2m** provide selected time series charts of the detected concentrations (in µg/m^3) obtained during analyses of samples collected since the VOC monitoring program began. Only VOCs that were routinely detected in laboratory analyses of the on-site Radiello™ samplers have been included in **Tables 2a** through **2m**. Tracking of VOC detections in bi-weekly analyses performed since May 2015 indicates that seasonal effects may impact the absorption efficiency of the Radiello™ samplers, i.e. precipitation/humidity, ambient temperature, wind speed and direction, etc.

Time series charts have not been developed for VOCs that exhibited detectable concentrations only sporadically during the preceding 5 years (i.e. 1,2-Dichloroethane); however, the sporadic detections of these VOCs are included in the summary tabulation of VOC detections included as **Table 2n**.

Tables 3a through **3f** provide comparisons of analytical results obtained in 2014/2015 from the series of off-site air monitoring stations installed as part of a USEPA VOC sampling program to results from on-site sampling performed from September 4, 2019 through September 24, 2020. Comparison charts have been developed for the six VOCs noted in Section 3.0 above.

As shown on **Tables 3a** through **3f**, the maximum concentrations of the six VOCs detected in both the off-site air monitoring stations in 2014/2015 and the on-site stations decreased in the latter by an average of 41.6% since September 2019. The six VOCs include Benzene, Ethyl Benzene, m,p-Xylene, o-Xylene, Toluene, and Tetrachloroethene. For the on-site stations, the maximum concentration detected for each of the six VOCs during analyses of the September 24, 2020 samples was less than or equal to the maximum concentration reported during USEPA's off-site program.

Anomalous detections of Ethyl Benzene, m,p-Xylene, and o-Xylene were indicated in analyses of samples collected from air stations A-5 and A-7 during the sampling event performed on September 10, 2020. The reported values, which exceeded the average concentrations of the noted compounds by more than three orders of magnitude (>1,000%) in each instance, represent the first such anomalous Ethyl Benzene, m,p-

Xylene, and o-Xylene detections reported since the program began in May 2015. Data validation indicates the anomalous values were valid; all detected concentrations of Ethyl Benzene in the September 10, 2020 samples, anomalous or not, were flagged as being estimated concentrations, biased high (see **Appendix 3**). Air stations A-5 and A-7 are located along the exit lane from the facility and the Radiello™ samplers associated with these stations may have been affected by emissions from transient vehicular traffic as it passed by - exhaust emissions are a common source of the noted VOCs. The anomalous values have not been included in **Tables 2a** through **2m** nor in **Tables 3a** through **3f**.

After review of both the quarterly analytical results and the summary described herein, Bridgeton Landfill, LLC is submitting a formal request to terminate the VOC air monitoring program in conjunction with submittal of this report. On August 15, 2019, the USEPA approved a request to remove the VOC monitoring requirement from the air monitoring sampling and analysis plan developed for Operable Unit 1 of West Lake Landfill, located within the Bridgeton Landfill property. Bridgeton Landfill, LLC is basing the program termination request on: 1) evaluations of the VOC data contained herein; 2) in consideration of the USEPA's decision to delete VOC monitoring from the suite of plans associated with the West Lake/Bridgeton Landfill complex; and 3) in recognition of statements made during a July 17, 2020 conference call, attended by representatives of Bridgeton Landfill and Missouri Department of Natural Resources, in which the state agency expressed receptiveness to the program's cessation.

5.0 REFERENCES

FEI, 2020. Quarterly Report: Sampling & Analysis of Volatile Organic Compounds in Air at Five Locations – March 26, 2020 through July 1, 2020. Prepared for Bridgeton Landfill, LLC by Feezor Engineering, Inc. August 14, 2020.

MDNR, 2018. Final Consent Judgment, State of Missouri v. Republic Services, Inc., Allied Services, LLC, and Bridgeton Landfill, Inc., Case No. 13SL-CC01088-01. June 29, 2018.

USEPA, 2019. RE: April 12, 2019 Request to Suspend Air Quality Monitoring, West Lake Landfill Operable Unit 1, Bridgeton, Missouri. Letter to Mr. Paul Rosasco, EMSI. August 15, 2019.

FIGURES

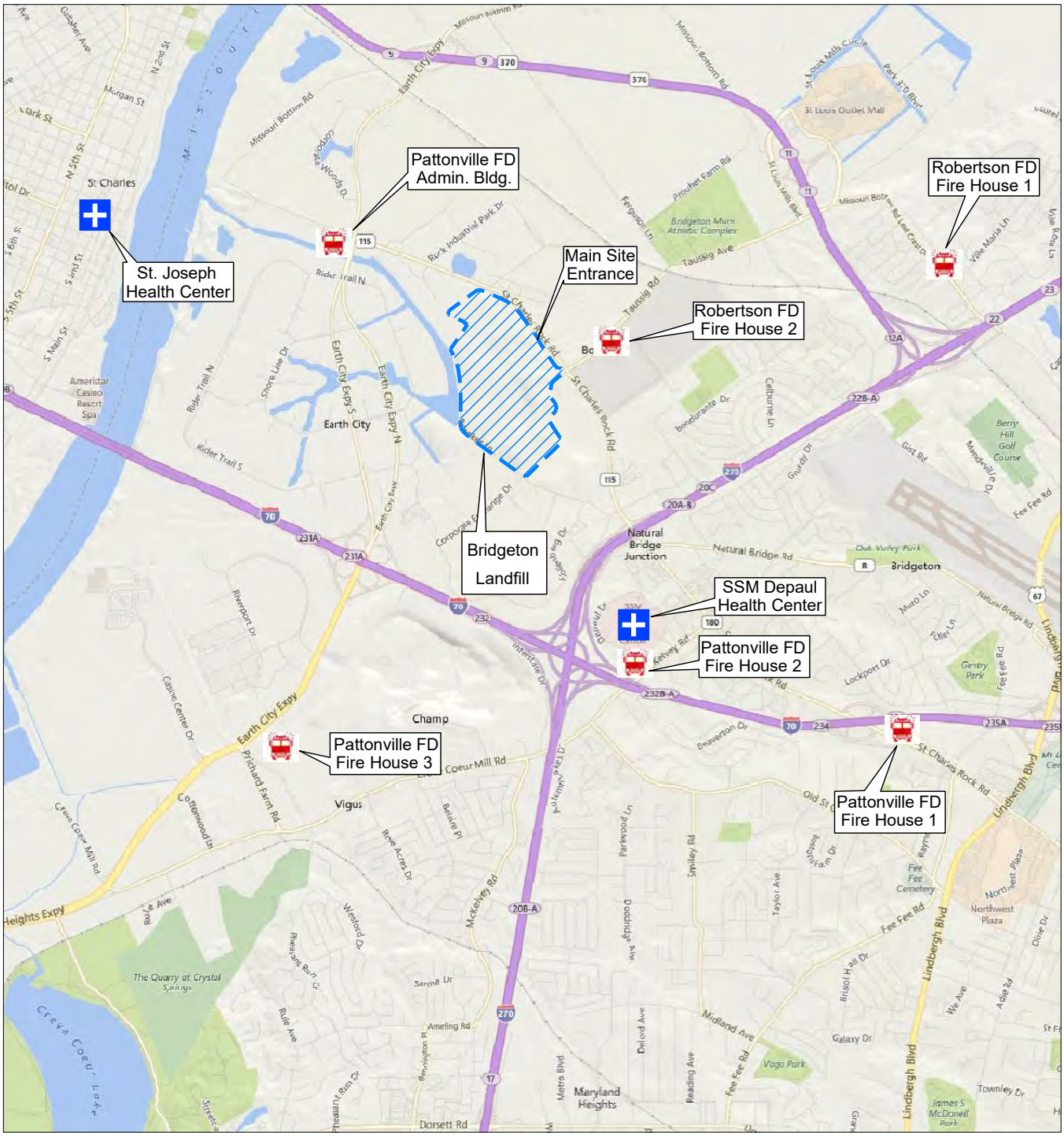

Image: © 2010 NAVTEQ © Microsoft Corporation

N

0 4,000

Scale in Feet

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Figure 1

Bridgeton Landfill Site Location

Air Monitoring Station Equipped with VOC Sampler A8

Air Monitoring Station, No VOC Sampler A10

N

0 800

Scale in Feet

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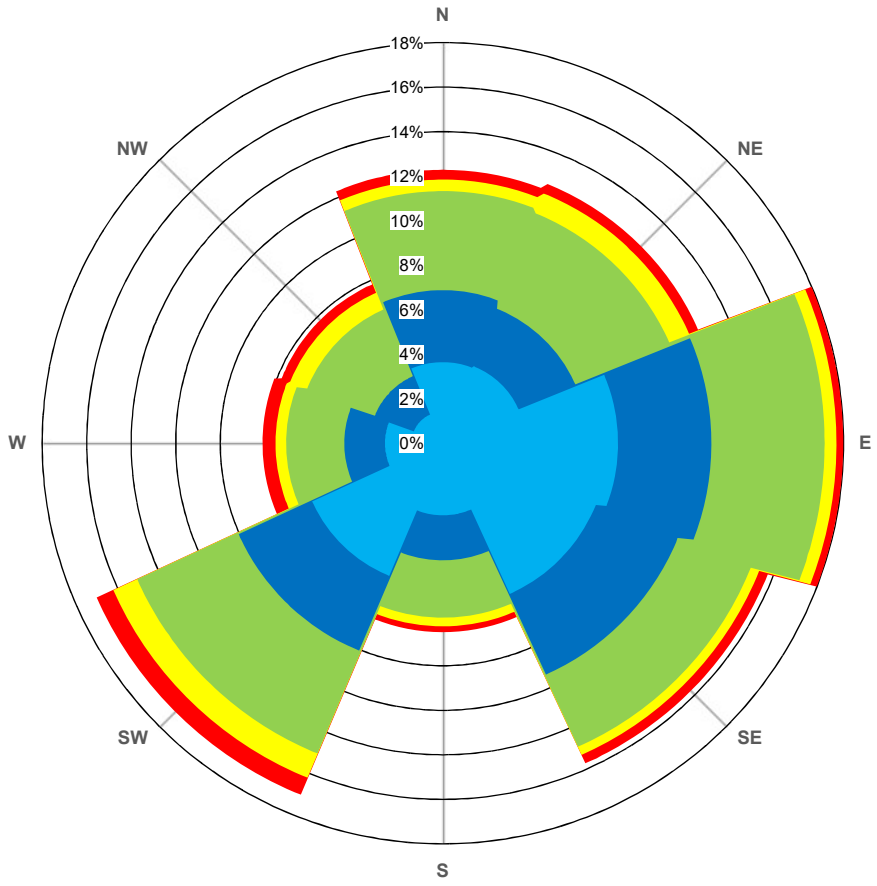
Figure 2

Air Sampling Station Locations

7/1/2020 thru 9/24/2020

Bridgeton Landfill, Bridgeton, MO



Wind speed (mph)

3.70%	10.0 to 24.0
5.28%	8.0 to 10.0
31.15%	4.0 to 8.0
23.54%	2.5 to 4.0
12.19%	1.0 to 2.5

Percent calm:	24.13%
Calm defined as:	< 1.0 mph
Peak frequency:	17.99%
Peak direction:	E

Occurrences by Wind Direction (WD):

North	1002	12.29%
Northeast	1024	12.56%
East	1467	17.99%
Southeast	1284	15.74%
South	692	8.48%
Southwest	1389	17.03%
West	661	8.10%
Northwest	637	7.81%
	8,156	100.0%

Occurrences by Wind Speed (WS):

<1 mph	1968	24.13%
1 - 2.5 mph	994	12.19%
2.5 - 4 mph	1920	23.54%
4 - 8 mph	2541	31.15%
8 - 10 mph	431	5.28%
>10 mph	302	3.70%
	8,156	100.0%

The Wind Rose shown is based on 8,156 wind speed/wind direction readings taken every 15 minutes over 85.0 consecutive days from 7/1/20 12:00 to 9/24/20 12:00

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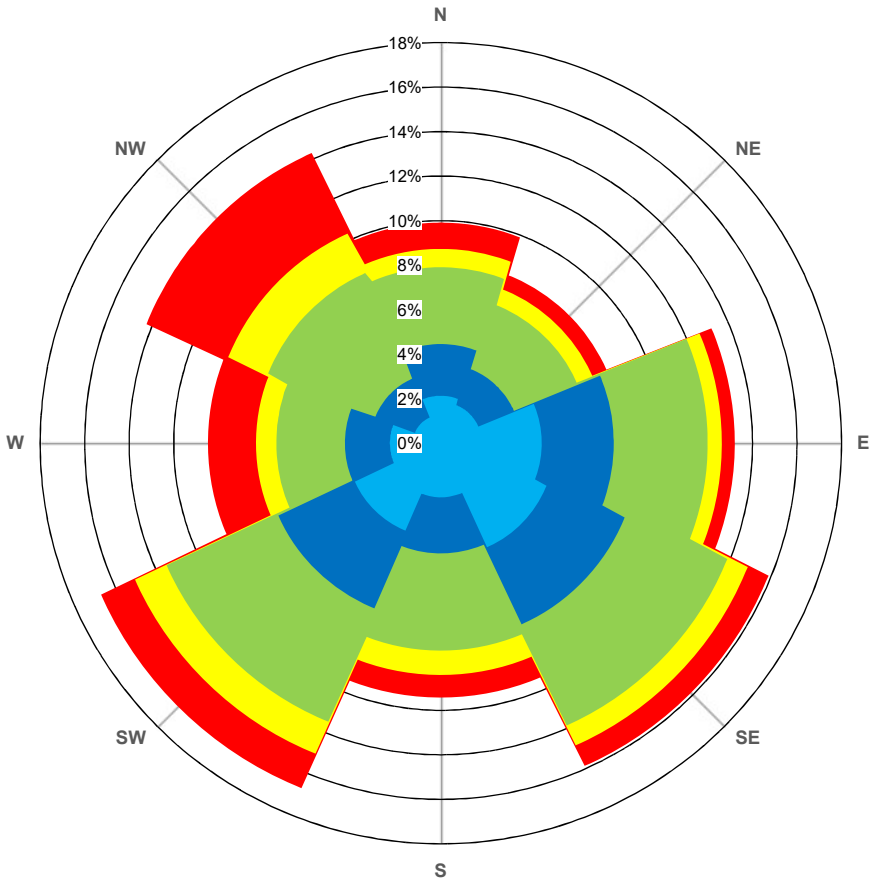
Figure 3

Quarterly Bridgeton Landfill Wind Rose
July 1, 2020
through
September 24, 2020

9/4/2019 thru 9/24/2020

Bridgeton Landfill, Bridgeton, MO



Wind speed (mph)

12.27%	10.0 to 40.0
8.71%	8.0 to 10.0
33.88%	4.0 to 8.0
21.31%	2.5 to 4.0
9.03%	1.0 to 2.5

Percent calm:	14.80%
Calm defined as:	< 1.0 mph
Peak frequency:	16.72%
Peak direction:	SW

Occurrences by Wind Direction (WD):

North	3665	9.91%
Northeast	3009	8.14%
East	4883	13.20%
Southeast	5871	15.87%
South	4226	11.43%
Southwest	6182	16.72%
West	3870	10.46%
Northwest	5277	14.27%
	36,983	100.0%

Occurrences by Wind Speed (WS):

<1 mph	5474	14.80%
1 - 2.5 mph	3341	9.03%
2.5 - 4 mph	7882	21.31%
4 - 8 mph	12528	33.88%
8 - 10 mph	3221	8.71%
>10 mph	4537	12.27%
	36,983	100.0%

The Wind Rose shown is based on 36,983 wind speed/ wind direction readings taken every 15 minutes over 386 consecutive days from 9/4/19 12:00 to 9/24/20 12:00

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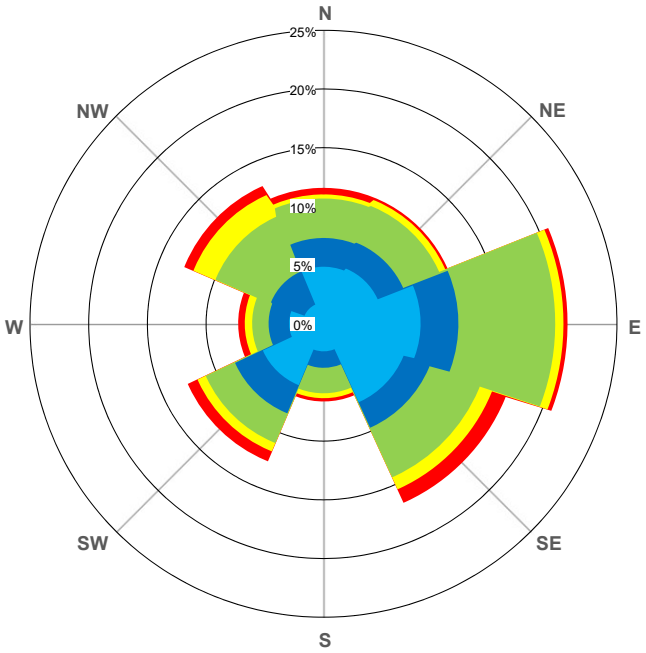
Figure 4

Annual Bridgeton Landfill Wind Rose
September 4, 2019
through
September 24, 2020

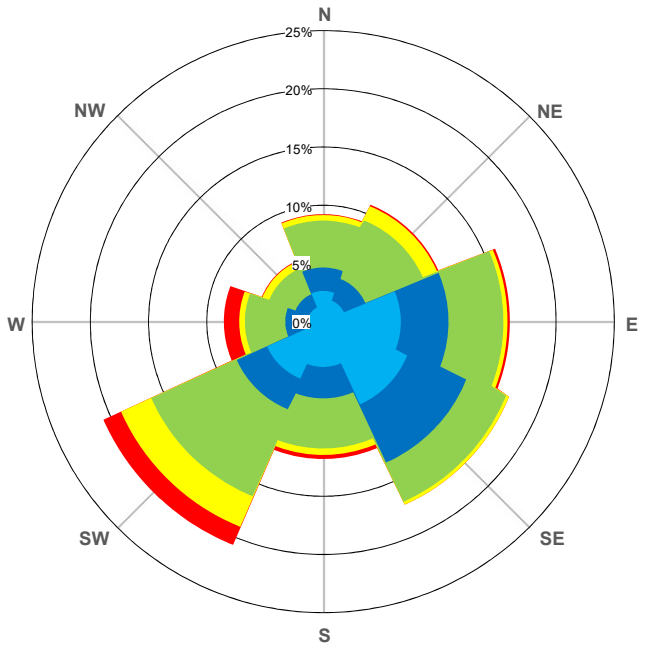


Wind speed (mph)

4.97%	10.00 to 16.00
6.58%	8.00 to 10.00
31.00%	4.00 to 8.00
19.24%	2.50 to 4.00
11.90%	1.00 to 2.50

Mean speed:	4.17
Peak frequency:	20.78%
Peak direction:	E
Percent calm:	26.31%
Calm defined as:	< 1.00 mph

7/1/2020 thru 7/16/2020

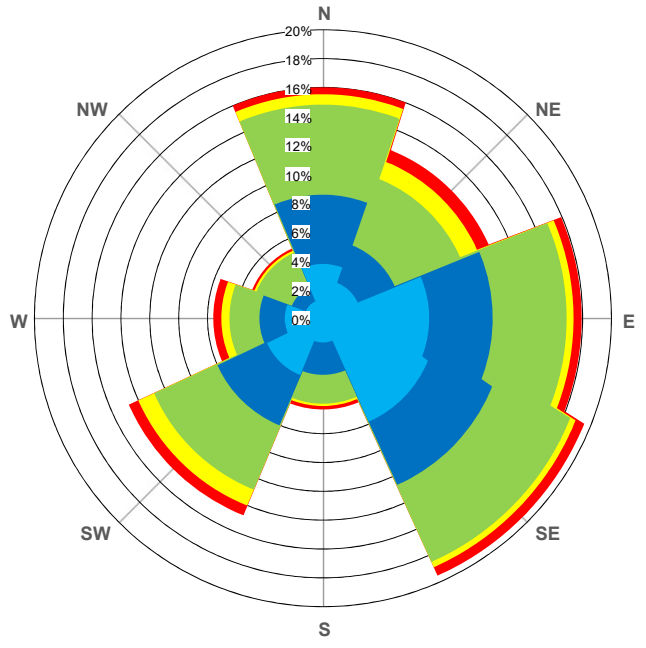


Wind speed (mph)

3.82%	10.00 to 18.00
6.94%	8.00 to 10.00
36.09%	4.00 to 8.00
21.93%	2.50 to 4.00
12.49%	1.00 to 2.50

Mean speed:	4.53
Peak frequency:	20.68%
Peak direction:	SW
Percent calm:	18.74%
Calm defined as:	< 1.00 mph

7/16/2020 thru 7/31/2020



Wind speed (mph)

4.24%	10.00 to 24.00
4.96%	8.00 to 10.00
33.71%	4.00 to 8.00
25.62%	2.50 to 4.00
11.05%	1.00 to 2.50

Mean speed:	4.27
Peak frequency:	19.54%
Peak direction:	SE
Percent calm:	20.42%
Calm defined as:	< 1.00 mph

7/31/2020 thru 8/13/2020

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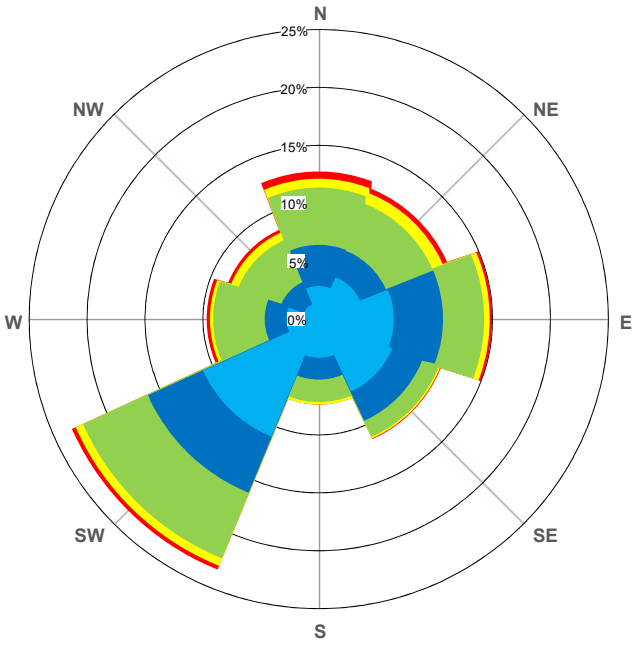
Figure 5a

Wind Roses for Bi-Weekly Events

07/01/20 - 07/16/20
07/16/20 - 07/31/20
07/31/20 - 08/13/20

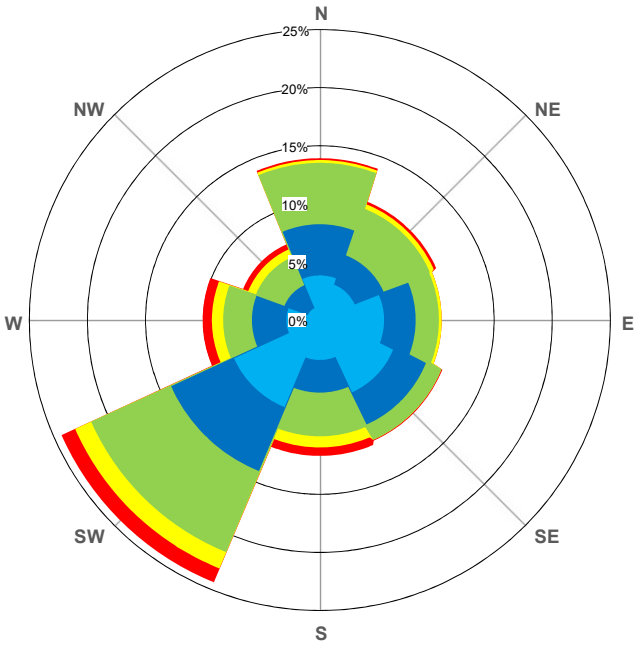


Wind speed (mph)

2.23%	10.00 to 17.00
4.25%	8.00 to 10.00
30.92%	4.00 to 8.00
24.09%	2.50 to 4.00
10.58%	1.00 to 2.50

Mean speed:	3.74
Peak frequency:	23.33%
Peak direction:	SW
Percent calm:	27.92%
Calm defined as:	< 1.00 mph

8/13/2020 thru 8/28/2020

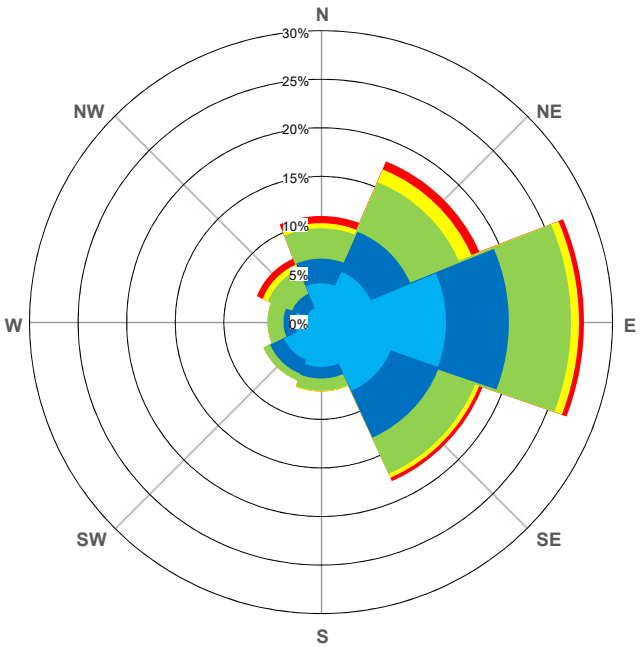


Wind speed (mph)

3.76%	10.00 to 17.00
5.04%	8.00 to 10.00
29.46%	4.00 to 8.00
26.74%	2.50 to 4.00
10.89%	1.00 to 2.50

Mean speed:	3.98
Peak frequency:	24.34%
Peak direction:	SW
Percent calm:	24.10%
Calm defined as:	< 1.00 mph

8/28/2020 thru 9/10/2020



Wind speed (mph)

3.20%	10.00 to 16.00
3.87%	8.00 to 10.00
25.43%	4.00 to 8.00
24.31%	2.50 to 4.00
16.06%	1.00 to 2.50

Mean speed:	3.56
Peak frequency:	27.06%
Peak direction:	E
Percent calm:	27.14%
Calm defined as:	< 1.00 mph

9/10/2020 thru 9/24/2020

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PREPARED FOR

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Figure 5b

Wind Roses for Bi-Weekly Events

08/13/20 - 08/28/20
08/28/20 - 09/10/20
09/10/20 - 09/24/20

Figure 6
Bridgeton Landfill Daily Precipitation - 7/1/20 through 9/24/20

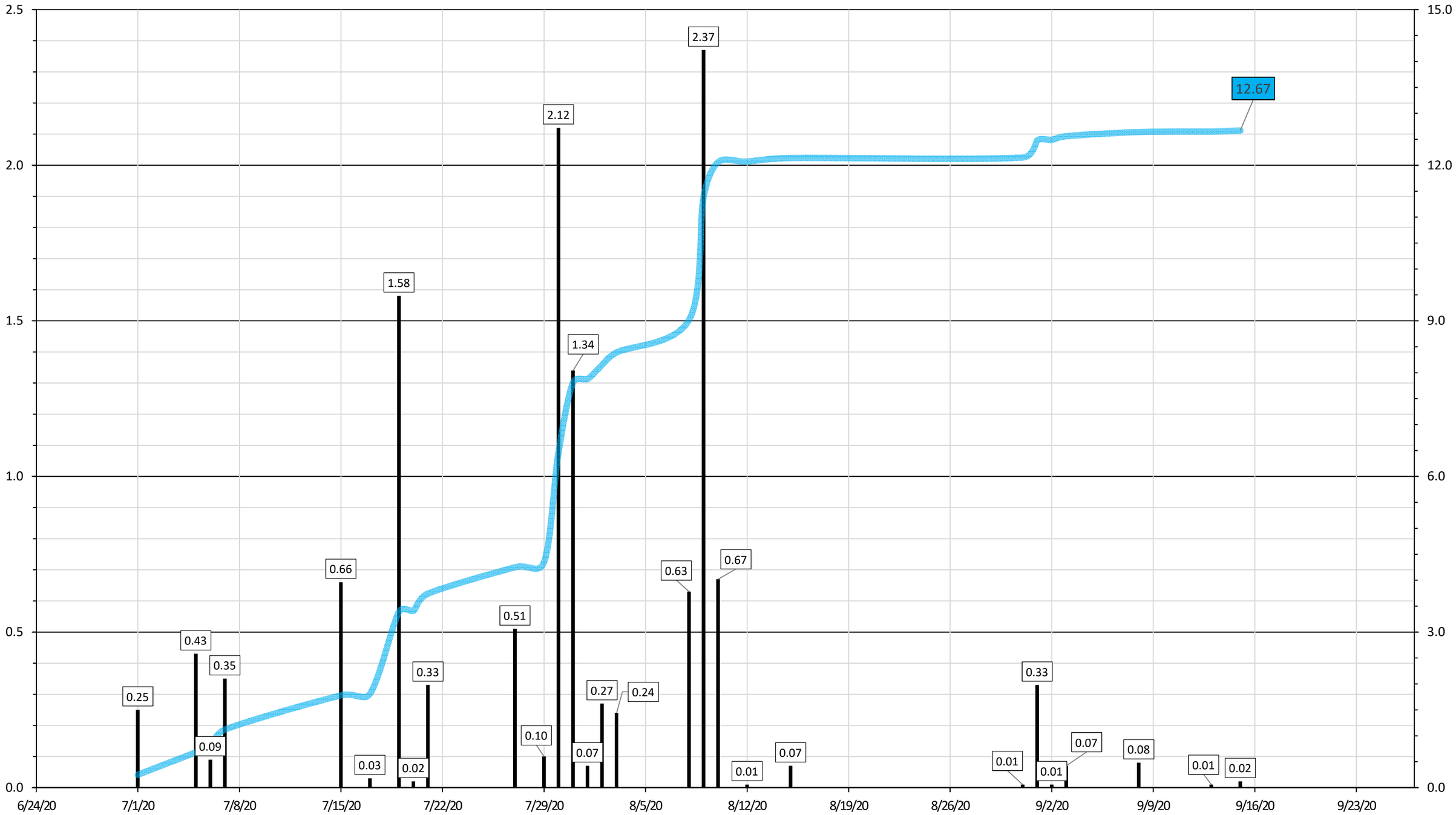
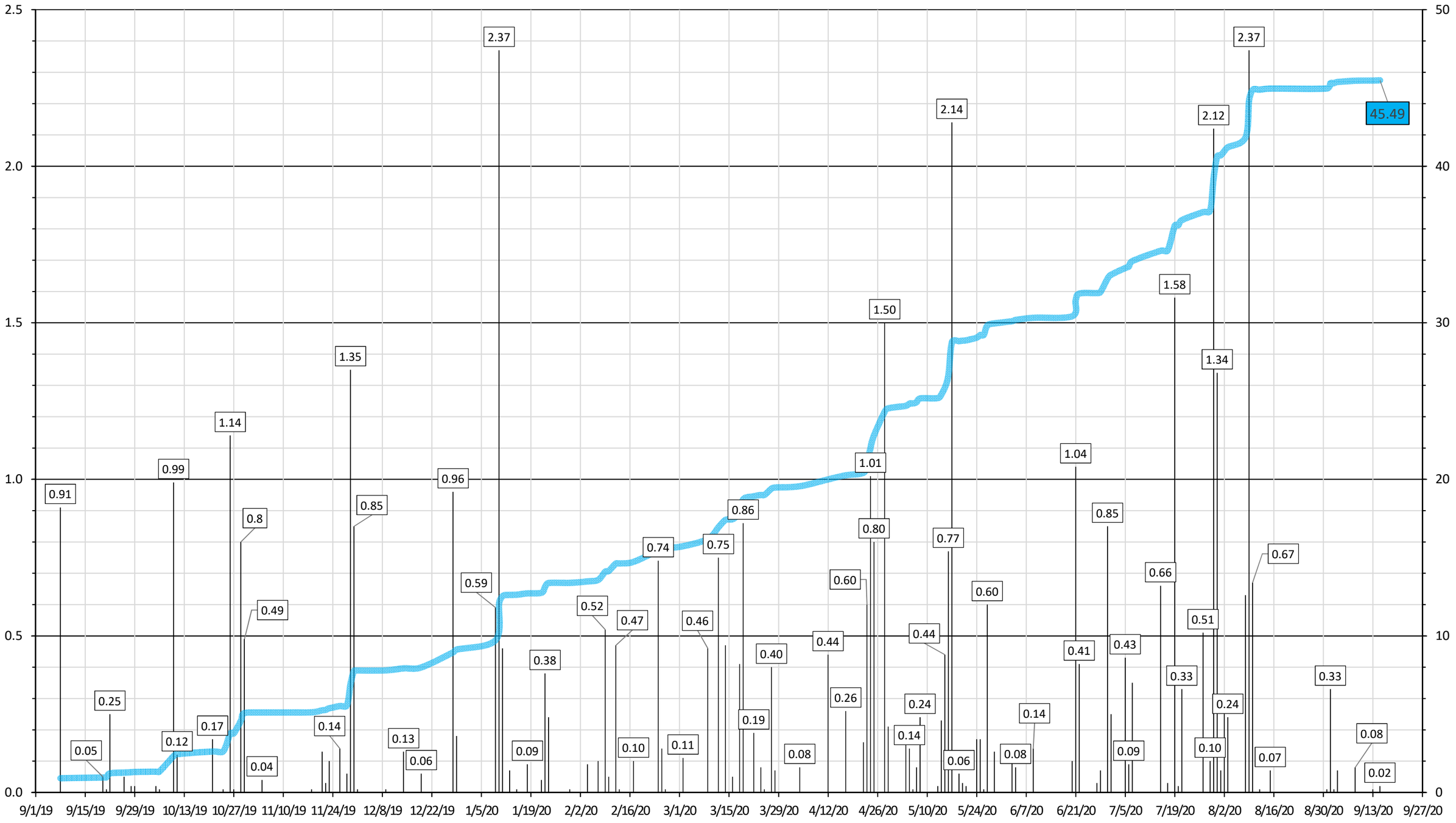


Figure 7
Bridgeton Landfill Daily Precipitation - 9/4/19 through 9/24/20



TABLES

Table 1

Analytical Results for Monitoring Period 07/01/2020 through 09/24/2020

Station ID		A-1						A-5						A-7						A-8						A-12					
Sampling Period	Start	07/01 2020	07/16 2020	07/31 2020	08/13 2020	08/28 2020	09/10 2020	07/01 2020	07/16 2020	07/31 2020	08/13 2020	08/28 2020	09/10 2020	07/01 2020	07/16 2020	07/31 2020	08/13 2020	08/28 2020	09/10 2020	07/01 2020	07/16 2020	07/31 2020	08/13 2020	08/28 2020	09/10 2020	07/01 2020	07/16 2020	07/31 2020	08/13 2020	08/28 2020	09/10 2020
	End	07/16 2020	07/31 2020	08/13 2020	08/28 2020	09/10 2020	09/24 2020	07/16 2020	07/31 2020	08/13 2020	08/28 2020	09/10 2020	09/24 2020	07/16 2020	07/31 2020	08/13 2020	08/28 2020	09/10 2020	09/24 2020	07/16 2020	07/31 2020	08/13 2020	08/28 2020	09/10 2020	09/24 2020	07/16 2020	07/31 2020	08/13 2020	08/28 2020	09/10 2020	09/24 2020
2-Butanone (MEK)		0.130						0.130	0.140	0.150	0.180	0.150	0.200	0.120	0.120	0.220	0.200	0.170	0.240	0.150	0.130	0.180	0.190	0.180	0.200	0.160	0.140	0.220	0.190	0.170	0.220
Benzene		0.250			0.300		0.340	0.240			0.280		0.330	0.230			0.270		0.380	0.240			0.270			0.290		0.270	0.280		0.380
Carbon Tetrachloride		0.370	0.250	0.330	0.490	0.270	0.420	0.300	0.250	0.230	0.330	0.220	0.360	0.300	0.220	0.310	0.320	0.200	0.410	0.300	0.250	0.270	0.330	0.230	0.240	0.370	0.260	0.330	0.350	0.220	0.430
Chloroform		0.063			0.068		0.075												0.071												0.074
Cyclohexane		0.097		0.130	0.150		0.170	0.094	0.090		0.120		0.190	0.110		0.140	0.140		0.250	0.090			0.100		0.210	0.120		0.120	0.110		0.180
Ethyl Acetate					0.240									0.280			0.440		0.390												
Ethyl Benzene		0.082	0.078	0.120	0.140		0.120	0.120	0.110	0.084	0.150	1.600	0.140	0.130	0.091	0.130	0.170	1.600	0.170	0.110	0.085	0.098	0.130	0.160	0.078	0.120	0.081	0.120	0.120	0.082	0.130
Heptane		0.230	0.250	0.330	0.370	0.170	0.280	0.220	0.230	0.170	0.280	0.120	0.290	0.260	0.180	0.280	0.290	0.140	0.300	0.250	0.190	0.210	0.240	0.120	0.230	0.450	0.290	0.580	0.300	0.140	0.430
Hexane		0.330	0.250	0.340	0.430	0.180	0.400	0.300	0.320	0.260	0.380	0.190	0.410	0.320	0.260	0.360	0.450	0.200	0.530	0.320	0.250	0.280	0.370	0.180	0.310	0.340	0.250	0.330	0.380	0.180	0.450
m,p-Xylene		0.230	0.210	0.340	0.410	0.210	0.330	0.360	0.310	0.240	0.450	6.800	0.400	0.410	0.250	0.380	0.520	6.500	0.560	0.340	0.230	0.270	0.380	0.580	0.220	0.350	0.230	0.350	0.340	0.270	0.370
o-Xylene		0.073	0.073	0.120	0.140		0.120	0.120	0.110	0.084	0.150	2.000	0.150	0.130	0.091	0.130	0.180	2.000	0.220	0.110	0.084	0.098	0.120	0.180	0.082	0.120	0.078	0.120	0.120	0.086	0.130
Tetrachloroethene				0.092	0.084		0.095				0.082						0.110														
Toluene		0.550	0.730	0.910	1.100	0.490	1.200	0.600	0.690	0.590	0.900	0.610	0.990	0.640	0.560	0.860	1.100	0.630	1.200	0.590	0.530	0.660	0.730	0.390	0.610	0.680	0.520	0.740	0.730	0.360	0.960

all results reported as ug/m^3 | Empty cells = Not Detected above Reporting Limit during event | Highlighted cells indicate anomalous results

Statistical Analyses of Results for Monitoring Period 05/01/2015 through 09/24/2020 [1]

Station ID	A-1					A-5					A-7					A-8					A-12				
	No. of Detects	No. of Samples	Min. Conc.	Max. Conc.	Median Conc.	No. of Detects	No. of Samples	Min. Conc.	Max. Conc.	Median Conc.	No. of Detects	No. of Samples	Min. Conc.	Max. Conc.	Median Conc.	No. of Detects	No. of Samples	Min. Conc.	Max. Conc.	Median Conc.	No. of Detects	No. of Samples	Min. Conc.	Max. Conc.	Median Conc.
1,2-Dichloroethane *	6	141	0.060	0.096	0.075	5	141	0.066	0.079	0.072	6	141	0.064	0.097	0.078	6	141	0.062	0.110	0.080	7	128	0.066	0.096	0.078
2-Butanone (MEK)	135	141	0.071	0.450	0.225	140	141	0.077	0.460	0.246	133	141	0.096	0.560	0.278	140	141	0.070	0.490	0.241	126	128	0.090	0.770	0.272
4-Methyl-2-Pentanone *	0	141	na	na	na	0	141	na	na	na	1	141	0.410	0.410	0.410	0	141	na	na	na	0	128	na	na	na
Benzene	96	141	0.240	0.770	0.401	107	141	0.240	0.790	0.404	101	141	0.220	0.780	0.415	105	141	0.240	0.870	0.408	107	128	0.230	0.840	0.432
Carbon Tetrachloride	141	141	0.150	0.510	0.324	141	141	0.170	0.520	0.321	134	141	0.160	0.470	0.326	141	141	0.140	0.500	0.311	127	128	0.200	0.600	0.350
Chloroform	42	141	0.048	0.180	0.081	43	141	0.049	0.140	0.083	31	141	0.058	0.130	0.081	32	141	0.051	0.140	0.082	41	128	0.051	0.140	0.081
Cyclohexane	60	141	0.069	0.260	0.134	82	141	0.087	0.280	0.130	114	141	0.074	0.250	0.137	58	141	0.086	0.240	0.128	68	128	0.079	0.260	0.133
Ethanol *	1	141	1.200	1.200	1.200	0	141	na	na	na	3	141	0.600	0.750	0.667	0	141	na	na	na	0	128	na	na	na
Ethyl Acetate	3	141	0.240	0.330	0.287	24	141	0.210	0.520	0.314	75	141	0.250	1.100	0.465	11	141	0.250	0.520	0.376	5	128	0.270	0.500	0.376
Ethyl Benzene	122	141	0.073	0.280	0.120	126	141	0.075	0.250	0.114	129	141	0.067	0.270	0.140	113	141	0.069	0.260	0.109	110	128	0.077	0.280	0.115
Heptane	141	141	0.130	0.840	0.308	141	141	0.110	0.610	0.220	134	141	0.130	0.480	0.255	141	141	0.100	0.570	0.209	126	128	0.130	0.590	0.250
Hexane	141	141	0.130	0.700	0.322	140	141	0.150	0.840	0.355	134	141	0.200	0.710	0.391	141	141	0.150	0.810	0.327	127	128	0.140	0.800	0.346
m,p-Xylene	141	141	0.130	0.920	0.328	140	141	0.160	0.620	0.300	133	141	0.150	0.900	0.388	141	141	0.140	0.590	0.273	127	128	0.140	0.660	0.286
o-Xylene	115	141	0.073	0.380	0.125	112	141	0.076	0.230	0.114	123	141	0.081	0.270	0.137	93	141	0.078	0.220	0.111	98	128	0.073	0.240	0.111
Propylbenzene *	1	141	0.130	0.130	0.130	0	141	na	na	na	0	141	na	na	na	1	141	0.110	0.110	0.110	0	128	na	na	na
Tetrachloroethene	110	141	0.084	0.840	0.202	31	141	0.064	0.180	0.104	69	141	0.066	0.250	0.116	16	141	0.074	0.170	0.114	16	128	0.084	0.170	0.107
Toluene	141	141	0.310	1.700	0.665	140	141	0.390	2.000	0.691	134	141	0.390	1.800	0.853	141	141	0.340	1.700	0.597	127	128	0.310	1.300	0.616
Trichloroethene *	0	141	na	na	na	0	141	na	na	na	2	141	0.080	0.082	0.081	0	141	na	na	na	1	128	0.062	0.062	0.062

* No detections above Reporting Limits during quarterly monitoring period for this report

all results reported as ug/m^3

[1] Anomalous results noted during the 7/8/15 event (Toluene, Hexane in A-5) and during the 9/10/20 event (Ethyl Benzene, m,p-Xylene, o-Xylene in A-5 & A-7) have been omitted from the statistical summary

Table 2a
2-Butanone (MEK) Detections

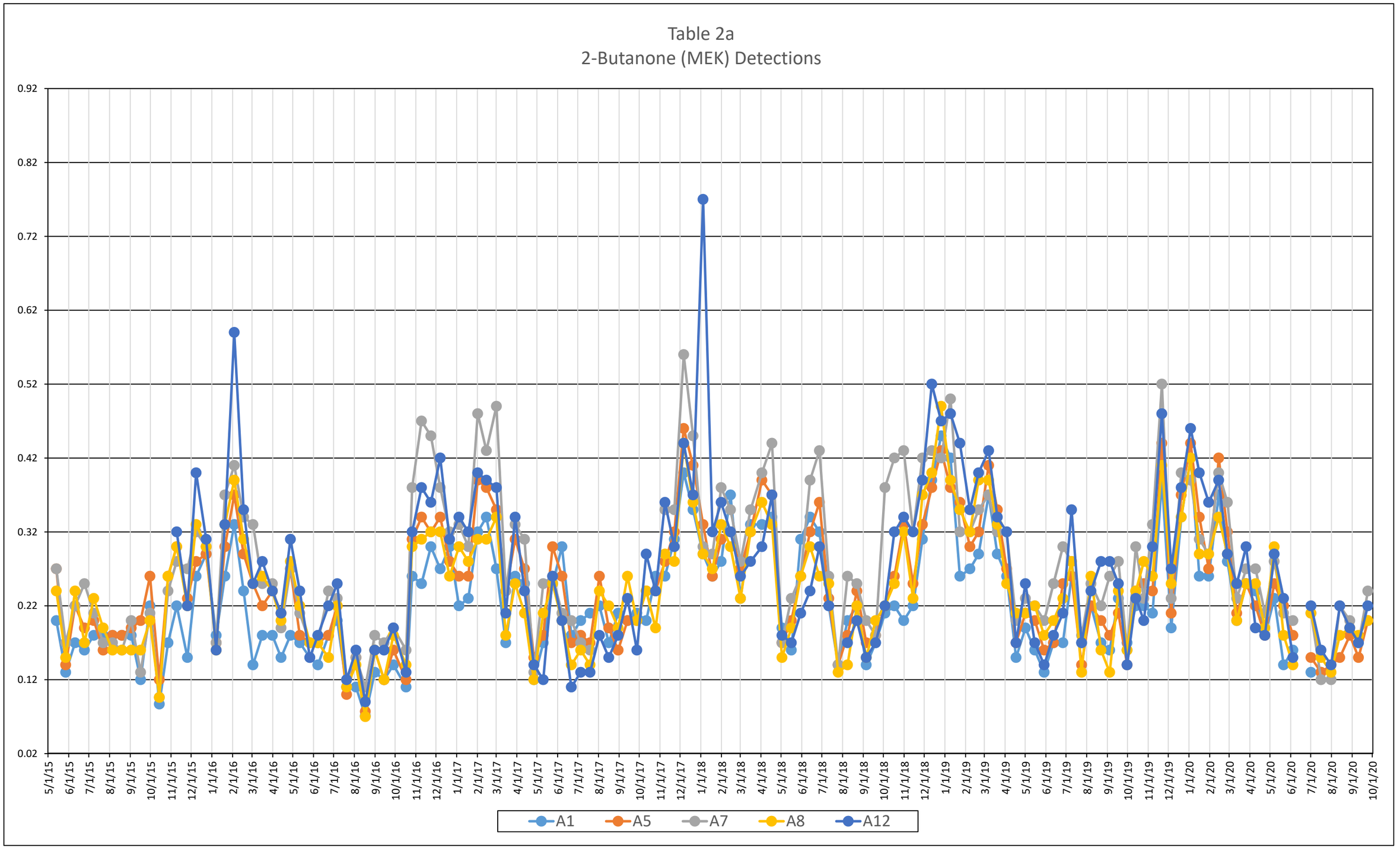


Table 2b
Benzene Detections

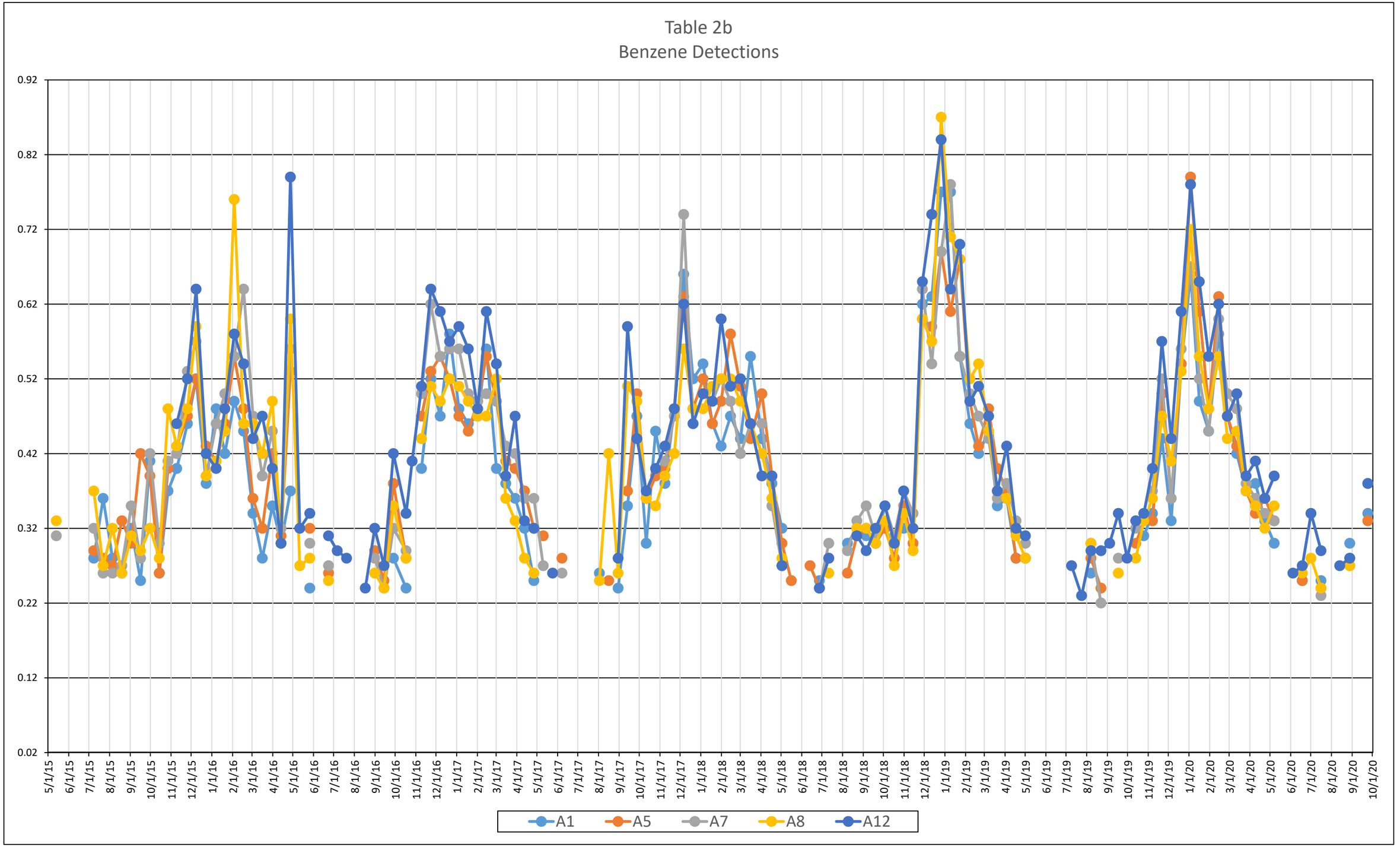


Table 2c
Carbon Tetrachloride Detections

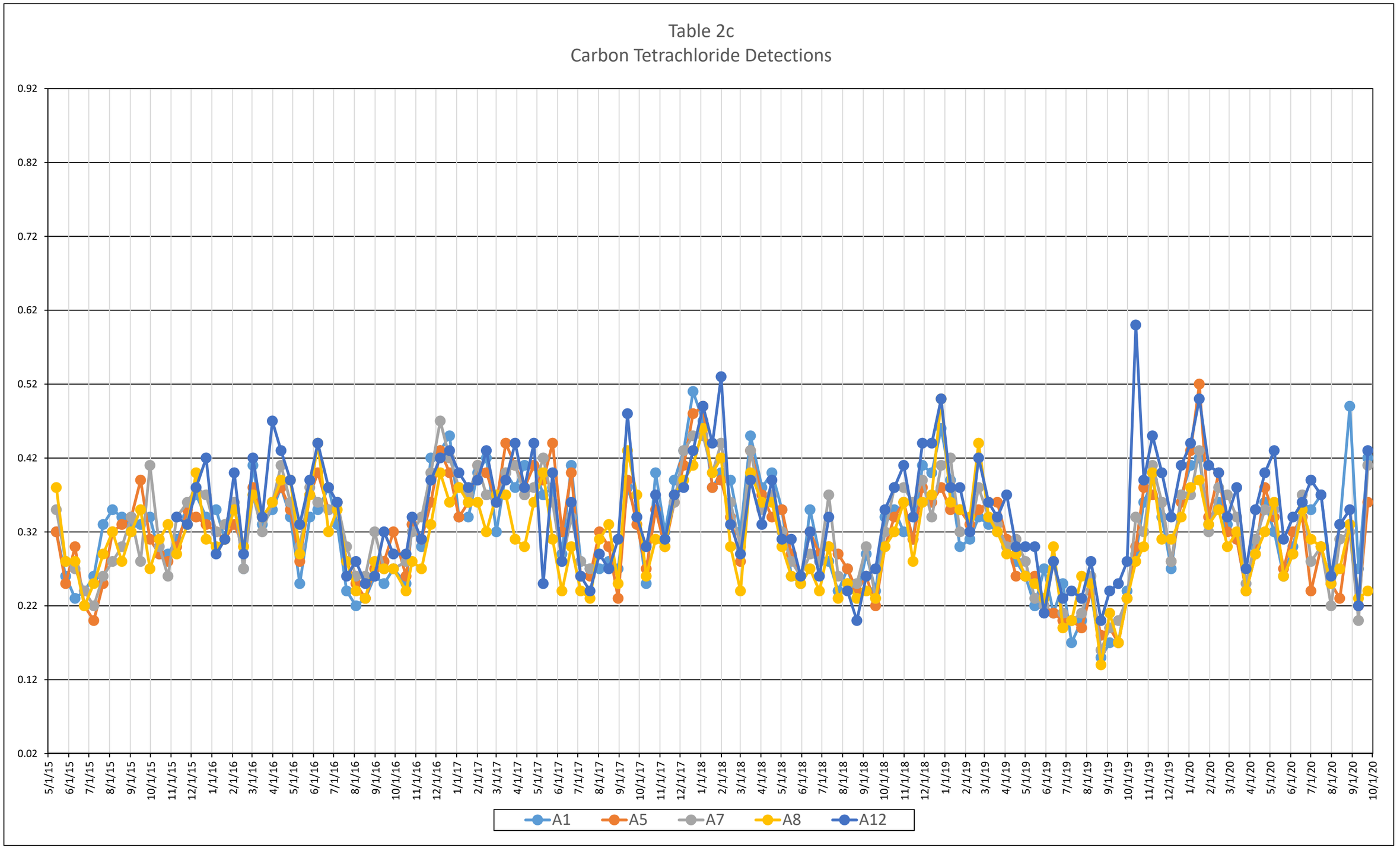


Table 2d
Chloroform Detections

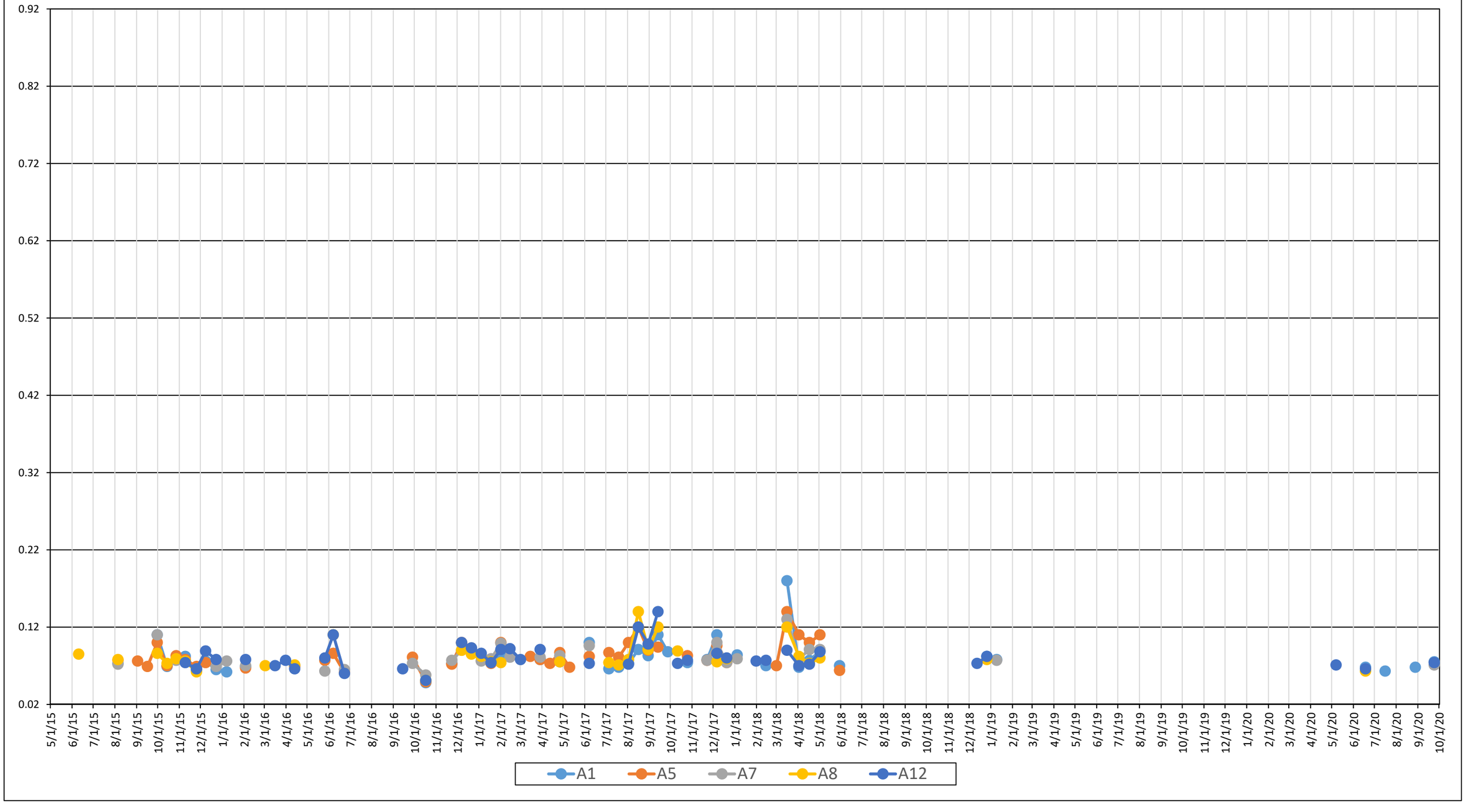


Table 2e
Cyclohexane Detections

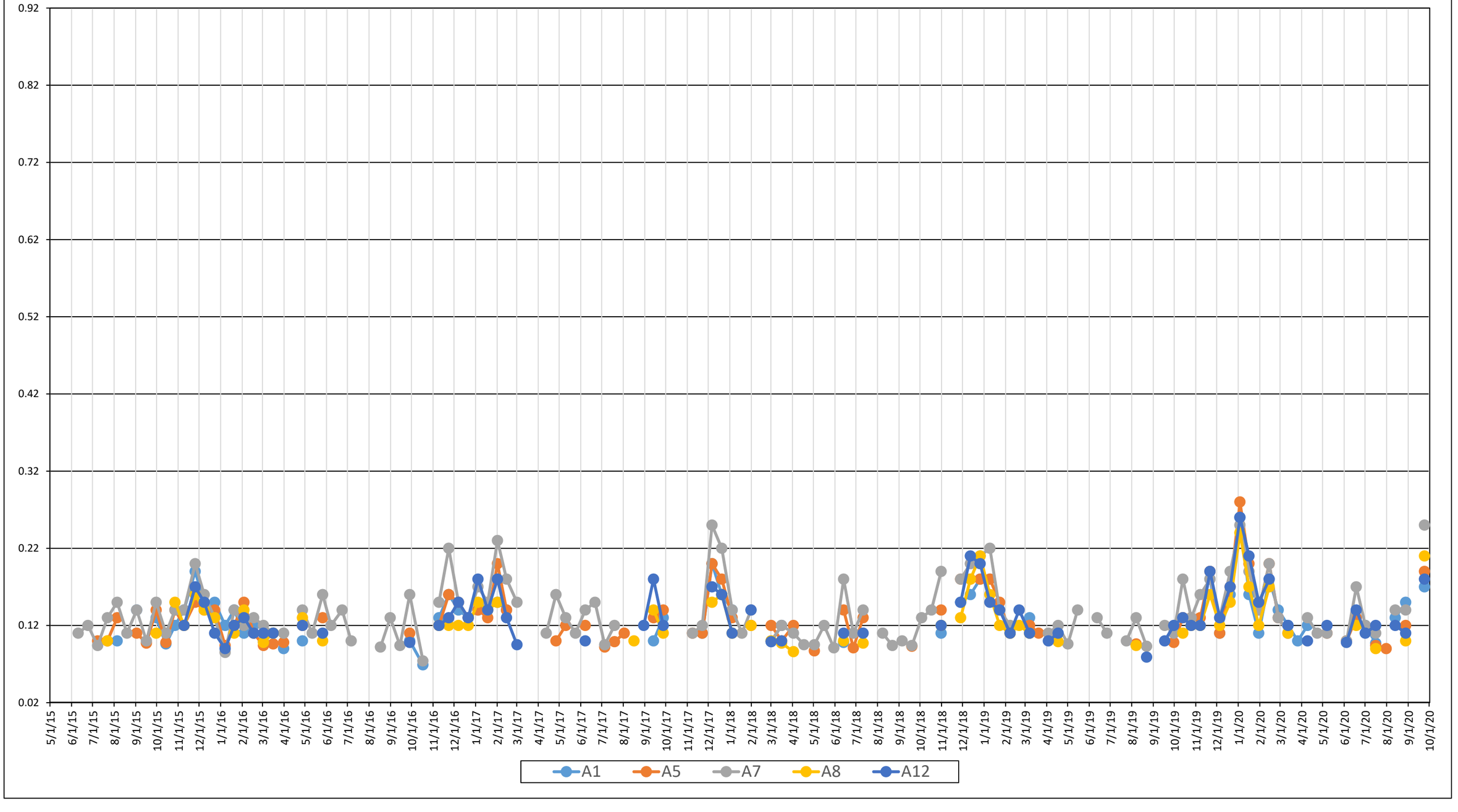


Table 2f
Ethyl Acetate Detections

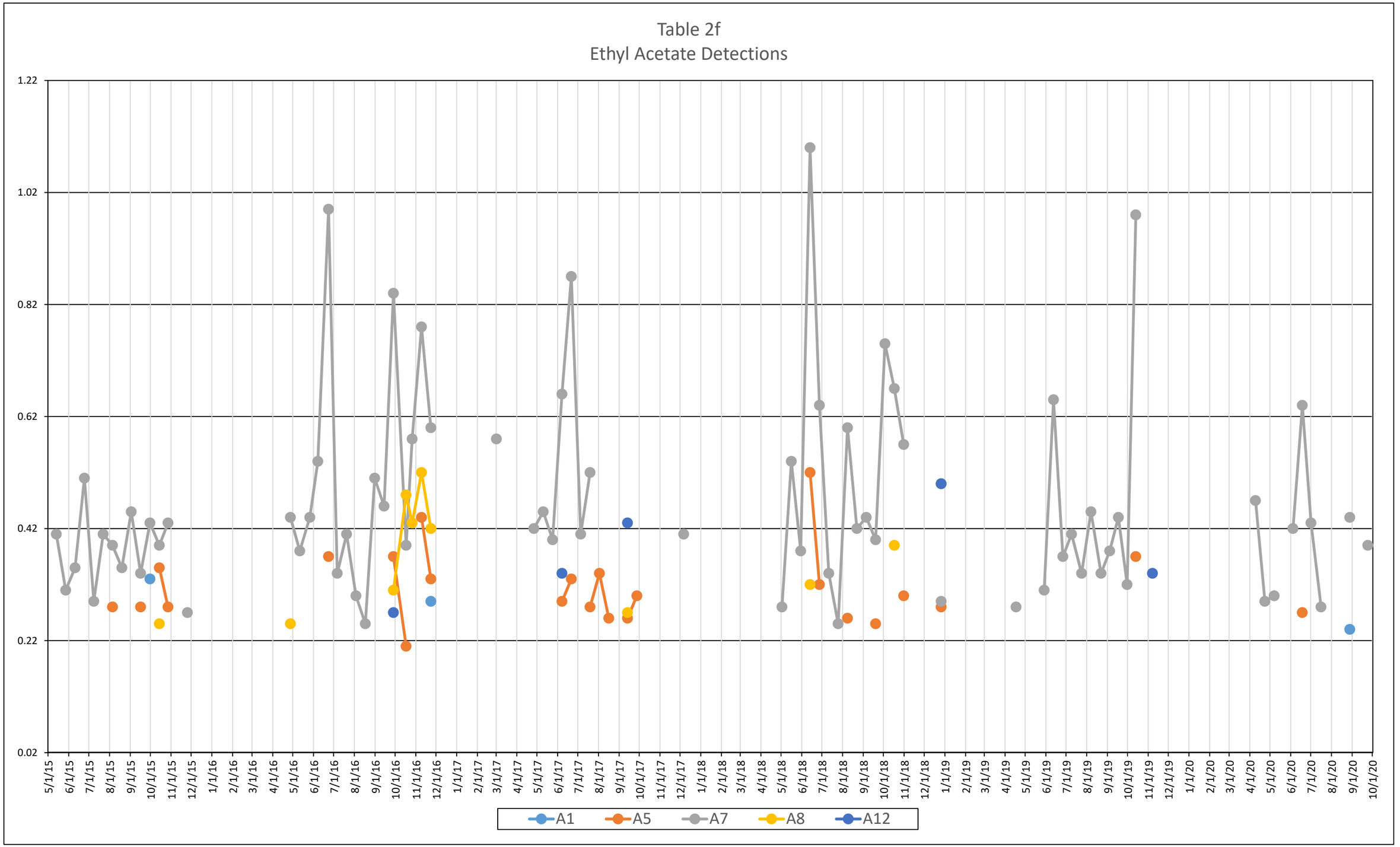


Table 2g
Ethylbenzene Detections

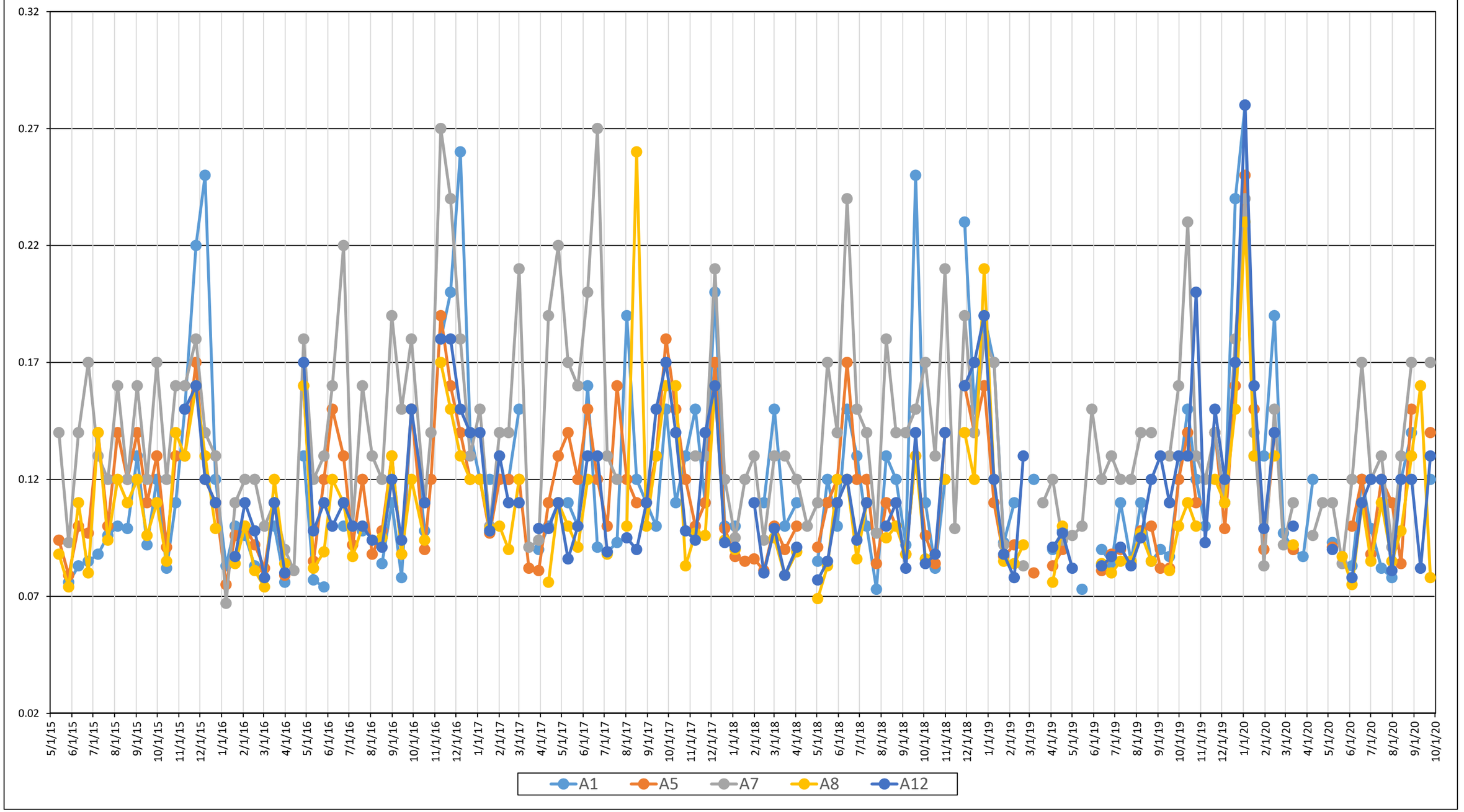


Table 2h
Heptane Detections

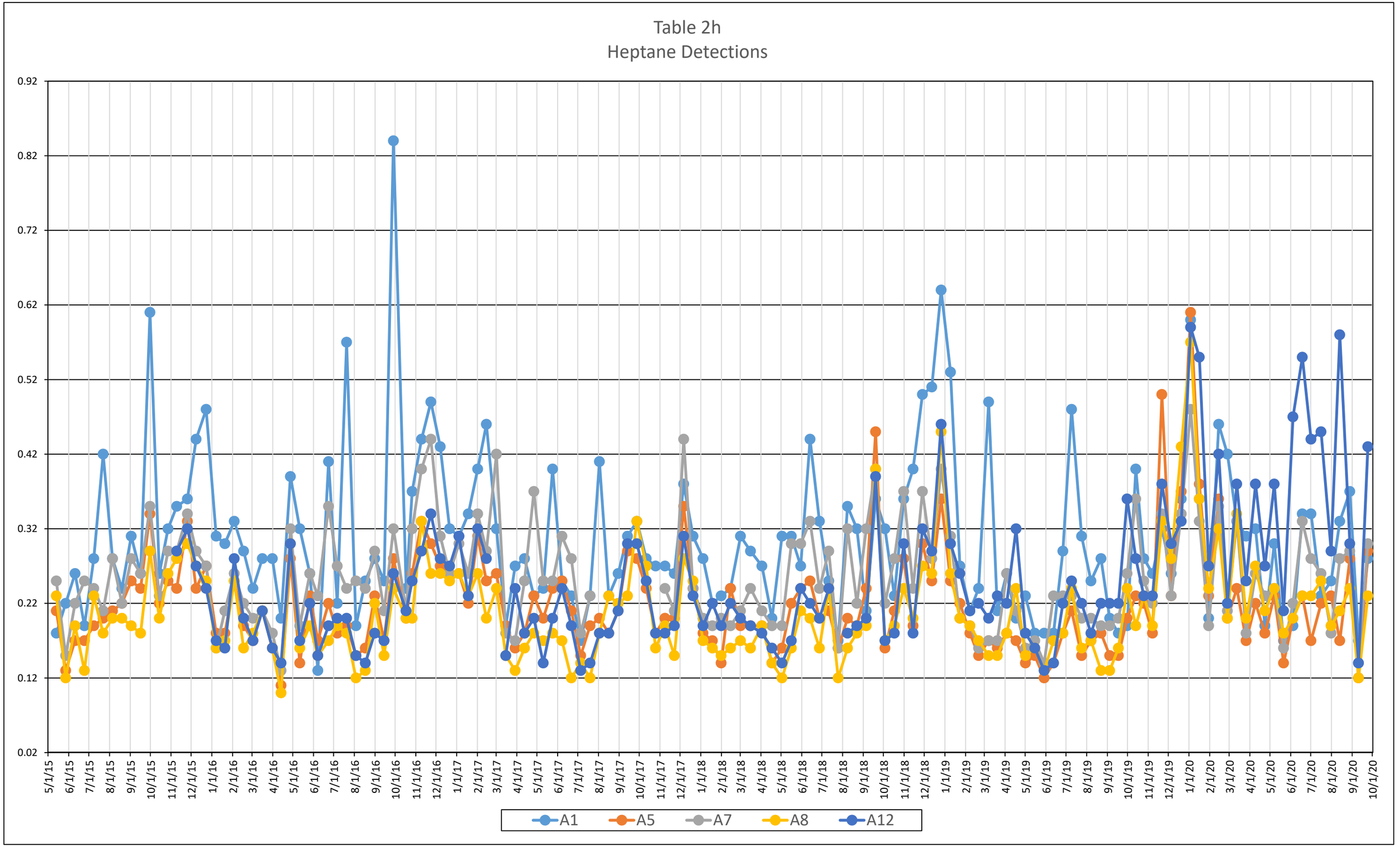


Table 2i
Hexane Detections

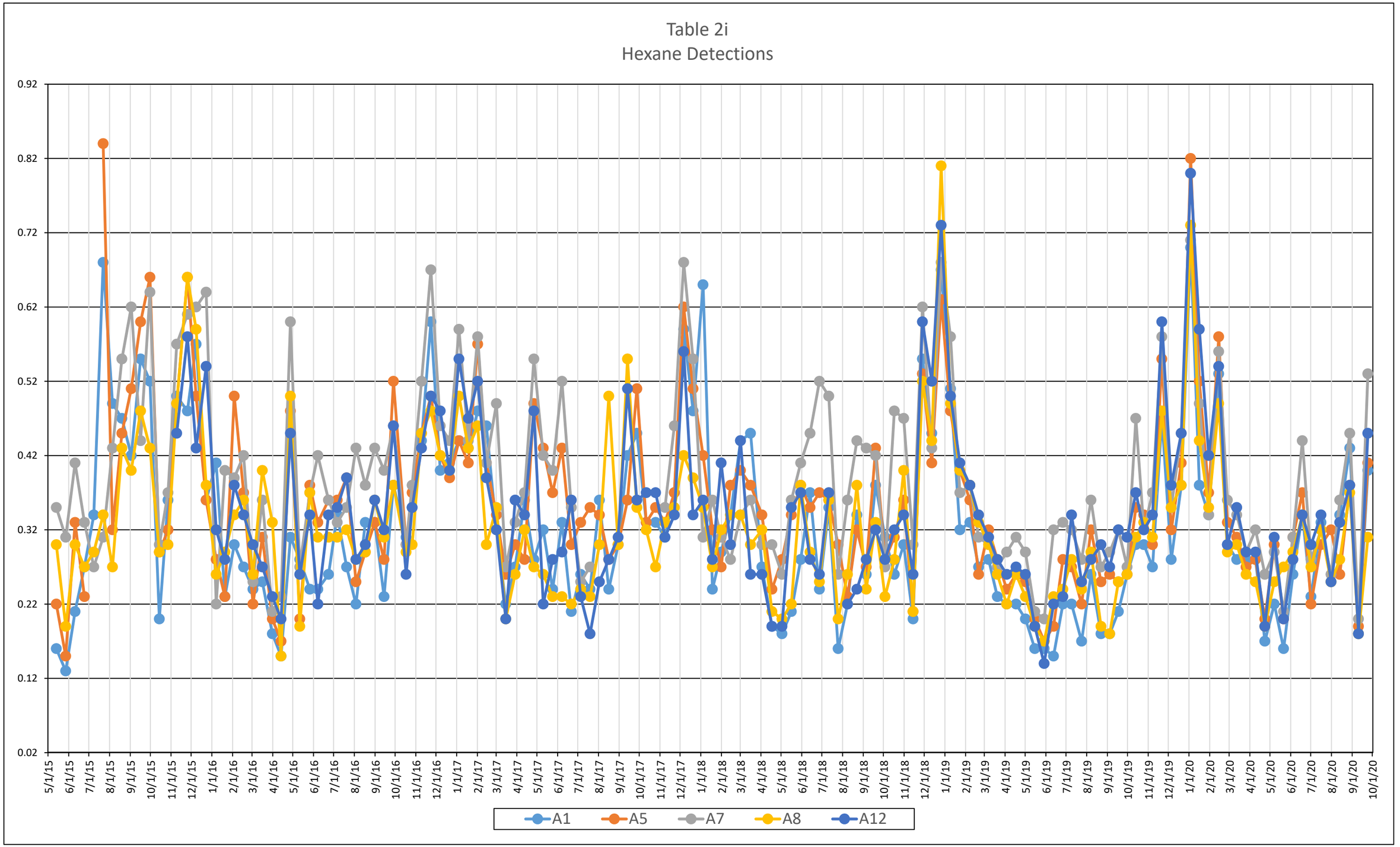


Table 2j
m,p-Xylene Detections

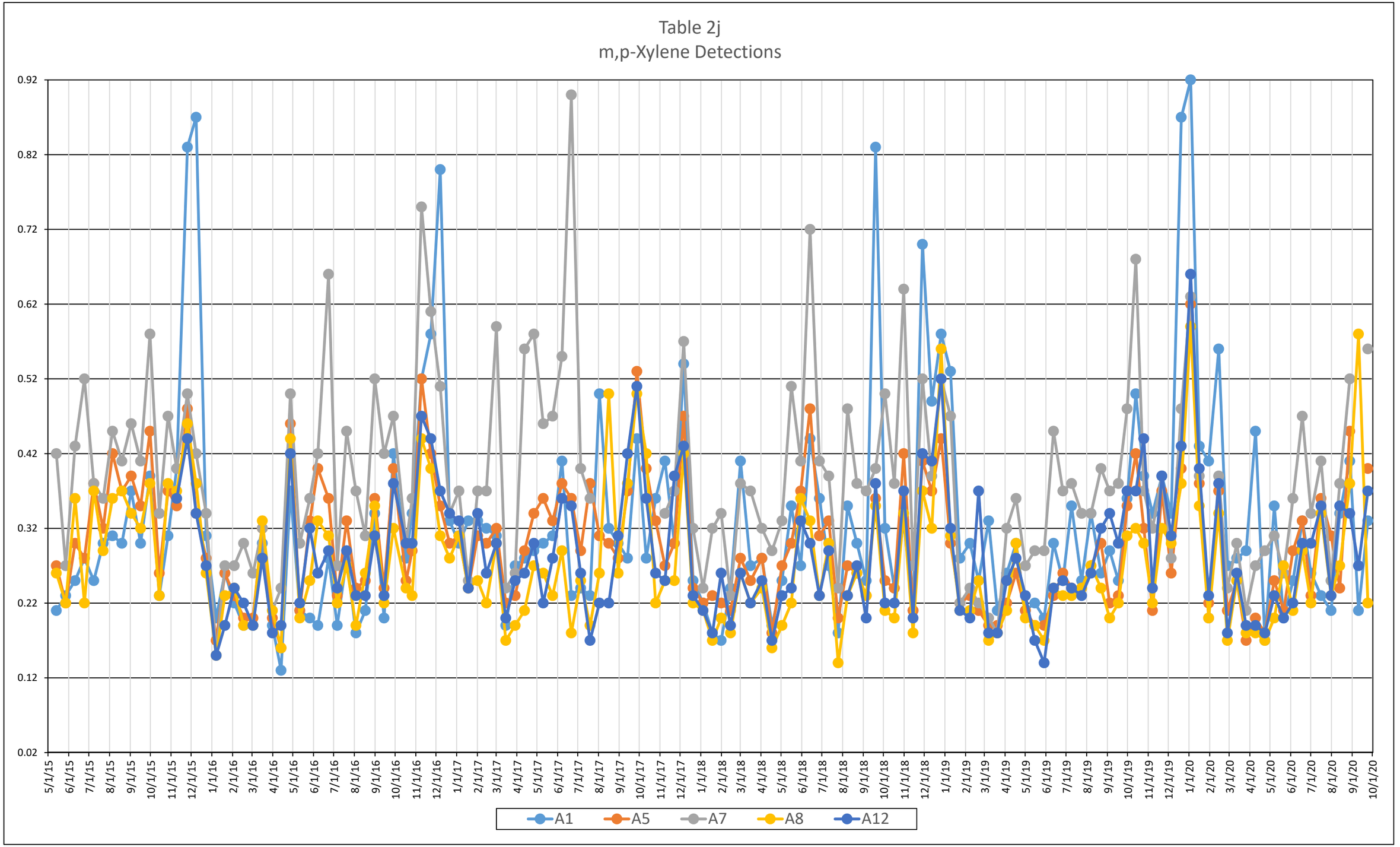


Table 2k
o-Xylene Detections

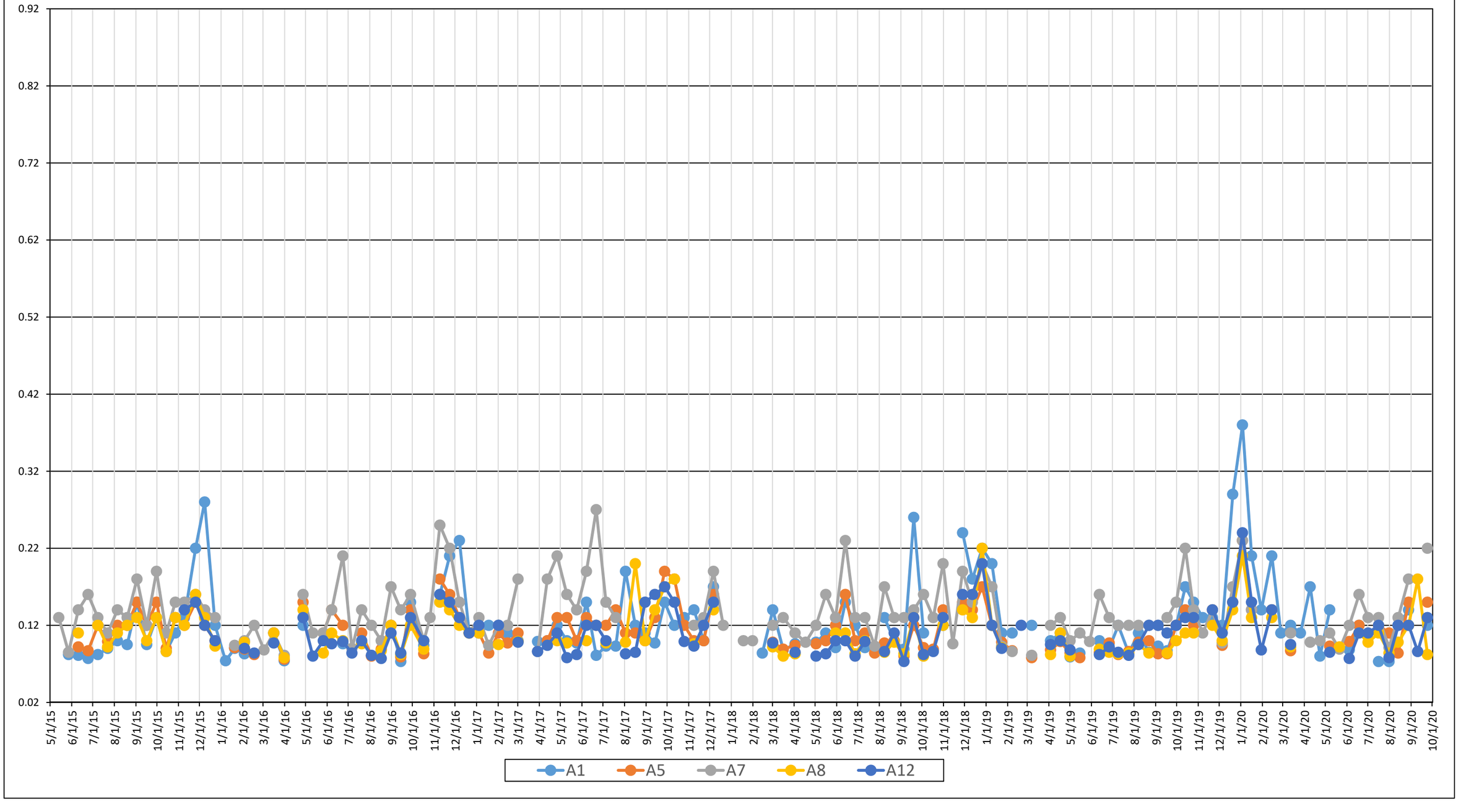


Table 2l
Tetrachloroethene Detections

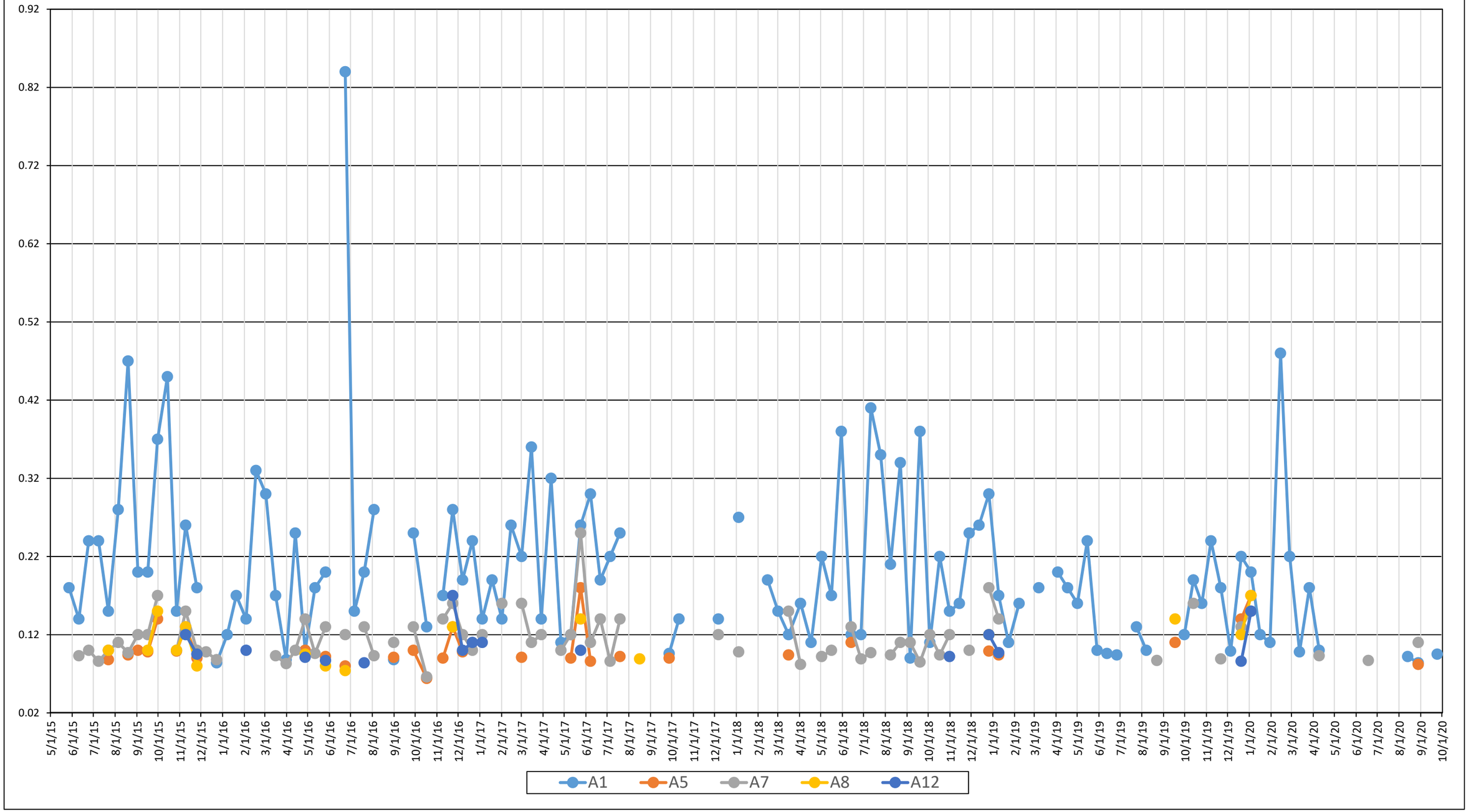


Table 2m
Toluene Detections

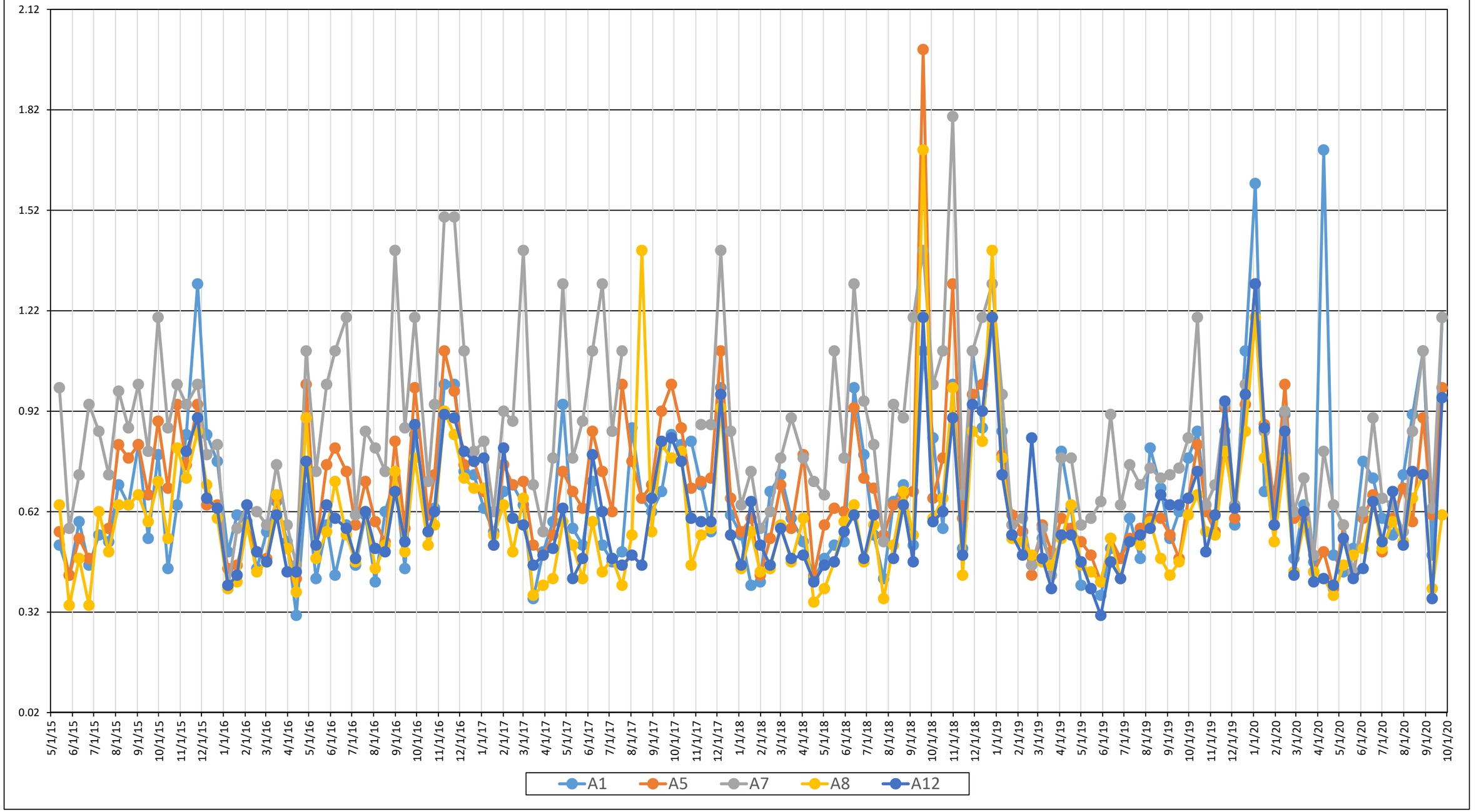


Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1			A5			A7			A8			A12		
1,2-Dichloroethane	3/31/16	0.060	**1,2-Dichloroethane**	3/31/16	0.066	**1,2-Dichloroethane**	3/31/16	0.064	**1,2-Dichloroethane**	2/3/16	0.078	**1,2-Dichloroethane**	3/29/17	0.074
	3/16/18	0.069		3/16/18	0.072		3/16/18	0.077		3/31/16	0.068		5/2/18	0.066
	4/2/18	0.066		5/2/18	0.067		4/17/18	0.069		4/2/18	0.062		11/28/18	0.078
	5/2/18	0.074		12/26/18	0.074		5/2/18	0.066		12/26/18	0.110		12/12/18	0.074
	12/26/18	0.096		1/9/19	0.079		12/26/18	0.097		1/9/19	0.077		12/26/18	0.096
	1/9/19	0.085					1/9/19	0.094		2/20/19	0.083		1/9/19	0.080
													1/23/19	0.078
2-Butanone (MEK)	5/13/15	0.200	**2-Butanone (MEK)**	5/13/15	0.270	**2-Butanone (MEK)**	5/13/15	0.270	**2-Butanone (MEK)**	5/13/15	0.240	**2-Butanone (MEK)**	11/9/15	0.320
	5/27/15	0.130		5/27/15	0.140		5/27/15	0.170		5/27/15	0.150		11/25/15	0.220
	6/10/15	0.170		6/10/15	0.220		6/10/15	0.220		6/10/15	0.240		12/8/15	0.400
	6/24/15	0.160		6/24/15	0.190		6/24/15	0.250		6/24/15	0.170		12/23/15	0.310
	7/8/15	0.180		7/8/15	0.200		7/8/15	0.210		7/8/15	0.230		1/7/16	0.160
	7/22/15	0.180		7/22/15	0.160		7/22/15	0.170		7/22/15	0.190		1/20/16	0.330
	8/5/15	0.180		8/5/15	0.180		8/5/15	0.170		8/5/15	0.160		2/3/16	0.590
	8/19/15	0.180		8/19/15	0.180		8/19/15	0.160		8/19/15	0.160		2/17/16	0.350
	9/2/15	0.180		9/2/15	0.190		9/2/15	0.200		9/2/15	0.160		3/2/16	0.250
	9/16/15	0.120		9/16/15	0.200		9/16/15	0.130		9/16/15	0.160		3/16/16	0.280
	9/30/15	0.220		9/30/15	0.260		9/30/15	0.210		9/30/15	0.200		3/31/16	0.240
	10/14/15	0.087		10/14/15	0.120		10/14/15	0.096		10/14/15	0.096		4/13/16	0.210
	10/27/15	0.170		10/27/15	0.260		10/27/15	0.240		10/27/15	0.260		4/27/16	0.310
	11/9/15	0.220		11/9/15	0.300		11/9/15	0.280		11/9/15	0.300		5/11/16	0.240
	11/25/15	0.150		11/25/15	0.230		11/25/15	0.270		11/25/15	0.220		5/26/16	0.150
	12/8/15	0.260		12/8/15	0.280		12/8/15	0.320		12/8/15	0.330		6/7/16	0.180
	12/23/15	0.290		12/23/15	0.290		12/23/15	0.300		12/23/15	0.300		6/23/16	0.220
	1/7/16	0.180		1/7/16	0.170		1/7/16	0.170		1/7/16	0.160		7/6/16	0.250
	1/20/16	0.260		1/20/16	0.300		1/20/16	0.370		1/20/16	0.330		7/20/16	0.120
	2/3/16	0.330		2/3/16	0.370		2/3/16	0.410		2/3/16	0.390		8/3/16	0.160
	2/17/16	0.240		2/17/16	0.290		2/17/16	0.340		2/17/16	0.310		8/17/16	0.090
	3/2/16	0.140		3/2/16	0.250		3/2/16	0.330		3/2/16	0.250		8/31/16	0.160
	3/16/16	0.180		3/16/16	0.220		3/16/16	0.250		3/16/16	0.260		9/14/16	0.160
	3/31/16	0.180		3/31/16	0.240		3/31/16	0.250		3/31/16	0.240		9/28/16	0.190
	4/13/16	0.150		4/13/16	0.210		4/13/16	0.190		4/13/16	0.200		10/17/16	0.130
	4/27/16	0.180		4/27/16	0.270		4/27/16	0.270		4/27/16	0.280		10/26/16	0.320
	5/11/16	0.170		5/11/16	0.180		5/11/16	0.210		5/11/16	0.220		11/9/16	0.380
	5/26/16	0.150		5/26/16	0.170		5/26/16	0.170		5/26/16	0.170		11/23/16	0.360
	6/7/16	0.140		6/7/16	0.170		6/7/16	0.170		6/7/16	0.170		12/7/16	0.420
	6/23/16	0.180		6/23/16	0.180		6/23/16	0.240		6/23/16	0.150		12/21/16	0.310
	7/6/16	0.200		7/6/16	0.220		7/6/16	0.230		7/6/16	0.220		1/4/17	0.340
	7/20/16	0.110		7/20/16	0.100		7/20/16	0.120		7/20/16	0.110		1/18/17	0.320
	8/3/16	0.110		8/3/16	0.150		8/3/16	0.150		8/3/16	0.140		2/1/17	0.400
	8/17/16	0.071		8/17/16	0.077		8/17/16	0.110		8/17/16	0.070		2/14/17	0.390
	8/31/16	0.130		8/31/16	0.160		8/31/16	0.180		8/31/16	0.160		3/1/17	0.380
	9/14/16	0.120		9/14/16	0.120		9/14/16	0.170		9/14/16	0.120		3/15/17	0.210
	9/28/16	0.140		9/28/16	0.160		9/28/16	0.190		9/28/16	0.180		3/29/17	0.340
	10/17/16	0.110		10/17/16	0.120		10/17/16	0.160		10/17/16	0.140		4/12/17	0.240
	10/26/16	0.260		10/26/16	0.310		10/26/16	0.380		10/26/16	0.300		4/26/17	0.140
	11/9/16	0.250		11/9/16	0.340		11/9/16	0.470		11/9/16	0.310		5/10/17	0.120
	11/23/16	0.300		11/23/16	0.320		11/23/16	0.450		11/23/16	0.320		5/24/17	0.260
	12/7/16	0.270		12/7/16	0.340		12/7/16	0.380		12/7/16	0.320		6/7/17	0.200
	12/21/16	0.300		12/21/16	0.280		12/21/16	0.320		12/21/16	0.260		6/21/17	0.110
	1/4/17	0.220		1/4/17	0.260		1/4/17	0.330		1/4/17	0.300		7/5/17	0.130
	1/18/17	0.230		1/18/17	0.260		1/18/17	0.300		1/18/17	0.280		7/19/17	0.130
	2/1/17	0.320		2/1/17	0.390		2/1/17	0.480		2/1/17	0.310		8/2/17	0.180
	2/14/17	0.340		2/14/17	0.380		2/14/17	0.430		2/14/17	0.310		8/16/17	0.150

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1		A5		A7		A8		A12	
3/1/17	0.270	3/1/17	0.350	3/1/17	0.490	3/1/17	0.340	8/30/17	0.180
3/15/17	0.170	3/15/17	0.240	3/15/17	0.240	3/15/17	0.180	9/13/17	0.230
3/29/17	0.260	3/29/17	0.310	3/29/17	0.330	3/29/17	0.250	9/27/17	0.160
4/12/17	0.250	4/12/17	0.270	4/12/17	0.310	4/12/17	0.210	10/11/17	0.290
4/26/17	0.120	4/26/17	0.150	4/26/17	0.130	4/26/17	0.120	10/25/17	0.240
5/10/17	0.170	5/10/17	0.180	5/10/17	0.250	5/10/17	0.210	11/8/17	0.360
5/24/17	0.250	5/24/17	0.300	5/24/17	0.260	5/24/17	0.250	11/22/17	0.300
6/7/17	0.300	6/7/17	0.260	6/7/17	0.210	6/7/17	0.200	12/6/17	0.440
6/21/17	0.180	6/21/17	0.170	6/21/17	0.200	6/21/17	0.140	12/20/17	0.370
7/5/17	0.200	7/5/17	0.180	7/5/17	0.170	7/5/17	0.160	1/4/18	0.770
7/19/17	0.210	7/19/17	0.170	7/19/17	0.160	7/19/17	0.140	1/18/18	0.320
8/2/17	0.220	8/2/17	0.260	11/8/17	0.350	8/2/17	0.240	1/31/18	0.360
8/16/17	0.170	8/16/17	0.190	11/22/17	0.350	8/16/17	0.220	2/14/18	0.320
8/30/17	0.210	8/30/17	0.160	12/6/17	0.560	8/30/17	0.190	3/1/18	0.260
9/13/17	0.200	9/13/17	0.200	12/20/17	0.450	9/13/17	0.260	3/16/18	0.280
9/27/17	0.210	9/27/17	0.200	1/4/18	0.300	9/27/17	0.200	4/2/18	0.300
10/11/17	0.200	10/11/17	0.240	1/18/18	0.290	10/11/17	0.240	4/17/18	0.370
10/25/17	0.260	10/25/17	0.240	1/31/18	0.380	10/25/17	0.190	5/2/18	0.180
11/8/17	0.260	11/8/17	0.280	2/14/18	0.350	11/8/17	0.290	5/16/18	0.170
11/22/17	0.310	11/22/17	0.320	3/1/18	0.280	11/22/17	0.280	5/30/18	0.210
12/6/17	0.400	12/6/17	0.460	3/16/18	0.350	12/6/17	0.440	6/13/18	0.240
12/20/17	0.350	12/20/17	0.410	4/2/18	0.400	12/20/17	0.360	6/27/18	0.300
1/4/18	0.290	1/4/18	0.330	4/17/18	0.440	1/4/18	0.290	7/11/18	0.220
1/18/18	0.260	1/18/18	0.260	5/2/18	0.170	1/18/18	0.270	8/8/18	0.170
1/31/18	0.280	1/31/18	0.310	5/16/18	0.230	1/31/18	0.330	8/22/18	0.200
2/14/18	0.370	2/14/18	0.320	5/30/18	0.260	2/14/18	0.300	9/5/18	0.150
3/1/18	0.230	3/1/18	0.270	6/13/18	0.390	3/1/18	0.230	9/19/18	0.170
3/16/18	0.330	3/16/18	0.320	6/27/18	0.430	3/16/18	0.320	10/3/18	0.220
4/2/18	0.330	4/2/18	0.390	7/11/18	0.260	4/2/18	0.360	10/17/18	0.320
4/17/18	0.340	4/17/18	0.370	7/25/18	0.140	4/17/18	0.330	10/31/18	0.340
5/2/18	0.190	5/2/18	0.170	8/8/18	0.260	5/2/18	0.150	11/14/18	0.320
5/16/18	0.160	5/16/18	0.200	8/22/18	0.250	5/16/18	0.190	11/28/18	0.390
5/30/18	0.310	5/30/18	0.260	9/5/18	0.200	5/30/18	0.260	12/12/18	0.520
6/13/18	0.340	6/13/18	0.320	9/19/18	0.180	6/13/18	0.300	12/26/18	0.470
6/27/18	0.320	6/27/18	0.360	10/3/18	0.380	6/27/18	0.260	1/9/19	0.480
7/11/18	0.220	7/11/18	0.230	10/17/18	0.420	7/11/18	0.250	1/23/19	0.440
7/25/18	0.140	7/25/18	0.140	10/31/18	0.430	7/25/18	0.130	2/7/19	0.35
8/8/18	0.200	8/8/18	0.180	11/14/18	0.320	8/8/18	0.140	2/20/19	0.400
8/22/18	0.220	8/22/18	0.240	11/28/18	0.420	8/22/18	0.220	3/7/19	0.430
9/5/18	0.140	9/5/18	0.170	12/12/18	0.430	9/5/18	0.150	3/20/19	0.340
9/19/18	0.170	9/19/18	0.180	12/26/18	0.420	9/19/18	0.200	4/3/19	0.320
10/3/18	0.210	10/3/18	0.220	1/9/19	0.500	10/3/18	0.220	4/17/19	0.170
10/17/18	0.220	10/17/18	0.260	1/23/19	0.320	10/17/18	0.250	5/1/19	0.250
10/31/18	0.200	10/31/18	0.330	2/7/19	0.320	10/31/18	0.320	5/15/19	0.170
11/14/18	0.220	11/14/18	0.250	2/20/19	0.350	11/14/18	0.230	5/29/19	0.140
11/28/18	0.310	11/28/18	0.330	3/7/19	0.370	11/28/18	0.370	6/12/19	0.180
12/12/18	0.390	12/12/18	0.380	3/20/19	0.320	12/12/18	0.400	6/26/19	0.210
12/26/18	0.450	12/26/18	0.430	4/3/19	0.320	12/26/18	0.490	7/9/19	0.350
1/9/19	0.420	1/9/19	0.380	4/17/19	0.200	1/9/19	0.390	7/24/19	0.170
1/23/19	0.260	1/23/19	0.360	5/1/19	0.230	1/23/19	0.350	8/7/19	0.240
2/7/19	0.270	2/7/19	0.300	5/15/19	0.220	2/7/19	0.320	8/22/19	0.280
2/20/19	0.290	2/20/19	0.320	5/29/19	0.200	2/20/19	0.390	9/4/19	0.280
3/7/19	0.370	3/7/19	0.410	6/12/19	0.250	3/7/19	0.390	9/17/19	0.250
3/20/19	0.290	3/20/19	0.350	6/26/19	0.300	3/20/19	0.330	9/30/19	0.140

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1		A5		A7		A8		A12	
4/3/19	0.260	4/3/19	0.270	7/9/19	0.280	4/3/19	0.250	10/13/19	0.230
4/17/19	0.150	4/17/19	0.170	7/24/19	0.180	4/17/19	0.210	10/25/19	0.200
5/1/19	0.190	5/1/19	0.210	8/7/19	0.250	5/1/19	0.210	11/7/19	0.300
5/15/19	0.160	5/15/19	0.200	8/22/19	0.220	5/15/19	0.220	11/21/19	0.480
5/29/19	0.130	5/29/19	0.160	9/4/19	0.260	5/29/19	0.180	12/5/19	0.270
6/12/19	0.170	6/12/19	0.170	9/17/19	0.280	6/12/19	0.200	12/20/19	0.380
6/26/19	0.170	6/26/19	0.250	9/30/19	0.160	6/26/19	0.230	1/3/20	0.460
7/9/19	0.260	7/9/19	0.260	10/13/19	0.300	7/9/19	0.280	1/16/20	0.400
7/24/19	0.170	7/24/19	0.140	10/25/19	0.230	7/24/19	0.130	1/30/20	0.360
8/7/19	0.220	8/7/19	0.220	11/7/19	0.330	8/7/19	0.260	2/14/20	0.390
8/22/19	0.170	8/22/19	0.200	11/21/19	0.520	8/22/19	0.160	2/27/20	0.290
9/4/19	0.160	9/4/19	0.180	12/5/19	0.230	9/4/19	0.130	3/12/20	0.250
9/17/19	0.230	9/17/19	0.210	12/20/19	0.400	9/17/19	0.240	3/26/20	0.300
9/30/19	0.170	9/30/19	0.140	1/3/20	0.390	9/30/19	0.160	4/9/20	0.190
10/13/19	0.220	10/13/19	0.240	1/16/20	0.310	10/13/19	0.240	4/23/20	0.180
10/25/19	0.220	10/25/19	0.250	1/30/20	0.290	10/25/19	0.280	5/7/20	0.290
11/7/19	0.210	11/7/19	0.240	2/14/20	0.400	11/7/19	0.260	5/21/20	0.230
11/21/19	0.390	11/21/19	0.440	2/27/20	0.360	11/21/19	0.410	6/4/20	0.150
12/5/19	0.190	12/5/19	0.210	3/12/20	0.230	12/5/19	0.250	7/1/20	0.220
12/20/19	0.340	12/20/19	0.370	3/26/20	0.270	12/20/19	0.340	7/16/20	0.160
1/3/20	0.420	1/3/20	0.440	4/9/20	0.270	1/3/20	0.420	7/31/20	0.140
1/16/20	0.260	1/16/20	0.340	4/23/20	0.210	1/16/20	0.290	8/13/20	0.220
1/30/20	0.260	1/30/20	0.270	5/7/20	0.280	1/30/20	0.290	8/28/20	0.190
2/14/20	0.370	2/14/20	0.420	5/21/20	0.210	2/14/20	0.340	9/10/20	0.170
2/27/20	0.280	2/27/20	0.320	6/4/20	0.200	2/27/20	0.290	9/24/20	0.220
3/12/20	0.200	3/12/20	0.210	7/1/20	0.210	3/12/20	0.200		
3/26/20	0.250	3/26/20	0.250	7/16/20	0.120	3/26/20	0.250		
4/9/20	0.240	4/9/20	0.220	7/31/20	0.120	4/9/20	0.250		
4/23/20	0.180	4/23/20	0.180	8/13/20	0.220	4/23/20	0.190		
5/7/20	0.230	5/7/20	0.250	8/28/20	0.200	5/7/20	0.300		
5/21/20	0.140	5/21/20	0.220	9/10/20	0.170	5/21/20	0.180		
6/4/20	0.160	6/4/20	0.180	9/24/20	0.240	6/4/20	0.140		
7/1/20	0.130	7/1/20	0.150			7/1/20	0.210		
7/16/20	0.130	7/16/20	0.130			7/16/20	0.150		
		7/31/20	0.140			7/31/20	0.130		
		8/13/20	0.150			8/13/20	0.180		
		8/28/20	0.180			8/28/20	0.190		
		9/10/20	0.150			9/10/20	0.180		
		9/24/20	0.200			9/24/20	0.200		
4-Methyl-2-Pentanone	no detections	**4-Methyl-2-Pentanone**	no detections	**4-Methyl-2-Pentanone**	12/26/18 0.410	**4-Methyl-2-Pentanone**	no detections	**4-Methyl-2-Pentanone**	no detections
Benzene	7/8/15 0.280	**Benzene**	7/8/15 0.290	**Benzene**	5/13/15 0.310	**Benzene**	5/13/15 0.330	**Benzene**	11/9/15 0.460
	7/22/15 0.360		7/22/15 0.280		7/8/15 0.320		7/8/15 0.370		11/25/15 0.520
	8/5/15 0.280		8/5/15 0.270		7/22/15 0.260		7/22/15 0.270		12/8/15 0.640
	8/19/15 0.260		8/19/15 0.330		8/5/15 0.260		8/5/15 0.320		12/23/15 0.420
	9/2/15 0.320		9/2/15 0.300		8/19/15 0.270		8/19/15 0.260		1/7/16 0.400
	9/16/15 0.250		9/16/15 0.420		9/2/15 0.350		9/2/15 0.310		1/20/16 0.480
	9/30/15 0.410		9/30/15 0.390		9/16/15 0.280		9/16/15 0.290		2/3/16 0.580
	10/14/15 0.260		10/14/15 0.260		9/30/15 0.420		9/30/15 0.320		2/17/16 0.540
	10/27/15 0.370		10/27/15 0.400		10/14/15 0.300		10/14/15 0.280		3/2/16 0.440
	11/9/15 0.400		11/9/15 0.430		10/27/15 0.410		10/27/15 0.480		3/16/16 0.470
	11/25/15 0.460		11/25/15 0.470		11/9/15 0.420		11/9/15 0.430		3/31/16 0.400
	12/8/15 0.520		12/8/15 0.520		11/25/15 0.530		11/25/15 0.480		4/13/16 0.300
	12/23/15 0.380		12/23/15 0.430		12/8/15 0.570		12/8/15 0.590		4/27/16 0.790

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1		A5		A7		A8		A12	
1/7/16	0.480	1/7/16	0.410	12/23/15	0.390	12/23/15	0.390	5/11/16	0.320
1/20/16	0.420	1/20/16	0.460	1/7/16	0.460	1/7/16	0.410	5/26/16	0.340
2/3/16	0.490	2/3/16	0.550	1/20/16	0.500	1/20/16	0.450	6/23/16	0.310
2/17/16	0.450	2/17/16	0.480	2/3/16	0.550	2/3/16	0.760	7/6/16	0.290
3/2/16	0.340	3/2/16	0.360	2/17/16	0.640	2/17/16	0.460	7/20/16	0.280
3/16/16	0.280	3/16/16	0.320	3/2/16	0.470	3/2/16	0.460	8/17/16	0.240
3/31/16	0.350	3/31/16	0.420	3/16/16	0.390	3/16/16	0.420	8/31/16	0.320
4/13/16	0.300	4/13/16	0.310	3/31/16	0.450	3/31/16	0.490	9/14/16	0.270
4/27/16	0.370	4/27/16	0.530	4/13/16	0.320	4/13/16	0.300	9/28/16	0.420
5/26/16	0.240	5/26/16	0.320	4/27/16	0.560	4/27/16	0.600	10/17/16	0.340
9/28/16	0.280	6/23/16	0.260	5/26/16	0.300	5/11/16	0.270	10/26/16	0.410
10/17/16	0.240	8/31/16	0.290	6/23/16	0.270	5/26/16	0.280	11/9/16	0.510
11/9/16	0.400	9/14/16	0.250	8/31/16	0.280	6/23/16	0.250	11/23/16	0.640
11/23/16	0.520	9/28/16	0.380	9/14/16	0.240	8/31/16	0.260	12/7/16	0.610
12/7/16	0.470	10/17/16	0.280	9/28/16	0.320	9/14/16	0.240	12/21/16	0.570
12/21/16	0.580	11/9/16	0.470	10/17/16	0.290	9/28/16	0.350	1/4/17	0.590
1/4/17	0.480	11/23/16	0.530	11/9/16	0.500	10/17/16	0.280	1/18/17	0.560
1/18/17	0.460	12/7/16	0.550	11/23/16	0.620	11/9/16	0.440	2/1/17	0.480
2/1/17	0.470	12/21/16	0.520	12/7/16	0.550	11/23/16	0.510	2/14/17	0.610
2/14/17	0.560	1/4/17	0.470	12/21/16	0.560	12/7/16	0.490	3/1/17	0.540
3/1/17	0.400	1/18/17	0.450	1/4/17	0.560	12/21/16	0.520	3/15/17	0.390
3/15/17	0.380	2/1/17	0.490	1/18/17	0.500	1/4/17	0.510	3/29/17	0.470
3/29/17	0.360	2/14/17	0.550	2/1/17	0.490	1/18/17	0.490	4/12/17	0.330
4/12/17	0.320	3/1/17	0.490	2/14/17	0.500	2/1/17	0.470	4/26/17	0.320
4/26/17	0.250	3/15/17	0.410	3/1/17	0.490	2/14/17	0.470	5/24/17	0.260
8/2/17	0.260	3/29/17	0.400	3/15/17	0.430	3/1/17	0.520	8/30/17	0.280
8/30/17	0.240	4/12/17	0.370	3/29/17	0.420	3/15/17	0.360	9/13/17	0.590
9/13/17	0.350	4/26/17	0.320	4/12/17	0.360	3/29/17	0.330	9/27/17	0.440
9/27/17	0.470	5/10/17	0.310	4/26/17	0.360	4/12/17	0.280	10/11/17	0.370
10/11/17	0.300	6/7/17	0.280	5/10/17	0.270	4/26/17	0.260	10/25/17	0.400
10/25/17	0.450	8/16/17	0.250	6/7/17	0.260	8/2/17	0.250	11/8/17	0.430
11/8/17	0.380	9/13/17	0.370	11/8/17	0.410	8/16/17	0.420	11/22/17	0.480
11/22/17	0.480	9/27/17	0.500	11/22/17	0.470	8/30/17	0.260	12/6/17	0.620
12/6/17	0.660	10/11/17	0.360	12/6/17	0.740	9/13/17	0.510	12/20/17	0.460
12/20/17	0.520	10/25/17	0.390	12/20/17	0.460	9/27/17	0.490	1/4/18	0.500
1/4/18	0.540	11/8/17	0.400	1/4/18	0.500	10/11/17	0.360	1/18/18	0.490
1/18/18	0.460	11/22/17	0.480	1/18/18	0.490	10/25/17	0.350	1/31/18	0.600
1/31/18	0.430	12/6/17	0.630	1/31/18	0.520	11/8/17	0.390	2/14/18	0.510
2/14/18	0.470	12/20/17	0.480	2/14/18	0.490	11/22/17	0.420	3/1/18	0.520
3/1/18	0.440	1/4/18	0.520	3/1/18	0.420	12/6/17	0.560	3/16/18	0.460
3/16/18	0.550	1/18/18	0.460	3/16/18	0.460	12/20/17	0.480	4/2/18	0.390
4/2/18	0.440	1/31/18	0.490	4/2/18	0.460	1/4/18	0.480	4/17/18	0.390
4/17/18	0.380	2/14/18	0.580	4/17/18	0.350	1/18/18	0.510	5/2/18	0.270
5/2/18	0.320	3/1/18	0.510	5/2/18	0.270	1/31/18	0.520	6/27/18	0.240
6/27/18	0.250	3/16/18	0.440	6/27/18	0.240	2/14/18	0.520	7/11/18	0.280
8/8/18	0.300	4/2/18	0.500	7/11/18	0.300	3/1/18	0.490	8/22/18	0.310
8/22/18	0.320	4/17/18	0.390	8/8/18	0.290	3/16/18	0.460	9/5/18	0.290
9/5/18	0.310	5/2/18	0.300	8/22/18	0.330	4/2/18	0.420	9/19/18	0.320
9/19/18	0.300	5/16/18	0.250	9/5/18	0.350	4/17/18	0.360	10/3/18	0.350
10/3/18	0.350	6/13/18	0.270	9/19/18	0.310	5/2/18	0.280	10/17/18	0.300
10/31/18	0.320	6/27/18	0.240	10/3/18	0.350	7/11/18	0.260	10/31/18	0.370
11/28/18	0.620	7/11/18	0.280	10/17/18	0.310	8/22/18	0.320	11/14/18	0.320
12/12/18	0.630	8/8/18	0.260	10/31/18	0.370	9/5/18	0.320	11/28/18	0.650
12/26/18	0.770	8/22/18	0.310	11/14/18	0.340	9/19/18	0.300	12/12/18	0.740

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1		A5		A7		A8		A12	
	1/9/19 0.770		9/5/18 0.320		11/28/18 0.640		10/3/18 0.330		12/26/18 0.840
	1/23/19 0.550		9/19/18 0.300		12/12/18 0.540		10/17/18 0.270		1/9/19 0.640
	2/7/19 0.460		10/3/18 0.320		12/26/18 0.690		10/31/18 0.340		1/23/19 0.700
	2/20/19 0.420		10/17/18 0.280		1/9/19 0.780		11/14/18 0.290		2/7/19 0.490
	3/7/19 0.450		10/31/18 0.350		1/23/19 0.550		11/28/18 0.600		2/20/19 0.510
	3/20/19 0.350		11/14/18 0.300		2/7/19 0.500		12/12/18 0.570		3/7/19 0.470
	4/3/19 0.360		11/28/18 0.600		2/20/19 0.470		12/26/18 0.870		3/20/19 0.370
	4/17/19 0.280		12/12/18 0.590		3/7/19 0.440		1/9/19 0.710		4/3/19 0.430
	5/1/19 0.280		12/26/18 0.690		3/20/19 0.360		1/23/19 0.680		4/17/19 0.320
	8/7/19 0.260		1/9/19 0.610		4/3/19 0.380		2/7/19 0.520		5/1/19 0.310
	10/25/19 0.310		1/23/19 0.680		4/17/19 0.330		2/20/19 0.540		7/9/19 0.270
	11/7/19 0.340		2/7/19 0.490		5/1/19 0.300		3/7/19 0.450		7/24/19 0.230
	11/21/19 0.440		2/20/19 0.430		8/7/19 0.300		3/20/19 0.370		8/7/19 0.290
	12/5/19 0.330		3/7/19 0.480		8/22/19 0.220		4/3/19 0.360		8/22/19 0.290
	12/20/19 0.540		3/20/19 0.400		9/17/19 0.280		4/17/19 0.310		9/4/19 0.300
	1/3/20 0.660		4/3/19 0.370		10/13/19 0.320		5/1/19 0.280		9/17/19 0.340
	1/16/20 0.490		4/17/19 0.280		11/7/19 0.370		8/7/19 0.300		9/30/19 0.280
	1/30/20 0.450		5/1/19 0.280		11/21/19 0.520		9/17/19 0.260		10/13/19 0.330
	2/14/20 0.580		8/7/19 0.280		12/5/19 0.360		10/13/19 0.280		10/25/19 0.340
	2/27/20 0.470		8/22/19 0.240		12/20/19 0.560		10/25/19 0.330		11/7/19 0.400
	3/12/20 0.420		10/13/19 0.300		1/3/20 0.670		11/7/19 0.360		11/21/19 0.570
	3/26/20 0.370		10/25/19 0.330		1/16/20 0.520		11/21/19 0.470		12/5/19 0.440
	4/9/20 0.380		11/7/19 0.330		1/30/20 0.450		12/5/19 0.410		12/20/19 0.610
	4/23/20 0.330		11/21/19 0.500		2/14/20 0.600		12/20/19 0.530		1/3/20 0.780
	5/7/20 0.300		12/5/19 0.360		2/27/20 0.500		1/3/20 0.720		1/16/20 0.650
	6/18/20 0.250		12/20/19 0.540		3/12/20 0.480		1/16/20 0.550		1/30/20 0.550
	7/16/20 0.250		1/3/20 0.790		3/26/20 0.380		1/30/20 0.480		2/14/20 0.620
	8/28/20 0.300		1/16/20 0.610		4/9/20 0.360		2/14/20 0.550		2/27/20 0.470
	9/24/20 0.340		1/30/20 0.480		4/23/20 0.340		2/27/20 0.440		3/12/20 0.500
			2/14/20 0.630		5/7/20 0.330		3/12/20 0.450		3/26/20 0.390
			2/27/20 0.470		6/18/20 0.260		3/26/20 0.370		4/9/20 0.410
			3/12/20 0.430		7/16/20 0.230		4/9/20 0.350		4/23/20 0.360
			3/26/20 0.370		8/28/20 0.270		4/23/20 0.320		5/7/20 0.390
			4/9/20 0.340		9/24/20 0.380		5/7/20 0.350		6/4/20 0.260
			4/23/20 0.360				6/18/20 0.260		6/18/20 0.270
			5/7/20 0.330				7/1/20 0.280		7/1/20 0.340
			6/18/20 0.250				7/16/20 0.240		7/16/20 0.290
			7/16/20 0.240				8/28/20 0.270		8/13/20 0.270
			8/28/20 0.280						8/28/20 0.280
			9/24/20 0.330						9/24/20 0.380
Carbon Tetrachloride	5/13/15 0.320	**Carbon Tetrachloride**	5/13/15 0.320	**Carbon Tetrachloride**	5/13/15 0.350	**Carbon Tetrachloride**	5/13/15 0.380	**Carbon Tetrachloride**	11/9/15 0.340
	5/27/15 0.260		5/27/15 0.250		5/27/15 0.280		5/27/15 0.280		11/25/15 0.330
	6/10/15 0.230		6/10/15 0.300		6/10/15 0.270		6/10/15 0.280		12/8/15 0.380
	6/24/15 0.240		6/24/15 0.220		6/24/15 0.240		6/24/15 0.220		12/23/15 0.420
	7/8/15 0.260		7/8/15 0.200		7/8/15 0.220		7/8/15 0.250		1/7/16 0.290
	7/22/15 0.330		7/22/15 0.250		7/22/15 0.260		7/22/15 0.290		1/20/16 0.310
	8/5/15 0.350		8/5/15 0.320		8/5/15 0.280		8/5/15 0.320		2/3/16 0.400
	8/19/15 0.340		8/19/15 0.330		8/19/15 0.300		8/19/15 0.280		2/17/16 0.290
	9/2/15 0.330		9/2/15 0.340		9/2/15 0.340		9/2/15 0.320		3/2/16 0.420
	9/16/15 0.330		9/16/15 0.390		9/16/15 0.280		9/16/15 0.350		3/16/16 0.340
	9/30/15 0.340		9/30/15 0.310		9/30/15 0.410		9/30/15 0.270		3/31/16 0.470
	10/14/15 0.290		10/14/15 0.290		10/14/15 0.300		10/14/15 0.310		4/13/16 0.430
	10/27/15 0.290		10/27/15 0.280		10/27/15 0.260		10/27/15 0.330		4/27/16 0.390
	11/9/15 0.310		11/9/15 0.300		11/9/15 0.340		11/9/15 0.290		5/11/16 0.330

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1		A5		A7		A8		A12	
11/25/15	0.340	11/25/15	0.350	11/25/15	0.360	11/25/15	0.330	5/26/16	0.390
12/8/15	0.370	12/8/15	0.340	12/8/15	0.380	12/8/15	0.400	6/7/16	0.440
12/23/15	0.340	12/23/15	0.330	12/23/15	0.370	12/23/15	0.310	6/23/16	0.380
1/7/16	0.350	1/7/16	0.320	1/7/16	0.320	1/7/16	0.300	7/6/16	0.360
1/20/16	0.310	1/20/16	0.310	1/20/16	0.330	1/20/16	0.310	7/20/16	0.260
2/3/16	0.360	2/3/16	0.330	2/3/16	0.360	2/3/16	0.350	8/3/16	0.280
2/17/16	0.270	2/17/16	0.300	2/17/16	0.270	2/17/16	0.300	8/17/16	0.250
3/2/16	0.410	3/2/16	0.380	3/2/16	0.370	3/2/16	0.370	8/31/16	0.260
3/16/16	0.330	3/16/16	0.340	3/16/16	0.320	3/16/16	0.340	9/14/16	0.320
3/31/16	0.350	3/31/16	0.360	3/31/16	0.360	3/31/16	0.360	9/28/16	0.290
4/13/16	0.380	4/13/16	0.380	4/13/16	0.410	4/13/16	0.390	10/17/16	0.290
4/27/16	0.340	4/27/16	0.350	4/27/16	0.360	4/27/16	0.390	10/26/16	0.340
5/11/16	0.250	5/11/16	0.280	5/11/16	0.300	5/11/16	0.290	11/9/16	0.310
5/26/16	0.340	5/26/16	0.370	5/26/16	0.380	5/26/16	0.370	11/23/16	0.390
6/7/16	0.350	6/7/16	0.400	6/7/16	0.360	6/7/16	0.440	12/7/16	0.420
6/23/16	0.380	6/23/16	0.350	6/23/16	0.350	6/23/16	0.320	12/21/16	0.430
7/6/16	0.330	7/6/16	0.360	7/6/16	0.360	7/6/16	0.350	1/4/17	0.400
7/20/16	0.240	7/20/16	0.280	7/20/16	0.300	7/20/16	0.280	1/18/17	0.380
8/3/16	0.220	8/3/16	0.250	8/3/16	0.260	8/3/16	0.240	2/1/17	0.390
8/17/16	0.230	8/17/16	0.230	8/17/16	0.260	8/17/16	0.230	2/14/17	0.430
8/31/16	0.260	8/31/16	0.270	8/31/16	0.320	8/31/16	0.280	3/1/17	0.360
9/14/16	0.250	9/14/16	0.280	9/14/16	0.270	9/14/16	0.270	3/15/17	0.390
9/28/16	0.270	9/28/16	0.320	9/28/16	0.270	9/28/16	0.270	3/29/17	0.440
10/17/16	0.250	10/17/16	0.260	10/17/16	0.280	10/17/16	0.240	4/12/17	0.380
10/26/16	0.330	10/26/16	0.330	10/26/16	0.320	10/26/16	0.280	4/26/17	0.440
11/9/16	0.300	11/9/16	0.310	11/9/16	0.340	11/9/16	0.270	5/10/17	0.250
11/23/16	0.420	11/23/16	0.360	11/23/16	0.400	11/23/16	0.330	5/24/17	0.400
12/7/16	0.430	12/7/16	0.430	12/7/16	0.470	12/7/16	0.400	6/7/17	0.280
12/21/16	0.450	12/21/16	0.400	12/21/16	0.420	12/21/16	0.360	6/21/17	0.360
1/4/17	0.340	1/4/17	0.340	1/4/17	0.380	1/4/17	0.380	7/5/17	0.260
1/18/17	0.340	1/18/17	0.360	1/18/17	0.370	1/18/17	0.360	7/19/17	0.240
2/1/17	0.400	2/1/17	0.410	2/1/17	0.410	2/1/17	0.360	8/2/17	0.290
2/14/17	0.420	2/14/17	0.400	2/14/17	0.370	2/14/17	0.320	8/16/17	0.270
3/1/17	0.320	3/1/17	0.360	3/1/17	0.360	3/1/17	0.370	8/30/17	0.310
3/15/17	0.400	3/15/17	0.440	3/15/17	0.400	3/15/17	0.370	9/13/17	0.480
3/29/17	0.380	3/29/17	0.410	3/29/17	0.410	3/29/17	0.310	9/27/17	0.340
4/12/17	0.410	4/12/17	0.380	4/12/17	0.370	4/12/17	0.300	10/11/17	0.300
4/26/17	0.410	4/26/17	0.410	4/26/17	0.380	4/26/17	0.360	10/25/17	0.370
5/10/17	0.370	5/10/17	0.390	5/10/17	0.420	5/10/17	0.400	11/8/17	0.310
5/24/17	0.380	5/24/17	0.440	5/24/17	0.360	5/24/17	0.310	11/22/17	0.370
6/7/17	0.290	6/7/17	0.320	6/7/17	0.280	6/7/17	0.240	12/6/17	0.380
6/21/17	0.410	6/21/17	0.400	6/21/17	0.340	6/21/17	0.300	12/20/17	0.430
7/5/17	0.280	7/5/17	0.260	7/5/17	0.280	7/5/17	0.240	1/4/18	0.490
7/19/17	0.270	7/19/17	0.260	7/19/17	0.270	7/19/17	0.230	1/18/18	0.440
8/2/17	0.270	8/2/17	0.320	11/8/17	0.310	8/2/17	0.310	1/31/18	0.530
8/16/17	0.280	8/16/17	0.300	11/22/17	0.360	8/16/17	0.330	2/14/18	0.330
8/30/17	0.270	8/30/17	0.230	12/6/17	0.430	8/30/17	0.250	3/1/18	0.290
9/13/17	0.380	9/13/17	0.390	12/20/17	0.450	9/13/17	0.430	3/16/18	0.390
9/27/17	0.340	9/27/17	0.330	1/4/18	0.450	9/27/17	0.370	4/2/18	0.330
10/11/17	0.250	10/11/17	0.270	1/18/18	0.400	10/11/17	0.260	4/17/18	0.390
10/25/17	0.400	10/25/17	0.350	1/31/18	0.440	10/25/17	0.310	5/2/18	0.310
11/8/17	0.320	11/8/17	0.300	2/14/18	0.360	11/8/17	0.300	5/16/18	0.310
11/22/17	0.390	11/22/17	0.360	3/1/18	0.300	11/22/17	0.370	5/30/18	0.260
12/6/17	0.430	12/6/17	0.410	3/16/18	0.430	12/6/17	0.390	6/13/18	0.320

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1		A5		A7		A8		A12	
12/20/17	0.510	12/20/17	0.480	4/2/18	0.350	12/20/17	0.410	6/27/18	0.260
1/4/18	0.470	1/4/18	0.490	4/17/18	0.370	1/4/18	0.460	7/11/18	0.340
1/18/18	0.380	1/18/18	0.380	5/2/18	0.320	1/18/18	0.400	8/8/18	0.240
1/31/18	0.400	1/31/18	0.390	5/16/18	0.280	1/31/18	0.420	8/22/18	0.200
2/14/18	0.390	2/14/18	0.340	5/30/18	0.260	2/14/18	0.300	9/5/18	0.260
3/1/18	0.320	3/1/18	0.280	6/13/18	0.290	3/1/18	0.240	9/19/18	0.270
3/16/18	0.450	3/16/18	0.430	6/27/18	0.280	3/16/18	0.400	10/3/18	0.350
4/2/18	0.380	4/2/18	0.370	7/11/18	0.370	4/2/18	0.360	10/17/18	0.380
4/17/18	0.400	4/17/18	0.340	7/25/18	0.260	4/17/18	0.360	10/31/18	0.410
5/2/18	0.350	5/2/18	0.350	8/8/18	0.250	5/2/18	0.300	11/14/18	0.340
5/16/18	0.260	5/16/18	0.290	8/22/18	0.250	5/16/18	0.260	11/28/18	0.440
5/30/18	0.250	5/30/18	0.260	9/5/18	0.300	5/30/18	0.250	12/12/18	0.440
6/13/18	0.350	6/13/18	0.320	9/19/18	0.230	6/13/18	0.270	12/26/18	0.500
6/27/18	0.290	6/27/18	0.290	10/3/18	0.320	6/27/18	0.240	1/9/19	0.380
7/11/18	0.280	7/11/18	0.300	10/17/18	0.380	7/11/18	0.300	1/23/19	0.380
7/25/18	0.240	7/25/18	0.290	10/31/18	0.380	7/25/18	0.230	2/7/19	0.320
8/8/18	0.270	8/8/18	0.270	11/14/18	0.360	8/8/18	0.250	2/20/19	0.420
8/22/18	0.230	8/22/18	0.240	11/28/18	0.390	8/22/18	0.230	3/7/19	0.360
9/5/18	0.290	9/5/18	0.260	12/12/18	0.340	9/5/18	0.240	3/20/19	0.340
9/19/18	0.240	9/19/18	0.220	12/26/18	0.410	9/19/18	0.230	4/3/19	0.370
10/3/18	0.340	10/3/18	0.300	1/9/19	0.420	10/3/18	0.300	4/17/19	0.300
10/17/18	0.350	10/17/18	0.340	1/23/19	0.320	10/17/18	0.320	5/1/19	0.300
10/31/18	0.320	10/31/18	0.360	2/7/19	0.320	10/31/18	0.360	5/15/19	0.300
11/14/18	0.310	11/14/18	0.310	2/20/19	0.380	11/14/18	0.280	5/29/19	0.210
11/28/18	0.410	11/28/18	0.380	3/7/19	0.340	11/28/18	0.360	6/12/19	0.280
12/12/18	0.400	12/12/18	0.360	3/20/19	0.330	12/12/18	0.370	6/26/19	0.230
12/26/18	0.460	12/26/18	0.380	4/3/19	0.300	12/26/18	0.500	7/9/19	0.240
1/9/19	0.390	1/9/19	0.350	4/17/19	0.310	1/9/19	0.360	7/24/19	0.230
1/23/19	0.300	1/23/19	0.350	5/1/19	0.280	1/23/19	0.350	8/7/19	0.280
2/7/19	0.310	2/7/19	0.330	5/15/19	0.230	2/7/19	0.340	8/22/19	0.200
2/20/19	0.340	2/20/19	0.350	5/29/19	0.220	2/20/19	0.440	9/4/19	0.240
3/7/19	0.330	3/7/19	0.360	6/12/19	0.280	3/7/19	0.340	9/17/19	0.250
3/20/19	0.320	3/20/19	0.360	6/26/19	0.210	3/20/19	0.320	9/30/19	0.280
4/3/19	0.300	4/3/19	0.310	7/9/19	0.200	4/3/19	0.290	10/13/19	0.600
4/17/19	0.280	4/17/19	0.260	7/24/19	0.210	4/17/19	0.290	10/25/19	0.390
5/1/19	0.260	5/1/19	0.260	8/7/19	0.260	5/1/19	0.260	11/7/19	0.450
5/15/19	0.220	5/15/19	0.260	8/22/19	0.160	5/15/19	0.250	11/21/19	0.400
5/29/19	0.270	5/29/19	0.220	9/4/19	0.190	5/29/19	0.230	12/5/19	0.340
6/12/19	0.210	6/12/19	0.210	9/17/19	0.200	6/12/19	0.300	12/20/19	0.410
6/26/19	0.250	6/26/19	0.200	9/30/19	0.230	6/26/19	0.190	1/3/20	0.440
7/9/19	0.170	7/9/19	0.200	10/13/19	0.340	7/9/19	0.200	1/16/20	0.500
7/24/19	0.200	7/24/19	0.190	10/25/19	0.320	7/24/19	0.260	1/30/20	0.410
8/7/19	0.240	8/7/19	0.240	11/7/19	0.410	8/7/19	0.250	2/14/20	0.400
8/22/19	0.150	8/22/19	0.180	11/21/19	0.360	8/22/19	0.140	2/27/20	0.340
9/4/19	0.170	9/4/19	0.190	12/5/19	0.280	9/4/19	0.210	3/12/20	0.380
9/17/19	0.170	9/17/19	0.170	12/20/19	0.370	9/17/19	0.170	3/26/20	0.270
9/30/19	0.240	9/30/19	0.230	1/3/20	0.370	9/30/19	0.230	4/9/20	0.350
10/13/19	0.290	10/13/19	0.300	1/16/20	0.430	10/13/19	0.280	4/23/20	0.400
10/25/19	0.360	10/25/19	0.380	1/30/20	0.320	10/25/19	0.300	5/7/20	0.430
11/7/19	0.390	11/7/19	0.370	2/14/20	0.380	11/7/19	0.400	5/21/20	0.310
11/21/19	0.340	11/21/19	0.360	2/27/20	0.370	11/21/19	0.310	6/4/20	0.340
12/5/19	0.270	12/5/19	0.280	3/12/20	0.340	12/5/19	0.310	6/18/20	0.360
12/20/19	0.370	12/20/19	0.360	3/26/20	0.250	12/20/19	0.340	7/1/20	0.390
1/3/20	0.410	1/3/20	0.430	4/9/20	0.310	1/3/20	0.380	7/16/20	0.370

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1			A5			A7			A8			A12		
	1/16/20	0.420		1/16/20	0.520		4/23/20	0.350		1/16/20	0.390		7/31/20	0.260
	1/30/20	0.330		1/30/20	0.340		5/7/20	0.350		1/30/20	0.330		8/13/20	0.330
	2/14/20	0.360		2/14/20	0.400		5/21/20	0.260		2/14/20	0.350		8/28/20	0.350
	2/27/20	0.330		2/27/20	0.320		6/4/20	0.290		2/27/20	0.300		9/10/20	0.220
	3/12/20	0.310		3/12/20	0.310		6/18/20	0.370		3/12/20	0.320		9/24/20	0.430
	3/26/20	0.240		3/26/20	0.240		7/1/20	0.280		3/26/20	0.240			
	4/9/20	0.300		4/9/20	0.290		7/16/20	0.300		4/9/20	0.290			
	4/23/20	0.360		4/23/20	0.380		7/31/20	0.220		4/23/20	0.320			
	5/7/20	0.320		5/7/20	0.340		8/13/20	0.310		5/7/20	0.360			
	5/21/20	0.260		5/21/20	0.270		8/28/20	0.320		5/21/20	0.260			
	6/4/20	0.300		6/4/20	0.320		9/10/20	0.200		6/4/20	0.290			
	6/18/20	0.360		6/18/20	0.340		9/24/20	0.410		6/18/20	0.350			
	7/1/20	0.350		7/1/20	0.240					7/1/20	0.310			
	7/16/20	0.370		7/16/20	0.300					7/16/20	0.300			
	7/31/20	0.250		7/31/20	0.250					7/31/20	0.250			
	8/13/20	0.330		8/13/20	0.230					8/13/20	0.270			
	8/28/20	0.490		8/28/20	0.330					8/28/20	0.330			
	9/10/20	0.270		9/10/20	0.220					9/10/20	0.230			
	9/24/20	0.420		9/24/20	0.360					9/24/20	0.240			
Chloroform	8/5/15	0.073	**Chloroform**	8/5/15	0.077	**Chloroform**	8/5/15	0.072	**Chloroform**	6/10/15	0.085	**Chloroform**	11/9/15	0.074
	9/30/15	0.110		9/2/15	0.076		9/30/15	0.110		8/5/15	0.078		11/25/15	0.066
	10/14/15	0.069		9/16/15	0.069		10/27/15	0.077		9/30/15	0.086		12/8/15	0.089
	11/9/15	0.082		9/30/15	0.100		11/25/15	0.065		10/14/15	0.073		12/23/15	0.078
	11/25/15	0.064		10/14/15	0.070		12/23/15	0.069		10/27/15	0.079		2/3/16	0.078
	12/8/15	0.076		10/27/15	0.083		1/7/16	0.076		11/9/15	0.076		3/16/16	0.070
	12/23/15	0.065		11/9/15	0.078		2/3/16	0.070		11/25/15	0.062		3/31/16	0.077
	1/7/16	0.062		11/25/15	0.069		5/26/16	0.063		3/2/16	0.070		4/13/16	0.066
	2/3/16	0.069		12/8/15	0.074		6/23/16	0.065		4/13/16	0.071		5/26/16	0.080
	4/13/16	0.070		2/3/16	0.067		9/28/16	0.073		6/7/16	0.110		6/7/16	0.110
	10/17/16	0.048		4/13/16	0.069		10/17/16	0.058		10/17/16	0.051		6/23/16	0.060
	11/23/16	0.073		5/26/16	0.077		11/23/16	0.077		12/7/16	0.090		9/14/16	0.066
	12/7/16	0.099		6/7/16	0.086		12/7/16	0.090		12/21/16	0.085		10/17/16	0.051
	12/21/16	0.091		6/23/16	0.061		12/21/16	0.093		1/4/17	0.082		12/7/16	0.100
	2/1/17	0.082		9/28/16	0.081		1/4/17	0.076		1/18/17	0.075		12/21/16	0.093
	2/14/17	0.084		10/17/16	0.049		1/18/17	0.079		2/1/17	0.074		1/4/17	0.086
	3/29/17	0.078		11/23/16	0.072		2/1/17	0.099		4/26/17	0.075		1/18/17	0.074
	4/26/17	0.075		12/7/16	0.100		2/14/17	0.081		7/5/17	0.074		2/1/17	0.091
	6/7/17	0.100		12/21/16	0.089		3/29/17	0.081		7/19/17	0.071		2/14/17	0.092
	7/5/17	0.066		1/18/17	0.073		4/26/17	0.083		8/2/17	0.078		3/1/17	0.078
	7/19/17	0.068		2/1/17	0.100		6/7/17	0.096		8/16/17	0.140		3/29/17	0.091
	8/2/17	0.073		3/15/17	0.082		11/22/17	0.077		8/30/17	0.091		6/7/17	0.073
	8/16/17	0.091		3/29/17	0.078		12/6/17	0.100		9/13/17	0.120		8/2/17	0.072
	8/30/17	0.083		4/12/17	0.073		12/20/17	0.074		10/11/17	0.089		8/16/17	0.120
	9/13/17	0.110		4/26/17	0.087		1/4/18	0.079		12/6/17	0.075		8/30/17	0.098
	9/27/17	0.088		5/10/17	0.068		3/16/18	0.130		12/20/17	0.079		9/13/17	0.140
	10/25/17	0.074		6/7/17	0.082		4/2/18	0.079		3/16/18	0.120		10/11/17	0.073
	11/22/17	0.078		7/5/17	0.087		4/17/18	0.091		4/2/18	0.082		10/25/17	0.077
	12/6/17	0.110		7/19/17	0.081		5/2/18	0.091		4/17/18	0.073		12/6/17	0.086
	1/4/18	0.084		8/2/17	0.100		1/9/19	0.077		5/2/18	0.080		12/20/17	0.080
	2/14/18	0.070		8/16/17	0.120		9/24/20	0.071		12/26/18	0.078		1/31/18	0.076
	3/16/18	0.180		8/30/17	0.090					6/18/20	0.063		2/14/18	0.077
	4/2/18	0.068		9/13/17	0.094								3/16/18	0.090
	4/17/18	0.077		10/25/17	0.083								4/2/18	0.070
	5/2/18	0.089		11/22/17	0.077								4/17/18	0.072

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1			A5			A7			A8			A12		
	5/30/18	0.070		12/6/17	0.096							5/2/18	0.088
	12/26/18	0.082		12/20/17	0.074							12/12/18	0.073
	1/9/19	0.078		3/1/18	0.070							12/26/18	0.082
	6/18/20	0.068		3/16/18	0.140							5/7/20	0.071
	7/16/20	0.063		4/2/18	0.110							6/18/20	0.066
	8/28/20	0.068		4/17/18	0.100							9/24/20	0.074
	9/24/20	0.075		5/2/18	0.110								
				5/30/18	0.064								
Cyclohexane	8/5/15	0.100	**Cyclohexane**	7/8/15	0.100	**Cyclohexane**	6/10/15	0.110	**Cyclohexane**	7/22/15	0.100	**Cyclohexane**	11/9/15	0.120
	9/2/15	0.140		7/22/15	0.100		6/24/15	0.120		9/30/15	0.110		11/25/15	0.170
	9/30/15	0.130		8/5/15	0.130		7/8/15	0.094		10/27/15	0.150		12/8/15	0.150
	10/14/15	0.096		9/2/15	0.110		7/22/15	0.130		11/9/15	0.120		12/23/15	0.110
	10/27/15	0.120		9/16/15	0.097		8/5/15	0.150		11/25/15	0.160		1/7/16	0.090
	11/9/15	0.140		9/30/15	0.140		8/19/15	0.110		12/8/15	0.140		1/20/16	0.120
	11/25/15	0.190		10/14/15	0.098		9/2/15	0.140		12/23/15	0.130		2/3/16	0.130
	12/8/15	0.150		10/27/15	0.140		9/16/15	0.100		1/20/16	0.110		2/17/16	0.110
	12/23/15	0.150		11/9/15	0.120		9/30/15	0.150		2/3/16	0.140		3/2/16	0.110
	1/7/16	0.120		11/25/15	0.150		10/14/15	0.110		3/2/16	0.098		3/16/16	0.110
	1/20/16	0.140		12/8/15	0.140		10/27/15	0.140		3/16/16	0.110		4/27/16	0.120
	2/3/16	0.110		12/23/15	0.140		11/9/15	0.140		4/27/16	0.130		5/26/16	0.110
	2/17/16	0.120		1/7/16	0.094		11/25/15	0.200		5/26/16	0.100		9/28/16	0.098
	3/2/16	0.099		1/20/16	0.120		12/8/15	0.160		11/9/16	0.120		11/9/16	0.120
	3/31/16	0.090		2/3/16	0.150		12/23/15	0.130		11/23/16	0.120		11/23/16	0.130
	4/27/16	0.100		2/17/16	0.110		1/7/16	0.085		12/7/16	0.120		12/7/16	0.150
	9/28/16	0.100		3/2/16	0.094		1/20/16	0.140		12/21/16	0.120		12/21/16	0.130
	10/17/16	0.069		3/16/16	0.096		2/3/16	0.120		1/4/17	0.150		1/4/17	0.180
	11/9/16	0.130		3/31/16	0.098		2/17/16	0.130		1/18/17	0.140		1/18/17	0.140
	11/23/16	0.160		4/27/16	0.120		3/2/16	0.120		2/1/17	0.150		2/1/17	0.180
	12/7/16	0.140		5/26/16	0.130		3/16/16	0.110		8/16/17	0.100		2/14/17	0.130
	12/21/16	0.130		9/28/16	0.110		3/31/16	0.110		9/13/17	0.140		3/1/17	0.095
	1/4/17	0.140		11/9/16	0.120		4/27/16	0.140		9/27/17	0.110		6/7/17	0.100
	1/18/17	0.140		11/23/16	0.160		5/11/16	0.110		12/6/17	0.150		8/30/17	0.120
	2/1/17	0.150		12/7/16	0.150		5/26/16	0.160		12/20/17	0.160		9/13/17	0.180
	2/14/17	0.140		12/21/16	0.130		6/7/16	0.120		1/4/18	0.110		9/27/17	0.120
	9/13/17	0.100		1/4/17	0.140		6/23/16	0.140		1/31/18	0.120		12/6/17	0.170
	9/27/17	0.130		1/18/17	0.130		7/6/16	0.100		3/1/18	0.100		12/20/17	0.160
	11/22/17	0.110		2/1/17	0.200		8/17/16	0.092		3/16/18	0.097		1/4/18	0.110
	12/6/17	0.200		2/14/17	0.140		8/31/16	0.130		4/2/18	0.086		1/31/18	0.140
	12/20/17	0.160		4/26/17	0.100		9/14/16	0.094		6/13/18	0.100		3/1/18	0.099
	1/4/18	0.140		5/10/17	0.120		9/28/16	0.160		7/11/18	0.097		3/16/18	0.100
	3/1/18	0.099		6/7/17	0.120		10/17/16	0.074		10/31/18	0.120		6/13/18	0.110
	3/16/18	0.120		7/5/17	0.092		11/9/16	0.150		11/28/18	0.130		7/11/18	0.110
	6/13/18	0.098		7/19/17	0.099		11/23/16	0.220		12/12/18	0.180		10/31/18	0.120
	10/31/18	0.110		8/2/17	0.110		12/7/16	0.150		12/26/18	0.210		11/28/18	0.150
	11/28/18	0.150		9/13/17	0.130		12/21/16	0.130		1/9/19	0.160		12/12/18	0.210
	12/12/18	0.160		9/27/17	0.140		1/4/17	0.170		1/23/19	0.120		12/26/18	0.200
	12/26/18	0.180		11/8/17	0.110		1/18/17	0.150		2/7/19	0.110		1/9/19	0.150
	1/9/19	0.180		11/22/17	0.110		2/1/17	0.230		2/20/19	0.120		1/23/19	0.140
	2/7/19	0.110		12/6/17	0.200		2/14/17	0.180		3/7/19	0.110		2/7/19	0.110
	3/7/19	0.130		12/20/17	0.180		3/1/17	0.150		4/17/19	0.099		2/20/19	0.140
	10/13/19	0.130		1/4/18	0.130		4/12/17	0.110		8/7/19	0.094		3/7/19	0.110
	11/21/19	0.180		1/31/18	0.120		4/26/17	0.160		10/13/19	0.110		4/3/19	0.100
	12/5/19	0.110		3/1/18	0.120		5/10/17	0.130		10/25/19	0.120		4/17/19	0.110
	12/20/19	0.160		3/16/18	0.100		5/24/17	0.110		11/7/19	0.120		8/22/19	0.079

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1		A5		A7		A8		A12	
1/3/20	0.260	4/2/18	0.120	6/7/17	0.140	11/21/19	0.160	9/17/19	0.100
1/16/20	0.160	5/2/18	0.087	6/21/17	0.150	12/5/19	0.120	9/30/19	0.120
1/30/20	0.110	6/13/18	0.140	7/5/17	0.095	12/20/19	0.150	10/13/19	0.130
2/14/20	0.180	6/27/18	0.091	7/19/17	0.120	1/3/20	0.240	10/25/19	0.120
2/27/20	0.140	7/11/18	0.130	11/8/17	0.110	1/16/20	0.170	11/7/19	0.120
3/12/20	0.120	9/19/18	0.093	11/22/17	0.120	1/30/20	0.120	11/21/19	0.190
3/26/20	0.100	10/31/18	0.140	12/6/17	0.250	2/14/20	0.170	12/5/19	0.130
4/9/20	0.120	11/28/18	0.180	12/20/17	0.220	3/12/20	0.110	12/20/19	0.170
6/18/20	0.130	12/12/18	0.180	1/4/18	0.140	6/18/20	0.120	1/3/20	0.260
7/1/20	0.120	12/26/18	0.180	1/18/18	0.110	7/16/20	0.090	1/16/20	0.210
7/16/20	0.097	1/9/19	0.180	1/31/18	0.140	8/28/20	0.100	1/30/20	0.150
8/13/20	0.130	1/23/19	0.150	3/1/18	0.100	9/24/20	0.210	2/14/20	0.180
8/28/20	0.150	2/7/19	0.110	3/16/18	0.120			3/12/20	0.120
9/24/20	0.170	3/7/19	0.120	4/2/18	0.110			4/9/20	0.100
		3/20/19	0.110	4/17/18	0.095			5/7/20	0.120
		8/7/19	0.096	5/2/18	0.095			6/4/20	0.098
		9/30/19	0.098	5/16/18	0.120			6/18/20	0.140
		10/13/19	0.130	5/30/18	0.091			7/1/20	0.110
		10/25/19	0.130	6/13/18	0.180			7/16/20	0.120
		11/7/19	0.130	6/27/18	0.110			8/13/20	0.120
		11/21/19	0.190	7/11/18	0.140			8/28/20	0.110
		12/5/19	0.110	8/8/18	0.110			9/24/20	0.180
		12/20/19	0.170	8/22/18	0.094				
		1/3/20	0.280	9/5/18	0.100				
		1/16/20	0.200	9/19/18	0.094				
		1/30/20	0.140	10/3/18	0.130				
		2/14/20	0.200	10/17/18	0.140				
		2/27/20	0.130	10/31/18	0.190				
		3/12/20	0.110	11/28/18	0.180				
		5/7/20	0.110	12/12/18	0.200				
		6/4/20	0.100	12/26/18	0.210				
		6/18/20	0.130	1/9/19	0.220				
		7/16/20	0.094	1/23/19	0.140				
		7/31/20	0.090	2/7/19	0.120				
		8/28/20	0.120	3/7/19	0.110				
		9/24/20	0.190	4/3/19	0.110				
				4/17/19	0.120				
				5/1/19	0.096				
				5/15/19	0.140				
				6/12/19	0.130				
				6/26/19	0.110				
				7/24/19	0.100				
				8/7/19	0.130				
				8/22/19	0.093				
				9/17/19	0.120				
				9/30/19	0.110				
				10/13/19	0.180				
				10/25/19	0.130				
				11/7/19	0.160				
				11/21/19	0.180				
				12/5/19	0.130				
				12/20/19	0.190				
				1/3/20	0.250				
				1/16/20	0.190				

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1			A5			A7			A8			A12		
							1/30/20	0.140						
							2/14/20	0.200						
							2/27/20	0.130						
							3/12/20	0.110						
							4/9/20	0.130						
							4/23/20	0.110						
							5/7/20	0.110						
							6/4/20	0.100						
							6/18/20	0.170						
							7/1/20	0.120						
							7/16/20	0.110						
							8/13/20	0.140						
							8/28/20	0.140						
							9/24/20	0.250						
Ethanol	3/7/19	1.20	**Ethanol**	no detections		**Ethanol**	12/6/17	0.600	**Ethanol**	no detections		**Ethanol**	no detections	
							1/9/19	0.650						
							4/9/20	0.750						
Ethyl Acetate	9/30/15	0.330	**Ethyl Acetate**	8/5/15	0.280	**Ethyl Acetate**	5/13/15	0.410	**Ethyl Acetate**	10/14/15	0.250	**Ethyl Acetate**	9/28/16	0.270
	11/23/16	0.290		9/16/15	0.280		5/27/15	0.310		4/27/16	0.250		6/7/17	0.340
	8/28/20	0.240		10/14/15	0.350		6/10/15	0.350		9/28/16	0.310		9/13/17	0.430
				10/27/15	0.280		6/24/15	0.510		10/17/16	0.480		12/26/18	0.500
				6/23/16	0.370		7/8/15	0.290		10/26/16	0.430		11/7/19	0.340
				9/28/16	0.370		7/22/15	0.410		11/9/16	0.520			
				10/17/16	0.210		8/5/15	0.390		11/23/16	0.420			
				11/9/16	0.440		8/19/15	0.350		9/13/17	0.270			
				11/23/16	0.330		9/2/15	0.450		6/13/18	0.320			
				6/7/17	0.290		9/16/15	0.340		10/17/18	0.390			
				6/21/17	0.330		9/30/15	0.430		12/26/18	0.500			
				7/19/17	0.280		10/14/15	0.390						
				8/2/17	0.340		10/27/15	0.430						
				8/16/17	0.260		11/25/15	0.270						
				9/13/17	0.260		4/27/16	0.440						
				9/27/17	0.300		5/11/16	0.380						
				6/13/18	0.520		5/26/16	0.440						
				6/27/18	0.320		6/7/16	0.540						
				8/8/18	0.260		6/23/16	0.990						
				9/19/18	0.250		7/6/16	0.340						
				10/31/18	0.300		7/20/16	0.410						
				12/26/18	0.280		8/3/16	0.300						
				10/13/19	0.370		8/17/16	0.250						
				6/18/20	0.270		8/31/16	0.510						
							9/14/16	0.460						
							9/28/16	0.840						
							10/17/16	0.390						
							10/26/16	0.580						
							11/9/16	0.780						
							11/23/16	0.600						
							3/1/17	0.580						
							4/26/17	0.420						
							5/10/17	0.450						
							5/24/17	0.400						
							6/7/17	0.660						
							6/21/17	0.870						
							7/5/17	0.410						

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1			A5			A7			A8			A12		
							7/19/17	0.520						
							12/6/17	0.410						
							5/2/18	0.280						
							5/16/18	0.540						
							5/30/18	0.380						
							6/13/18	1.100						
							6/27/18	0.640						
							7/11/18	0.340						
							7/25/18	0.250						
							8/8/18	0.600						
							8/22/18	0.420						
							9/5/18	0.440						
							9/19/18	0.400						
							10/3/18	0.750						
							10/17/18	0.670						
							10/31/18	0.570						
							12/26/18	0.290						
							4/17/19	0.280						
							5/29/19	0.310						
							6/12/19	0.650						
							6/26/19	0.370						
							7/9/19	0.410						
							7/24/19	0.340						
							8/7/19	0.450						
							8/22/19	0.340						
							9/4/19	0.380						
							9/17/19	0.440						
							9/30/19	0.320						
							10/13/19	0.980						
							4/9/20	0.470						
							4/23/20	0.290						
							5/7/20	0.300						
							6/4/20	0.420						
							6/18/20	0.640						
							7/1/20	0.430						
							7/16/20	0.280						
							8/28/20	0.440						
							9/24/20	0.390						
Ethyl Benzene	5/27/15	0.076	**Ethyl Benzene**	5/13/15	0.094	**Ethyl Benzene**	5/13/15	0.140	**Ethyl Benzene**	5/13/15	0.088	**Ethyl Benzene**	11/9/15	0.150
	6/10/15	0.083		5/27/15	0.079		5/27/15	0.093		5/27/15	0.074		11/25/15	0.160
	6/24/15	0.085		6/10/15	0.100		6/10/15	0.140		6/10/15	0.110		12/8/15	0.120
	7/8/15	0.088		6/24/15	0.097		6/24/15	0.170		6/24/15	0.080		12/23/15	0.110
	7/22/15	0.096		7/8/15	0.140		7/8/15	0.130		7/8/15	0.140		1/20/16	0.087
	8/5/15	0.100		7/22/15	0.100		7/22/15	0.120		7/22/15	0.094		2/3/16	0.110
	8/19/15	0.099		8/5/15	0.140		8/5/15	0.160		8/5/15	0.120		2/17/16	0.098
	9/2/15	0.130		8/19/15	0.120		8/19/15	0.120		8/19/15	0.110		3/2/16	0.078
	9/16/15	0.092		9/2/15	0.140		9/2/15	0.160		9/2/15	0.120		3/16/16	0.110
	9/30/15	0.120		9/16/15	0.110		9/16/15	0.120		9/16/15	0.096		3/31/16	0.080
	10/14/15	0.082		9/30/15	0.130		9/30/15	0.170		9/30/15	0.110		4/27/16	0.170
	10/27/15	0.110		10/14/15	0.091		10/14/15	0.120		10/14/15	0.085		5/11/16	0.098
	11/9/15	0.150		10/27/15	0.130		10/27/15	0.160		10/27/15	0.140		5/26/16	0.110
	11/25/15	0.220		11/9/15	0.130		11/9/15	0.160		11/9/15	0.130		6/7/16	0.100
	12/8/15	0.250		11/25/15	0.170		11/25/15	0.180		11/25/15	0.160		6/23/16	0.110
	12/23/15	0.120		12/8/15	0.120		12/8/15	0.140		12/8/15	0.130		7/6/16	0.100

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1		A5		A7		A8		A12	
1/7/16	0.083	12/23/15	0.110	12/23/15	0.130	12/23/15	0.099	7/20/16	0.100
1/20/16	0.100	1/7/16	0.075	1/7/16	0.067	1/20/16	0.084	8/3/16	0.094
2/3/16	0.096	1/20/16	0.096	1/20/16	0.110	2/3/16	0.100	8/17/16	0.091
2/17/16	0.083	2/3/16	0.100	2/3/16	0.120	2/17/16	0.081	8/31/16	0.120
3/16/16	0.100	2/17/16	0.092	2/17/16	0.120	3/2/16	0.074	9/14/16	0.094
3/31/16	0.076	3/2/16	0.082	3/2/16	0.100	3/16/16	0.120	9/28/16	0.150
4/27/16	0.130	3/16/16	0.110	3/16/16	0.110	3/31/16	0.084	10/17/16	0.110
5/11/16	0.077	3/31/16	0.079	3/31/16	0.090	4/27/16	0.160	11/9/16	0.180
5/26/16	0.074	4/27/16	0.160	4/13/16	0.081	5/11/16	0.082	11/23/16	0.180
6/23/16	0.100	5/11/16	0.085	4/27/16	0.180	5/26/16	0.089	12/7/16	0.150
7/20/16	0.098	5/26/16	0.120	5/11/16	0.120	6/7/16	0.120	12/21/16	0.140
8/17/16	0.084	6/7/16	0.150	5/26/16	0.130	6/23/16	0.110	1/4/17	0.140
8/31/16	0.110	6/23/16	0.130	6/7/16	0.160	7/6/16	0.087	1/18/17	0.098
9/14/16	0.078	7/6/16	0.092	6/23/16	0.220	7/20/16	0.100	2/1/17	0.130
9/28/16	0.150	7/20/16	0.120	7/6/16	0.100	8/17/16	0.095	2/14/17	0.110
10/17/16	0.098	8/3/16	0.088	7/20/16	0.160	8/31/16	0.130	3/1/17	0.110
11/9/16	0.180	8/17/16	0.098	8/3/16	0.130	9/14/16	0.088	3/29/17	0.099
11/23/16	0.200	8/31/16	0.130	8/17/16	0.120	9/28/16	0.120	4/12/17	0.099
12/7/16	0.260	9/14/16	0.088	8/31/16	0.190	10/17/16	0.094	4/26/17	0.110
12/21/16	0.140	9/28/16	0.150	9/14/16	0.150	11/9/16	0.170	5/10/17	0.086
1/4/17	0.120	10/17/16	0.090	9/28/16	0.180	11/23/16	0.150	5/24/17	0.100
1/18/17	0.120	10/26/16	0.120	10/17/16	0.110	12/7/16	0.130	6/7/17	0.130
2/1/17	0.120	11/9/16	0.190	10/26/16	0.140	12/21/16	0.120	6/21/17	0.130
2/14/17	0.120	11/23/16	0.160	11/9/16	0.270	1/4/17	0.120	7/5/17	0.089
3/1/17	0.150	12/7/16	0.140	11/23/16	0.240	1/18/17	0.099	8/2/17	0.095
3/29/17	0.090	12/21/16	0.120	12/7/16	0.180	2/1/17	0.100	8/16/17	0.090
4/12/17	0.100	1/4/17	0.120	12/21/16	0.130	2/14/17	0.090	8/30/17	0.110
4/26/17	0.110	1/18/17	0.097	1/4/17	0.150	3/1/17	0.120	9/13/17	0.150
5/10/17	0.110	2/1/17	0.120	1/18/17	0.100	4/12/17	0.076	9/27/17	0.170
5/24/17	0.100	2/14/17	0.120	2/1/17	0.140	4/26/17	0.110	10/11/17	0.140
6/7/17	0.160	3/1/17	0.120	2/14/17	0.140	5/10/17	0.100	10/25/17	0.098
6/21/17	0.091	3/15/17	0.082	3/1/17	0.210	5/24/17	0.091	11/8/17	0.094
7/5/17	0.089	3/29/17	0.081	3/15/17	0.091	6/7/17	0.120	11/22/17	0.140
7/19/17	0.093	4/12/17	0.110	3/29/17	0.094	7/5/17	0.088	12/6/17	0.160
8/2/17	0.190	4/26/17	0.130	4/12/17	0.190	8/2/17	0.100	12/20/17	0.093
8/16/17	0.120	5/10/17	0.140	4/26/17	0.220	8/16/17	0.260	1/4/18	0.091
8/30/17	0.110	5/24/17	0.120	5/10/17	0.170	8/30/17	0.100	1/31/18	0.110
9/13/17	0.100	6/7/17	0.150	5/24/17	0.160	9/13/17	0.130	2/14/18	0.080
9/27/17	0.150	6/21/17	0.120	6/7/17	0.200	9/27/17	0.160	3/1/18	0.099
10/11/17	0.110	7/5/17	0.100	6/21/17	0.270	10/11/17	0.160	3/16/18	0.079
10/25/17	0.130	7/19/17	0.160	7/5/17	0.130	10/25/17	0.083	4/2/18	0.091
11/8/17	0.150	8/2/17	0.120	7/19/17	0.120	11/8/17	0.097	5/2/18	0.077
11/22/17	0.110	8/16/17	0.110	11/8/17	0.130	11/22/17	0.096	5/16/18	0.085
12/6/17	0.200	8/30/17	0.110	11/22/17	0.130	12/6/17	0.160	5/30/18	0.110
12/20/17	0.100	9/13/17	0.130	12/6/17	0.210	12/20/17	0.094	6/13/18	0.120
1/4/18	0.100	9/27/17	0.180	12/20/17	0.120	1/4/18	0.090	6/27/18	0.094
2/14/18	0.110	10/11/17	0.150	1/4/18	0.095	3/1/18	0.095	7/11/18	0.110
3/1/18	0.150	10/25/17	0.120	1/18/18	0.120	3/16/18	0.079	8/8/18	0.100
3/16/18	0.100	11/8/17	0.100	1/31/18	0.130	4/2/18	0.089	8/22/18	0.110
4/2/18	0.110	11/22/17	0.110	2/14/18	0.094	5/2/18	0.069	9/5/18	0.082
5/2/18	0.085	12/6/17	0.170	3/1/18	0.130	5/16/18	0.083	9/19/18	0.140
5/16/18	0.120	12/20/17	0.099	3/16/18	0.130	5/30/18	0.120	10/3/18	0.084
5/30/18	0.100	1/4/18	0.087	4/2/18	0.120	6/13/18	0.120	10/17/18	0.088
6/13/18	0.150	1/18/18	0.085	4/17/18	0.100	6/27/18	0.086	10/31/18	0.140

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1		A5		A7		A8		A12	
6/27/18	0.130	1/31/18	0.086	5/2/18	0.110	7/11/18	0.110	11/28/18	0.160
7/11/18	0.100	2/14/18	0.081	5/16/18	0.170	8/8/18	0.095	12/12/18	0.170
7/25/18	0.073	3/1/18	0.100	5/30/18	0.140	8/22/18	0.100	12/26/18	0.190
8/8/18	0.130	3/16/18	0.090	6/13/18	0.240	9/5/18	0.088	1/9/19	0.120
8/22/18	0.120	4/2/18	0.100	6/27/18	0.150	9/19/18	0.130	1/23/19	0.088
9/5/18	0.092	5/2/18	0.091	7/11/18	0.140	10/3/18	0.086	2/7/19	0.078
9/19/18	0.250	5/16/18	0.110	7/25/18	0.097	10/31/18	0.120	2/20/19	0.130
10/3/18	0.110	5/30/18	0.120	8/8/18	0.180	11/28/18	0.140	4/3/19	0.091
10/17/18	0.082	6/13/18	0.170	8/22/18	0.140	12/12/18	0.120	4/17/19	0.097
10/31/18	0.120	6/27/18	0.120	9/5/18	0.140	12/26/18	0.210	5/1/19	0.082
11/28/18	0.230	7/11/18	0.120	9/19/18	0.150	1/9/19	0.120	6/12/19	0.083
12/12/18	0.150	7/25/18	0.084	10/3/18	0.170	1/23/19	0.085	6/26/19	0.087
12/26/18	0.190	8/8/18	0.110	10/17/18	0.130	2/7/19	0.084	7/9/19	0.091
1/9/19	0.170	8/22/18	0.100	10/31/18	0.210	2/20/19	0.092	7/24/19	0.083
1/23/19	0.093	9/5/18	0.088	11/14/18	0.099	4/3/19	0.076	8/7/19	0.095
2/7/19	0.110	9/19/18	0.130	11/28/18	0.190	4/17/19	0.100	8/22/19	0.120
3/7/19	0.120	10/3/18	0.096	12/12/18	0.140	6/12/19	0.084	9/4/19	0.130
4/3/19	0.090	10/17/18	0.084	12/26/18	0.180	6/26/19	0.080	9/17/19	0.110
4/17/19	0.098	10/31/18	0.140	1/9/19	0.170	7/9/19	0.085	9/30/19	0.130
5/15/19	0.073	11/28/18	0.160	1/23/19	0.092	7/24/19	0.085	10/13/19	0.130
6/12/19	0.090	12/12/18	0.140	2/20/19	0.083	8/7/19	0.097	10/25/19	0.200
6/26/19	0.084	12/26/18	0.160	3/20/19	0.110	8/22/19	0.085	11/7/19	0.093
7/9/19	0.110	1/9/19	0.110	4/3/19	0.120	9/17/19	0.081	11/21/19	0.150
7/24/19	0.085	1/23/19	0.087	4/17/19	0.094	9/30/19	0.100	12/5/19	0.120
8/7/19	0.110	2/7/19	0.092	5/1/19	0.096	10/13/19	0.110	12/20/19	0.170
8/22/19	0.085	3/7/19	0.080	5/15/19	0.100	10/25/19	0.100	1/3/20	0.280
9/4/19	0.090	4/3/19	0.083	5/29/19	0.150	11/21/19	0.120	1/16/20	0.160
9/17/19	0.087	4/17/19	0.090	6/12/19	0.120	12/5/19	0.110	1/30/20	0.099
9/30/19	0.120	6/12/19	0.081	6/26/19	0.130	12/20/19	0.150	2/14/20	0.140
10/13/19	0.150	6/26/19	0.088	7/9/19	0.120	1/3/20	0.230	3/12/20	0.100
10/25/19	0.120	7/9/19	0.090	7/24/19	0.120	1/16/20	0.130	5/7/20	0.090
11/7/19	0.100	7/24/19	0.084	8/7/19	0.140	2/14/20	0.130	6/4/20	0.078
11/21/19	0.140	8/7/19	0.098	8/22/19	0.140	3/12/20	0.092	6/18/20	0.110
12/5/19	0.110	8/22/19	0.100	9/17/19	0.130	5/21/20	0.087	7/1/20	0.120
12/20/19	0.240	9/4/19	0.082	9/30/19	0.160	6/4/20	0.075	7/16/20	0.120
1/3/20	0.280	9/17/19	0.082	10/13/19	0.230	6/18/20	0.110	7/31/20	0.081
1/16/20	0.130	9/30/19	0.120	10/25/19	0.130	7/1/20	0.085	8/13/20	0.120
1/30/20	0.130	10/13/19	0.140	11/7/19	0.120	7/16/20	0.110	8/28/20	0.120
2/14/20	0.190	10/25/19	0.110	11/21/19	0.140	7/31/20	0.085	9/10/20	0.082
2/27/20	0.097	11/21/19	0.140	12/5/19	0.110	8/13/20	0.098	9/24/20	0.130
3/12/20	0.090	12/5/19	0.099	12/20/19	0.180	8/28/20	0.130		
3/26/20	0.087	12/20/19	0.160	1/3/20	0.240	9/10/20	0.160		
4/9/20	0.120	1/3/20	0.250	1/16/20	0.140	9/24/20	0.078		
5/7/20	0.093	1/16/20	0.150	1/30/20	0.083				
6/4/20	0.083	1/30/20	0.090	2/14/20	0.150				
6/18/20	0.120	2/14/20	0.140	2/27/20	0.092				
7/1/20	0.099	3/12/20	0.090	3/12/20	0.110				
7/16/20	0.082	5/7/20	0.091	4/9/20	0.096				
7/31/20	0.078	6/4/20	0.100	4/23/20	0.110				
8/13/20	0.120	6/18/20	0.120	5/7/20	0.110				
8/28/20	0.140	7/1/20	0.088	5/21/20	0.084				
9/24/20	0.120	7/16/20	0.120	6/4/20	0.120				
		7/31/20	0.110	6/18/20	0.170				
		8/13/20	0.084	7/1/20	0.120				

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1			A5			A7			A8			A12		
				8/28/20	0.150		7/16/20	0.130						
			1397%	9/10/20	1.600		7/31/20	0.091						
			above avg conc	9/24/20	0.140		8/13/20	0.130						
							8/28/20	0.170						
						1141%	9/10/20	1.600						
						above avg conc	9/24/20	0.170						
Heptane	5/13/15	0.180	**Heptane**	5/13/15	0.210	**Heptane**	5/13/15	0.250	**Heptane**	5/13/15	0.230	**Heptane**	11/9/15	0.290
	5/27/15	0.220		5/27/15	0.130		5/27/15	0.150		5/27/15	0.120		11/25/15	0.320
	6/10/15	0.260		6/10/15	0.170		6/10/15	0.220		6/10/15	0.190		12/8/15	0.270
	6/24/15	0.190		6/24/15	0.170		6/24/15	0.250		6/24/15	0.130		12/23/15	0.240
	7/8/15	0.280		7/8/15	0.190		7/8/15	0.240		7/8/15	0.230		1/7/16	0.170
	7/22/15	0.420		7/22/15	0.200		7/22/15	0.210		7/22/15	0.180		1/20/16	0.160
	8/5/15	0.280		8/5/15	0.210		8/5/15	0.280		8/5/15	0.200		2/3/16	0.280
	8/19/15	0.240		8/19/15	0.220		8/19/15	0.220		8/19/15	0.200		2/17/16	0.200
	9/2/15	0.310		9/2/15	0.250		9/2/15	0.280		9/2/15	0.190		3/2/16	0.170
	9/16/15	0.260		9/16/15	0.240		9/16/15	0.260		9/16/15	0.180		3/16/16	0.210
	9/30/15	0.610		9/30/15	0.340		9/30/15	0.350		9/30/15	0.290		3/31/16	0.160
	10/14/15	0.260		10/14/15	0.220		10/14/15	0.230		10/14/15	0.200		4/13/16	0.140
	10/27/15	0.320		10/27/15	0.250		10/27/15	0.290		10/27/15	0.260		4/27/16	0.300
	11/9/15	0.350		11/9/15	0.240		11/9/15	0.290		11/9/15	0.280		5/11/16	0.170
	11/25/15	0.360		11/25/15	0.330		11/25/15	0.340		11/25/15	0.300		5/26/16	0.220
	12/8/15	0.440		12/8/15	0.240		12/8/15	0.290		12/8/15	0.270		6/7/16	0.150
	12/23/15	0.480		12/23/15	0.270		12/23/15	0.270		12/23/15	0.250		6/23/16	0.190
	1/7/16	0.310		1/7/16	0.180		1/7/16	0.160		1/7/16	0.160		7/6/16	0.200
	1/20/16	0.300		1/20/16	0.180		1/20/16	0.210		1/20/16	0.170		7/20/16	0.200
	2/3/16	0.330		2/3/16	0.250		2/3/16	0.260		2/3/16	0.250		8/3/16	0.150
	2/17/16	0.290		2/17/16	0.190		2/17/16	0.220		2/17/16	0.160		8/17/16	0.140
	3/2/16	0.240		3/2/16	0.170		3/2/16	0.200		3/2/16	0.180		8/31/16	0.180
	3/16/16	0.280		3/16/16	0.210		3/16/16	0.210		3/16/16	0.210		9/14/16	0.170
	3/31/16	0.280		3/31/16	0.160		3/31/16	0.180		3/31/16	0.160		9/28/16	0.260
	4/13/16	0.200		4/13/16	0.110		4/13/16	0.130		4/13/16	0.100		10/17/16	0.210
	4/27/16	0.390		4/27/16	0.280		4/27/16	0.320		4/27/16	0.300		10/26/16	0.250
	5/11/16	0.320		5/11/16	0.140		5/11/16	0.190		5/11/16	0.160		11/9/16	0.290
	5/26/16	0.260		5/26/16	0.230		5/26/16	0.260		5/26/16	0.190		11/23/16	0.340
	6/7/16	0.130		6/7/16	0.170		6/7/16	0.230		6/7/16	0.150		12/7/16	0.280
	6/23/16	0.410		6/23/16	0.220		6/23/16	0.350		6/23/16	0.170		12/21/16	0.270
	7/6/16	0.220		7/6/16	0.180		7/6/16	0.270		7/6/16	0.190		1/4/17	0.310
	7/20/16	0.570		7/20/16	0.190		7/20/16	0.240		7/20/16	0.180		1/18/17	0.230
	8/3/16	0.190		8/3/16	0.150		8/3/16	0.250		8/3/16	0.120		2/1/17	0.320
	8/17/16	0.250		8/17/16	0.160		8/17/16	0.240		8/17/16	0.130		2/14/17	0.280
	8/31/16	0.280		8/31/16	0.230		8/31/16	0.290		8/31/16	0.220		3/15/17	0.150
	9/14/16	0.250		9/14/16	0.170		9/14/16	0.210		9/14/16	0.150		3/29/17	0.240
	9/28/16	0.840		9/28/16	0.280		9/28/16	0.320		9/28/16	0.240		4/12/17	0.180
	10/17/16	0.240		10/17/16	0.200		10/17/16	0.210		10/17/16	0.200		4/26/17	0.200
	10/26/16	0.370		10/26/16	0.260		10/26/16	0.320		10/26/16	0.200		5/10/17	0.140
	11/9/16	0.440		11/9/16	0.330		11/9/16	0.400		11/9/16	0.330		5/24/17	0.200
	11/23/16	0.490		11/23/16	0.300		11/23/16	0.440		11/23/16	0.260		6/7/17	0.240
	12/7/16	0.430		12/7/16	0.270		12/7/16	0.310		12/7/16	0.260		6/21/17	0.190
	12/21/16	0.320		12/21/16	0.260		12/21/16	0.260		12/21/16	0.250		7/5/17	0.130
	1/4/17	0.310		1/4/17	0.260		1/4/17	0.300		1/4/17	0.260		7/19/17	0.140
	1/18/17	0.340		1/18/17	0.220		1/18/17	0.260		1/18/17	0.230		8/2/17	0.180
	2/1/17	0.400		2/1/17	0.310		2/1/17	0.340		2/1/17	0.260		8/16/17	0.180
	2/14/17	0.460		2/14/17	0.250		2/14/17	0.290		2/14/17	0.200		8/30/17	0.210
	3/1/17	0.320		3/1/17	0.260		3/1/17	0.420		3/1/17	0.240		9/13/17	0.300

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1		A5		A7		A8		A12	
3/15/17	0.190	3/15/17	0.190	3/15/17	0.180	3/15/17	0.150	9/27/17	0.300
3/29/17	0.270	3/29/17	0.160	3/29/17	0.170	3/29/17	0.130	10/11/17	0.250
4/12/17	0.280	4/12/17	0.180	4/12/17	0.250	4/12/17	0.160	10/25/17	0.180
4/26/17	0.230	4/26/17	0.230	4/26/17	0.370	4/26/17	0.180	11/8/17	0.180
5/10/17	0.240	5/10/17	0.200	5/10/17	0.250	5/10/17	0.170	11/22/17	0.190
5/24/17	0.400	5/24/17	0.240	5/24/17	0.250	5/24/17	0.180	12/6/17	0.310
6/7/17	0.250	6/7/17	0.250	6/7/17	0.310	6/7/17	0.170	12/20/17	0.230
6/21/17	0.230	6/21/17	0.210	6/21/17	0.280	6/21/17	0.120	1/4/18	0.190
7/5/17	0.170	7/5/17	0.150	7/5/17	0.180	7/5/17	0.140	1/18/18	0.220
7/19/17	0.230	7/19/17	0.190	7/19/17	0.230	7/19/17	0.120	1/31/18	0.190
8/2/17	0.410	8/2/17	0.200	11/8/17	0.240	8/2/17	0.180	2/14/18	0.220
8/16/17	0.230	8/16/17	0.180	11/22/17	0.210	8/16/17	0.230	3/1/18	0.200
8/30/17	0.260	8/30/17	0.210	12/6/17	0.440	8/30/17	0.220	3/16/18	0.190
9/13/17	0.310	9/13/17	0.290	12/20/17	0.240	9/13/17	0.230	4/2/18	0.180
9/27/17	0.330	9/27/17	0.280	1/4/18	0.200	9/27/17	0.330	4/17/18	0.160
10/11/17	0.280	10/11/17	0.240	1/18/18	0.190	10/11/17	0.270	5/2/18	0.140
10/25/17	0.270	10/25/17	0.180	1/31/18	0.200	10/25/17	0.160	5/16/18	0.170
11/8/17	0.270	11/8/17	0.200	2/14/18	0.190	11/8/17	0.190	5/30/18	0.240
11/22/17	0.260	11/22/17	0.200	3/1/18	0.210	11/22/17	0.150	6/13/18	0.220
12/6/17	0.380	12/6/17	0.350	3/16/18	0.240	12/6/17	0.280	6/27/18	0.200
12/20/17	0.310	12/20/17	0.240	4/2/18	0.210	12/20/17	0.250	7/11/18	0.240
1/4/18	0.280	1/4/18	0.180	4/17/18	0.190	1/4/18	0.170	8/8/18	0.180
1/18/18	0.220	1/18/18	0.170	5/2/18	0.190	1/18/18	0.160	8/22/18	0.190
1/31/18	0.230	1/31/18	0.140	5/16/18	0.300	1/31/18	0.150	9/5/18	0.200
2/14/18	0.240	2/14/18	0.240	5/30/18	0.300	2/14/18	0.160	9/19/18	0.390
3/1/18	0.310	3/1/18	0.190	6/13/18	0.330	3/1/18	0.170	10/3/18	0.170
3/16/18	0.290	3/16/18	0.190	6/27/18	0.240	3/16/18	0.160	10/17/18	0.180
4/2/18	0.270	4/2/18	0.190	7/11/18	0.290	4/2/18	0.190	10/31/18	0.300
4/17/18	0.200	4/17/18	0.140	7/25/18	0.160	4/17/18	0.140	11/14/18	0.180
5/2/18	0.310	5/2/18	0.160	8/8/18	0.320	5/2/18	0.120	11/28/18	0.320
5/16/18	0.310	5/16/18	0.220	8/22/18	0.220	5/16/18	0.160	12/12/18	0.290
5/30/18	0.270	5/30/18	0.240	9/5/18	0.320	5/30/18	0.210	12/26/18	0.460
6/13/18	0.440	6/13/18	0.250	9/19/18	0.400	6/13/18	0.200	1/9/19	0.300
6/27/18	0.330	6/27/18	0.200	10/3/18	0.220	6/27/18	0.160	1/23/19	0.260
7/11/18	0.250	7/11/18	0.210	10/17/18	0.280	7/11/18	0.240	2/7/19	0.210
7/25/18	0.170	7/25/18	0.160	10/31/18	0.370	7/25/18	0.120	2/20/19	0.220
8/8/18	0.350	8/8/18	0.200	11/14/18	0.240	8/8/18	0.160	3/7/19	0.200
8/22/18	0.320	8/22/18	0.190	11/28/18	0.370	8/22/18	0.180	3/20/19	0.230
9/5/18	0.210	9/5/18	0.240	12/12/18	0.280	9/5/18	0.190	4/3/19	0.220
9/19/18	0.360	9/19/18	0.450	12/26/18	0.400	9/19/18	0.400	4/17/19	0.320
10/3/18	0.320	10/3/18	0.160	1/9/19	0.310	10/3/18	0.170	5/1/19	0.180
10/17/18	0.230	10/17/18	0.210	1/23/19	0.200	10/17/18	0.190	5/15/19	0.160
10/31/18	0.360	10/31/18	0.280	2/7/19	0.190	10/31/18	0.240	5/29/19	0.130
11/14/18	0.400	11/14/18	0.190	2/20/19	0.160	11/14/18	0.200	6/12/19	0.140
11/28/18	0.500	11/28/18	0.300	3/7/19	0.170	11/28/18	0.270	6/26/19	0.220
12/12/18	0.510	12/12/18	0.250	3/20/19	0.170	12/12/18	0.260	7/9/19	0.250
12/26/18	0.640	12/26/18	0.360	4/3/19	0.260	12/26/18	0.450	7/24/19	0.220
1/9/19	0.530	1/9/19	0.250	4/17/19	0.210	1/9/19	0.260	8/7/19	0.180
1/23/19	0.270	1/23/19	0.220	5/1/19	0.160	1/23/19	0.200	8/22/19	0.220
2/7/19	0.210	2/7/19	0.180	5/15/19	0.170	2/7/19	0.190	9/4/19	0.220
2/20/19	0.240	2/20/19	0.150	5/29/19	0.140	2/20/19	0.170	9/17/19	0.220
3/7/19	0.490	3/7/19	0.170	6/12/19	0.230	3/7/19	0.150	9/30/19	0.360
3/20/19	0.210	3/20/19	0.160	6/26/19	0.230	3/20/19	0.150	10/13/19	0.280
4/3/19	0.260	4/3/19	0.180	7/9/19	0.230	4/3/19	0.180	10/25/19	0.230

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1			A5			A7			A8			A12		
	4/17/19	0.200		4/17/19	0.170		7/24/19	0.200		4/17/19	0.240		11/7/19	0.230
	5/1/19	0.230		5/1/19	0.140		8/7/19	0.200		5/1/19	0.150		11/21/19	0.380
	5/15/19	0.180		5/15/19	0.150		8/22/19	0.190		5/15/19	0.160		12/5/19	0.300
	5/29/19	0.180		5/29/19	0.120		9/4/19	0.190		5/29/19	0.130		12/20/19	0.330
	6/12/19	0.180		6/12/19	0.140		9/17/19	0.200		6/12/19	0.170		1/3/20	0.590
	6/26/19	0.290		6/26/19	0.180		9/30/19	0.260		6/26/19	0.180		1/16/20	0.550
	7/9/19	0.480		7/9/19	0.210		10/13/19	0.360		7/9/19	0.240		1/30/20	0.270
	7/24/19	0.310		7/24/19	0.150		10/25/19	0.250		7/24/19	0.160		2/14/20	0.420
	8/7/19	0.250		8/7/19	0.170		11/7/19	0.220		8/7/19	0.170		2/27/20	0.220
	8/22/19	0.280		8/22/19	0.180		11/21/19	0.340		8/22/19	0.130		3/12/20	0.380
	9/4/19	0.200		9/4/19	0.150		12/5/19	0.230		9/4/19	0.130		3/26/20	0.250
	9/17/19	0.180		9/17/19	0.150		12/20/19	0.340		9/17/19	0.160		4/9/20	0.380
	9/30/19	0.190		9/30/19	0.200		1/3/20	0.480		9/30/19	0.240		4/23/20	0.270
	10/13/19	0.400		10/13/19	0.230		1/16/20	0.330		10/13/19	0.190		5/7/20	0.380
	10/25/19	0.280		10/25/19	0.220		1/30/20	0.190		10/25/19	0.230		5/21/20	0.210
	11/7/19	0.260		11/7/19	0.180		2/14/20	0.350		11/7/19	0.190		6/4/20	0.470
	11/21/19	0.320		11/21/19	0.500		2/27/20	0.210		11/21/19	0.330		6/18/20	0.550
	12/5/19	0.260		12/5/19	0.230		3/12/20	0.330		12/5/19	0.280		7/1/20	0.440
	12/20/19	0.360		12/20/19	0.370		3/26/20	0.180		12/20/19	0.430		7/16/20	0.450
	1/3/20	0.600		1/3/20	0.610		4/9/20	0.260		1/3/20	0.570		7/31/20	0.290
	1/16/20	0.360		1/16/20	0.380		4/23/20	0.230		1/16/20	0.360		8/13/20	0.580
	1/30/20	0.200		1/30/20	0.230		5/7/20	0.240		1/30/20	0.240		8/28/20	0.300
	2/14/20	0.460		2/14/20	0.360		5/21/20	0.160		2/14/20	0.320		9/10/20	0.140
	2/27/20	0.420		2/27/20	0.200		6/4/20	0.220		2/27/20	0.200		9/24/20	0.430
	3/12/20	0.330		3/12/20	0.240		6/18/20	0.330		3/12/20	0.340			
	3/26/20	0.310		3/26/20	0.170		7/1/20	0.280		3/26/20	0.200			
	4/9/20	0.320		4/9/20	0.220		7/16/20	0.260		4/9/20	0.270			
	4/23/20	0.190		4/23/20	0.180		7/31/20	0.180		4/23/20	0.210			
	5/7/20	0.300		5/7/20	0.230		8/13/20	0.280		5/7/20	0.240			
	5/21/20	0.170		5/21/20	0.140		8/28/20	0.290		5/21/20	0.180			
	6/4/20	0.190		6/4/20	0.200		9/10/20	0.140		6/4/20	0.200			
	6/18/20	0.340		6/18/20	0.230		9/24/20	0.300		6/18/20	0.230			
	7/1/20	0.340		7/1/20	0.170					7/1/20	0.230			
	7/16/20	0.230		7/16/20	0.220					7/16/20	0.250			
	7/31/20	0.250		7/31/20	0.230					7/31/20	0.190			
	8/13/20	0.330		8/13/20	0.170					8/13/20	0.210			
	8/28/20	0.370		8/28/20	0.280					8/28/20	0.240			
	9/10/20	0.170		9/10/20	0.120					9/10/20	0.120			
	9/24/20	0.280		9/24/20	0.290					9/24/20	0.230			
Hexane	5/13/15	0.160	**Hexane**	5/13/15	0.220	**Hexane**	5/13/15	0.350	**Hexane**	5/13/15	0.300	**Hexane**	11/9/15	0.450
	5/27/15	0.130		5/27/15	0.150		5/27/15	0.310		5/27/15	0.190		11/25/15	0.580
	6/10/15	0.210		6/10/15	0.330		6/10/15	0.410		6/10/15	0.300		12/8/15	0.430
	6/24/15	0.270		6/24/15	0.230		6/24/15	0.330		6/24/15	0.270		12/23/15	0.540
	7/8/15	0.340		7/8/15	2.000		7/8/15	0.270		7/8/15	0.290		1/7/16	0.320
	7/22/15	0.680		7/22/15	0.840		7/22/15	0.310		7/22/15	0.340		1/20/16	0.280
	8/5/15	0.490		8/5/15	0.320		8/5/15	0.430		8/5/15	0.270		2/3/16	0.380
	8/19/15	0.470		8/19/15	0.450		8/19/15	0.550		8/19/15	0.430		2/17/16	0.340
	9/2/15	0.420		9/2/15	0.510		9/2/15	0.620		9/2/15	0.400		3/2/16	0.300
	9/16/15	0.550		9/16/15	0.600		9/16/15	0.440		9/16/15	0.480		3/16/16	0.270
	9/30/15	0.520		9/30/15	0.660		9/30/15	0.640		9/30/15	0.430		3/31/16	0.230
	10/14/15	0.200		10/14/15	0.290		10/14/15	0.300		10/14/15	0.290		4/13/16	0.200
	10/27/15	0.360		10/27/15	0.320		10/27/15	0.370		10/27/15	0.300		4/27/16	0.450
	11/9/15	0.500		11/9/15	0.490		11/9/15	0.570		11/9/15	0.490		5/11/16	0.260
	11/25/15	0.480		11/25/15	0.660		11/25/15	0.610		11/25/15	0.660		5/26/16	0.340

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1		A5		A7		A8		A12	
12/8/15	0.570	12/8/15	0.500	12/8/15	0.620	12/8/15	0.590	6/7/16	0.220
12/23/15	0.360	12/23/15	0.360	12/23/15	0.640	12/23/15	0.380	6/23/16	0.340
1/7/16	0.410	1/7/16	0.280	1/7/16	0.220	1/7/16	0.260	7/6/16	0.350
1/20/16	0.230	1/20/16	0.230	1/20/16	0.400	1/20/16	0.290	7/20/16	0.390
2/3/16	0.300	2/3/16	0.500	2/3/16	0.390	2/3/16	0.340	8/3/16	0.280
2/17/16	0.270	2/17/16	0.370	2/17/16	0.420	2/17/16	0.360	8/17/16	0.300
3/2/16	0.240	3/2/16	0.220	3/2/16	0.250	3/2/16	0.260	8/31/16	0.360
3/16/16	0.250	3/16/16	0.310	3/16/16	0.360	3/16/16	0.400	9/14/16	0.320
3/31/16	0.180	3/31/16	0.200	3/31/16	0.210	3/31/16	0.330	9/28/16	0.460
4/13/16	0.150	4/13/16	0.170	4/13/16	0.230	4/13/16	0.150	10/17/16	0.260
4/27/16	0.310	4/27/16	0.480	4/27/16	0.600	4/27/16	0.500	10/26/16	0.350
5/11/16	0.280	5/11/16	0.200	5/11/16	0.270	5/11/16	0.190	11/9/16	0.430
5/26/16	0.240	5/26/16	0.380	5/26/16	0.370	5/26/16	0.370	11/23/16	0.500
6/7/16	0.240	6/7/16	0.330	6/7/16	0.420	6/7/16	0.310	12/7/16	0.480
6/23/16	0.260	6/23/16	0.360	6/23/16	0.360	6/23/16	0.310	12/21/16	0.400
7/6/16	0.340	7/6/16	0.360	7/6/16	0.330	7/6/16	0.310	1/4/17	0.550
7/20/16	0.270	7/20/16	0.390	7/20/16	0.350	7/20/16	0.320	1/18/17	0.470
8/3/16	0.220	8/3/16	0.250	8/3/16	0.430	8/3/16	0.280	2/1/17	0.520
8/17/16	0.330	8/17/16	0.290	8/17/16	0.380	8/17/16	0.290	2/14/17	0.390
8/31/16	0.330	8/31/16	0.330	8/31/16	0.430	8/31/16	0.360	3/1/17	0.320
9/14/16	0.230	9/14/16	0.280	9/14/16	0.400	9/14/16	0.310	3/15/17	0.200
9/28/16	0.380	9/28/16	0.520	9/28/16	0.460	9/28/16	0.380	3/29/17	0.360
10/17/16	0.310	10/17/16	0.300	10/17/16	0.300	10/17/16	0.290	4/12/17	0.340
10/26/16	0.350	10/26/16	0.370	10/26/16	0.380	10/26/16	0.300	4/26/17	0.480
11/9/16	0.440	11/9/16	0.450	11/9/16	0.520	11/9/16	0.450	5/10/17	0.220
11/23/16	0.600	11/23/16	0.500	11/23/16	0.670	11/23/16	0.480	5/24/17	0.280
12/7/16	0.400	12/7/16	0.420	12/7/16	0.460	12/7/16	0.420	6/7/17	0.290
12/21/16	0.410	12/21/16	0.390	12/21/16	0.440	12/21/16	0.400	6/21/17	0.360
1/4/17	0.440	1/4/17	0.440	1/4/17	0.590	1/4/17	0.500	7/5/17	0.230
1/18/17	0.430	1/18/17	0.410	1/18/17	0.440	1/18/17	0.430	7/19/17	0.180
2/1/17	0.480	2/1/17	0.570	2/1/17	0.580	2/1/17	0.460	8/2/17	0.250
2/14/17	0.460	2/14/17	0.410	2/14/17	0.410	2/14/17	0.300	8/16/17	0.280
3/1/17	0.320	3/1/17	0.340	3/1/17	0.490	3/1/17	0.350	8/30/17	0.310
3/15/17	0.220	3/15/17	0.260	3/15/17	0.270	3/15/17	0.200	9/13/17	0.510
3/29/17	0.270	3/29/17	0.300	3/29/17	0.330	3/29/17	0.260	9/27/17	0.360
4/12/17	0.360	4/12/17	0.280	4/12/17	0.370	4/12/17	0.320	10/11/17	0.370
4/26/17	0.280	4/26/17	0.490	4/26/17	0.550	4/26/17	0.270	10/25/17	0.370
5/10/17	0.320	5/10/17	0.430	5/10/17	0.420	5/10/17	0.260	11/8/17	0.310
5/24/17	0.240	5/24/17	0.370	5/24/17	0.400	5/24/17	0.230	11/22/17	0.340
6/7/17	0.330	6/7/17	0.430	6/7/17	0.520	6/7/17	0.230	12/6/17	0.560
6/21/17	0.210	6/21/17	0.300	6/21/17	0.350	6/21/17	0.220	12/20/17	0.340
7/5/17	0.260	7/5/17	0.330	7/5/17	0.250	7/5/17	0.240	1/4/18	0.360
7/19/17	0.240	7/19/17	0.350	7/19/17	0.270	7/19/17	0.230	1/18/18	0.280
8/2/17	0.360	8/2/17	0.340	11/8/17	0.350	8/2/17	0.300	1/31/18	0.410
8/16/17	0.240	8/16/17	0.280	11/22/17	0.460	8/16/17	0.500	2/14/18	0.300
8/30/17	0.300	8/30/17	0.300	12/6/17	0.680	8/30/17	0.300	3/1/18	0.440
9/13/17	0.420	9/13/17	0.360	12/20/17	0.550	9/13/17	0.550	3/16/18	0.260
9/27/17	0.450	9/27/17	0.510	1/4/18	0.310	9/27/17	0.350	4/2/18	0.260
10/11/17	0.330	10/11/17	0.330	1/18/18	0.360	10/11/17	0.320	4/17/18	0.190
10/25/17	0.330	10/25/17	0.350	1/31/18	0.310	10/25/17	0.270	5/2/18	0.190
11/8/17	0.310	11/8/17	0.330	2/14/18	0.280	11/8/17	0.330	5/16/18	0.350
11/22/17	0.370	11/22/17	0.370	3/1/18	0.340	11/22/17	0.350	5/30/18	0.370
12/6/17	0.590	12/6/17	0.620	3/16/18	0.360	12/6/17	0.420	6/13/18	0.280
12/20/17	0.480	12/20/17	0.510	4/2/18	0.300	12/20/17	0.390	6/27/18	0.260

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1		A5		A7		A8		A12	
1/4/18	0.650	1/4/18	0.420	4/17/18	0.300	1/4/18	0.350	7/11/18	0.370
1/18/18	0.240	1/18/18	0.320	5/2/18	0.260	1/18/18	0.270	8/8/18	0.220
1/31/18	0.290	1/31/18	0.270	5/16/18	0.360	1/31/18	0.320	8/22/18	0.240
2/14/18	0.340	2/14/18	0.380	5/30/18	0.410	2/14/18	0.340	9/5/18	0.280
3/1/18	0.440	3/1/18	0.400	6/13/18	0.450	3/1/18	0.340	9/19/18	0.320
3/16/18	0.450	3/16/18	0.380	6/27/18	0.520	3/16/18	0.300	10/3/18	0.280
4/2/18	0.270	4/2/18	0.340	7/11/18	0.500	4/2/18	0.320	10/17/18	0.320
4/17/18	0.190	4/17/18	0.240	7/25/18	0.260	4/17/18	0.210	10/31/18	0.340
5/2/18	0.180	5/2/18	0.280	8/8/18	0.360	5/2/18	0.200	11/14/18	0.260
5/16/18	0.210	5/16/18	0.340	8/22/18	0.440	5/16/18	0.220	11/28/18	0.600
5/30/18	0.280	5/30/18	0.380	9/5/18	0.430	5/30/18	0.380	12/12/18	0.520
6/13/18	0.370	6/13/18	0.350	9/19/18	0.420	6/13/18	0.290	12/26/18	0.730
6/27/18	0.240	6/27/18	0.370	10/3/18	0.270	6/27/18	0.250	1/9/19	0.500
7/11/18	0.350	7/11/18	0.360	10/17/18	0.480	7/11/18	0.360	1/23/19	0.410
7/25/18	0.160	7/25/18	0.300	10/31/18	0.470	7/25/18	0.200	2/7/19	0.380
8/8/18	0.220	8/8/18	0.230	11/14/18	0.300	8/8/18	0.260	2/20/19	0.340
8/22/18	0.340	8/22/18	0.320	11/28/18	0.620	8/22/18	0.380	3/7/19	0.310
9/5/18	0.260	9/5/18	0.270	12/12/18	0.430	9/5/18	0.240	3/20/19	0.280
9/19/18	0.380	9/19/18	0.430	12/26/18	0.680	9/19/18	0.330	4/3/19	0.260
10/3/18	0.310	10/3/18	0.280	1/9/19	0.580	10/3/18	0.230	4/17/19	0.270
10/17/18	0.260	10/17/18	0.310	1/23/19	0.370	10/17/18	0.280	5/1/19	0.260
10/31/18	0.300	10/31/18	0.360	2/7/19	0.380	10/31/18	0.400	5/15/19	0.190
11/14/18	0.200	11/14/18	0.210	2/20/19	0.310	11/14/18	0.210	5/29/19	0.140
11/28/18	0.550	11/28/18	0.530	3/7/19	0.300	11/28/18	0.520	6/12/19	0.220
12/12/18	0.450	12/12/18	0.410	3/20/19	0.270	12/12/18	0.440	6/26/19	0.230
12/26/18	0.670	12/26/18	0.630	4/3/19	0.290	12/26/18	0.810	7/9/19	0.340
1/9/19	0.510	1/9/19	0.480	4/17/19	0.310	1/9/19	0.490	7/24/19	0.250
1/23/19	0.320	1/23/19	0.400	5/1/19	0.290	1/23/19	0.400	8/7/19	0.280
2/7/19	0.330	2/7/19	0.360	5/15/19	0.210	2/7/19	0.380	8/22/19	0.300
2/20/19	0.270	2/20/19	0.260	5/29/19	0.200	2/20/19	0.330	9/4/19	0.270
3/7/19	0.280	3/7/19	0.320	6/12/19	0.320	3/7/19	0.300	9/17/19	0.320
3/20/19	0.230	3/20/19	0.280	6/26/19	0.330	3/20/19	0.260	9/30/19	0.310
4/3/19	0.220	4/3/19	0.240	7/9/19	0.320	4/3/19	0.220	10/13/19	0.370
4/17/19	0.220	4/17/19	0.260	7/24/19	0.280	4/17/19	0.260	10/25/19	0.320
5/1/19	0.200	5/1/19	0.250	8/7/19	0.360	5/1/19	0.230	11/7/19	0.340
5/15/19	0.160	5/15/19	0.200	8/22/19	0.270	5/15/19	0.190	11/21/19	0.600
5/29/19	0.160	5/29/19	0.170	9/4/19	0.290	5/29/19	0.170	12/5/19	0.380
6/12/19	0.150	6/12/19	0.190	9/17/19	0.320	6/12/19	0.230	12/20/19	0.450
6/26/19	0.220	6/26/19	0.280	9/30/19	0.270	6/26/19	0.240	1/3/20	0.800
7/9/19	0.220	7/9/19	0.270	10/13/19	0.470	7/9/19	0.280	1/16/20	0.590
7/24/19	0.170	7/24/19	0.220	10/25/19	0.320	7/24/19	0.240	1/30/20	0.420
8/7/19	0.260	8/7/19	0.320	11/7/19	0.370	8/7/19	0.290	2/14/20	0.540
8/22/19	0.180	8/22/19	0.250	11/21/19	0.580	8/22/19	0.190	2/27/20	0.300
9/4/19	0.180	9/4/19	0.260	12/5/19	0.350	9/4/19	0.180	3/12/20	0.350
9/17/19	0.210	9/17/19	0.250	12/20/19	0.450	9/17/19	0.250	3/26/20	0.290
9/30/19	0.260	9/30/19	0.260	1/3/20	0.710	9/30/19	0.260	4/9/20	0.290
10/13/19	0.300	10/13/19	0.350	1/16/20	0.490	10/13/19	0.310	4/23/20	0.190
10/25/19	0.300	10/25/19	0.340	1/30/20	0.340	10/25/19	0.330	5/7/20	0.310
11/7/19	0.270	11/7/19	0.300	2/14/20	0.560	11/7/19	0.310	5/21/20	0.200
11/21/19	0.470	11/21/19	0.550	2/27/20	0.360	11/21/19	0.480	6/4/20	0.280
12/5/19	0.280	12/5/19	0.320	3/12/20	0.340	12/5/19	0.350	6/18/20	0.340
12/20/19	0.380	12/20/19	0.410	3/26/20	0.290	12/20/19	0.380	7/1/20	0.300
1/3/20	0.700	1/3/20	0.820	4/9/20	0.320	1/3/20	0.730	7/16/20	0.340
1/16/20	0.380	1/16/20	0.520	4/23/20	0.260	1/16/20	0.440	7/31/20	0.250

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1			A5			A7			A8			A12		
	1/30/20	0.340		1/30/20	0.370		5/7/20	0.290		1/30/20	0.350		8/13/20	0.330
	2/14/20	0.530		2/14/20	0.580		5/21/20	0.210		2/14/20	0.490		8/28/20	0.380
	2/27/20	0.300		2/27/20	0.330		6/4/20	0.310		2/27/20	0.290		9/10/20	0.180
	3/12/20	0.280		3/12/20	0.310		6/18/20	0.440		3/12/20	0.300		9/24/20	0.450
	3/26/20	0.280		3/26/20	0.270		7/1/20	0.280		3/26/20	0.260			
	4/9/20	0.280		4/9/20	0.280		7/16/20	0.320		4/9/20	0.250			
	4/23/20	0.170		4/23/20	0.200		7/31/20	0.260		4/23/20	0.190			
	5/7/20	0.220		5/7/20	0.300		8/13/20	0.360		5/7/20	0.250			
	5/21/20	0.160		5/21/20	0.200		8/28/20	0.450		5/21/20	0.270			
	6/4/20	0.260		6/4/20	0.310		9/10/20	0.200		6/4/20	0.290			
	6/18/20	0.340		6/18/20	0.370		9/24/20	0.530		6/18/20	0.340			
	7/1/20	0.230		7/1/20	0.220					7/1/20	0.270			
	7/16/20	0.330		7/16/20	0.300					7/16/20	0.320			
	7/31/20	0.250		7/31/20	0.320					7/31/20	0.250			
	8/13/20	0.340		8/13/20	0.260					8/13/20	0.280			
	8/28/20	0.430		8/28/20	0.380					8/28/20	0.370			
	9/10/20	0.180		9/10/20	0.190					9/10/20	0.180			
	9/24/20	0.400		9/24/20	0.410					9/24/20	0.310			
m,p-Xylene	5/13/15	0.210	**m,p-Xylene**	5/13/15	0.270	**m,p-Xylene**	5/13/15	0.420	**m,p-Xylene**	5/13/15	0.260	**m,p-Xylene**	11/9/15	0.360
	5/27/15	0.230		5/27/15	0.220		5/27/15	0.270		5/27/15	0.220		11/25/15	0.440
	6/10/15	0.250		6/10/15	0.300		6/10/15	0.430		6/10/15	0.360		12/8/15	0.340
	6/24/15	0.280		6/24/15	0.280		6/24/15	0.520		6/24/15	0.220		12/23/15	0.270
	7/8/15	0.250		7/8/15	0.380		7/8/15	0.380		7/8/15	0.370		1/7/16	0.150
	7/22/15	0.300		7/22/15	0.320		7/22/15	0.360		7/22/15	0.290		1/20/16	0.190
	8/5/15	0.310		8/5/15	0.420		8/5/15	0.450		8/5/15	0.360		2/3/16	0.240
	8/19/15	0.300		8/19/15	0.370		8/19/15	0.410		8/19/15	0.370		2/17/16	0.220
	9/2/15	0.370		9/2/15	0.390		9/2/15	0.460		9/2/15	0.340		3/2/16	0.190
	9/16/15	0.300		9/16/15	0.350		9/16/15	0.410		9/16/15	0.320		3/16/16	0.280
	9/30/15	0.390		9/30/15	0.450		9/30/15	0.580		9/30/15	0.380		3/31/16	0.180
	10/14/15	0.230		10/14/15	0.260		10/14/15	0.340		10/14/15	0.230		4/13/16	0.190
	10/27/15	0.310		10/27/15	0.370		10/27/15	0.470		10/27/15	0.380		4/27/16	0.420
	11/9/15	0.400		11/9/15	0.350		11/9/15	0.400		11/9/15	0.370		5/11/16	0.220
	11/25/15	0.830		11/25/15	0.480		11/25/15	0.500		11/25/15	0.460		5/26/16	0.320
	12/8/15	0.870		12/8/15	0.340		12/8/15	0.420		12/8/15	0.380		6/7/16	0.260
	12/23/15	0.310		12/23/15	0.280		12/23/15	0.340		12/23/15	0.260		6/23/16	0.290
	1/7/16	0.200		1/7/16	0.170		1/7/16	0.150		1/7/16	0.150		7/6/16	0.240
	1/20/16	0.260		1/20/16	0.260		1/20/16	0.270		1/20/16	0.230		7/20/16	0.290
	2/3/16	0.220		2/3/16	0.230		2/3/16	0.270		2/3/16	0.240		8/3/16	0.230
	2/17/16	0.190		2/17/16	0.200		2/17/16	0.300		2/17/16	0.190		8/17/16	0.230
	3/2/16	0.190		3/2/16	0.200		3/2/16	0.260		3/2/16	0.190		8/31/16	0.310
	3/16/16	0.300		3/16/16	0.320		3/16/16	0.320		3/16/16	0.330		9/14/16	0.230
	3/31/16	0.190		3/31/16	0.200		3/31/16	0.210		3/31/16	0.210		9/28/16	0.380
	4/13/16	0.130		4/13/16	0.160		4/13/16	0.240		4/13/16	0.160		10/17/16	0.300
	4/27/16	0.370		4/27/16	0.460		4/27/16	0.500		4/27/16	0.440		10/26/16	0.300
	5/11/16	0.210		5/11/16	0.210		5/11/16	0.300		5/11/16	0.200		11/9/16	0.470
	5/26/16	0.200		5/26/16	0.330		5/26/16	0.360		5/26/16	0.250		11/23/16	0.440
	6/7/16	0.190		6/7/16	0.400		6/7/16	0.420		6/7/16	0.330		12/7/16	0.370
	6/23/16	0.280		6/23/16	0.360		6/23/16	0.660		6/23/16	0.310		12/21/16	0.340
	7/6/16	0.190		7/6/16	0.230		7/6/16	0.270		7/6/16	0.220		1/4/17	0.330
	7/20/16	0.280		7/20/16	0.330		7/20/16	0.450		7/20/16	0.270		1/18/17	0.240
	8/3/16	0.180		8/3/16	0.240		8/3/16	0.370		8/3/16	0.190		2/1/17	0.340
	8/17/16	0.210		8/17/16	0.250		8/17/16	0.310		8/17/16	0.260		2/14/17	0.260
	8/31/16	0.340		8/31/16	0.360		8/31/16	0.520		8/31/16	0.350		3/1/17	0.300
	9/14/16	0.200		9/14/16	0.240		9/14/16	0.420		9/14/16	0.220		3/15/17	0.200

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1		A5		A7		A8		A12	
9/28/16	0.420	9/28/16	0.400	9/28/16	0.470	9/28/16	0.320	3/29/17	0.250
10/17/16	0.280	10/17/16	0.250	10/17/16	0.300	10/17/16	0.240	4/12/17	0.260
10/26/16	0.340	10/26/16	0.290	10/26/16	0.360	10/26/16	0.230	4/26/17	0.300
11/9/16	0.520	11/9/16	0.520	11/9/16	0.750	11/9/16	0.440	5/10/17	0.220
11/23/16	0.580	11/23/16	0.420	11/23/16	0.610	11/23/16	0.400	5/24/17	0.280
12/7/16	0.800	12/7/16	0.350	12/7/16	0.510	12/7/16	0.310	6/7/17	0.360
12/21/16	0.330	12/21/16	0.300	12/21/16	0.340	12/21/16	0.280	6/21/17	0.350
1/4/17	0.300	1/4/17	0.310	1/4/17	0.370	1/4/17	0.310	7/5/17	0.260
1/18/17	0.330	1/18/17	0.240	1/18/17	0.250	1/18/17	0.240	7/19/17	0.170
2/1/17	0.330	2/1/17	0.310	2/1/17	0.370	2/1/17	0.250	8/2/17	0.220
2/14/17	0.320	2/14/17	0.300	2/14/17	0.370	2/14/17	0.220	8/16/17	0.220
3/1/17	0.310	3/1/17	0.320	3/1/17	0.590	3/1/17	0.300	8/30/17	0.310
3/15/17	0.190	3/15/17	0.220	3/15/17	0.240	3/15/17	0.170	9/13/17	0.420
3/29/17	0.270	3/29/17	0.230	3/29/17	0.260	3/29/17	0.190	9/27/17	0.510
4/12/17	0.280	4/12/17	0.290	4/12/17	0.560	4/12/17	0.210	10/11/17	0.360
4/26/17	0.290	4/26/17	0.340	4/26/17	0.580	4/26/17	0.270	10/25/17	0.260
5/10/17	0.300	5/10/17	0.360	5/10/17	0.460	5/10/17	0.260	11/8/17	0.250
5/24/17	0.310	5/24/17	0.330	5/24/17	0.470	5/24/17	0.230	11/22/17	0.390
6/7/17	0.410	6/7/17	0.380	6/7/17	0.550	6/7/17	0.290	12/6/17	0.430
6/21/17	0.230	6/21/17	0.360	6/21/17	0.900	6/21/17	0.180	12/20/17	0.230
7/5/17	0.240	7/5/17	0.290	7/5/17	0.400	7/5/17	0.250	1/4/18	0.210
7/19/17	0.230	7/19/17	0.380	7/19/17	0.360	7/19/17	0.190	1/18/18	0.180
8/2/17	0.500	8/2/17	0.310	11/8/17	0.340	8/2/17	0.260	1/31/18	0.260
8/16/17	0.320	8/16/17	0.300	11/22/17	0.370	8/16/17	0.500	2/14/18	0.190
8/30/17	0.300	8/30/17	0.280	12/6/17	0.570	8/30/17	0.260	3/1/18	0.260
9/13/17	0.280	9/13/17	0.370	12/20/17	0.320	9/13/17	0.380	3/16/18	0.220
9/27/17	0.440	9/27/17	0.530	1/4/18	0.240	9/27/17	0.500	4/2/18	0.250
10/11/17	0.280	10/11/17	0.400	1/18/18	0.320	10/11/17	0.420	4/17/18	0.170
10/25/17	0.360	10/25/17	0.330	1/31/18	0.340	10/25/17	0.220	5/2/18	0.230
11/8/17	0.410	11/8/17	0.270	2/14/18	0.230	11/8/17	0.250	5/16/18	0.240
11/22/17	0.300	11/22/17	0.300	3/1/18	0.380	11/22/17	0.250	5/30/18	0.330
12/6/17	0.540	12/6/17	0.470	3/16/18	0.370	12/6/17	0.420	6/13/18	0.300
12/20/17	0.250	12/20/17	0.240	4/2/18	0.320	12/20/17	0.220	6/27/18	0.230
1/4/18	0.220	1/4/18	0.220	4/17/18	0.290	1/4/18	0.210	7/11/18	0.290
1/18/18	0.180	1/18/18	0.230	5/2/18	0.330	1/18/18	0.170	8/8/18	0.230
1/31/18	0.170	1/31/18	0.220	5/16/18	0.510	1/31/18	0.200	8/22/18	0.270
2/14/18	0.240	2/14/18	0.210	5/30/18	0.410	2/14/18	0.180	9/5/18	0.200
3/1/18	0.410	3/1/18	0.280	6/13/18	0.720	3/1/18	0.260	9/19/18	0.380
3/16/18	0.270	3/16/18	0.250	6/27/18	0.410	3/16/18	0.220	10/3/18	0.220
4/2/18	0.280	4/2/18	0.280	7/11/18	0.390	4/2/18	0.240	10/17/18	0.220
4/17/18	0.190	4/17/18	0.180	7/25/18	0.240	4/17/18	0.160	10/31/18	0.370
5/2/18	0.250	5/2/18	0.270	8/8/18	0.480	5/2/18	0.190	11/14/18	0.200
5/16/18	0.350	5/16/18	0.300	8/22/18	0.380	5/16/18	0.220	11/28/18	0.420
5/30/18	0.270	5/30/18	0.370	9/5/18	0.370	5/30/18	0.360	12/12/18	0.410
6/13/18	0.440	6/13/18	0.480	9/19/18	0.400	6/13/18	0.330	12/26/18	0.520
6/27/18	0.360	6/27/18	0.310	10/3/18	0.500	6/27/18	0.230	1/9/19	0.320
7/11/18	0.270	7/11/18	0.330	10/17/18	0.380	7/11/18	0.300	1/23/19	0.210
7/25/18	0.180	7/25/18	0.200	10/31/18	0.640	7/25/18	0.140	2/7/19	0.200
8/8/18	0.350	8/8/18	0.270	11/14/18	0.270	8/8/18	0.230	2/20/19	0.370
8/22/18	0.300	8/22/18	0.260	11/28/18	0.520	8/22/18	0.260	3/7/19	0.180
9/5/18	0.250	9/5/18	0.230	12/12/18	0.390	9/5/18	0.230	3/20/19	0.180
9/19/18	0.830	9/19/18	0.360	12/26/18	0.520	9/19/18	0.350	4/3/19	0.250
10/3/18	0.320	10/3/18	0.250	1/9/19	0.470	10/3/18	0.210	4/17/19	0.280
10/17/18	0.240	10/17/18	0.240	1/23/19	0.220	10/17/18	0.200	5/1/19	0.230

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1			A5			A7			A8			A12		
	10/31/18	0.330		10/31/18	0.420		2/7/19	0.240		10/31/18	0.340		5/15/19	0.170
	11/14/18	0.210		11/14/18	0.210		2/20/19	0.220		11/14/18	0.180		5/29/19	0.140
	11/28/18	0.700		11/28/18	0.410		3/7/19	0.200		11/28/18	0.370		6/12/19	0.240
	12/12/18	0.490		12/12/18	0.370		3/20/19	0.180		12/12/18	0.320		6/26/19	0.250
	12/26/18	0.580		12/26/18	0.440		4/3/19	0.320		12/26/18	0.560		7/9/19	0.240
	1/9/19	0.530		1/9/19	0.300		4/17/19	0.360		1/9/19	0.310		7/24/19	0.230
	1/23/19	0.280		1/23/19	0.220		5/1/19	0.270		1/23/19	0.210		8/7/19	0.260
	2/7/19	0.300		2/7/19	0.230		5/15/19	0.290		2/7/19	0.210		8/22/19	0.320
	2/20/19	0.250		2/20/19	0.210		5/29/19	0.290		2/20/19	0.250		9/4/19	0.340
	3/7/19	0.330		3/7/19	0.190		6/12/19	0.450		3/7/19	0.170		9/17/19	0.300
	3/20/19	0.210		3/20/19	0.190		6/26/19	0.370		3/20/19	0.180		9/30/19	0.370
	4/3/19	0.260		4/3/19	0.220		7/9/19	0.380		4/3/19	0.210		10/13/19	0.370
	4/17/19	0.300		4/17/19	0.260		7/24/19	0.340		4/17/19	0.300		10/25/19	0.440
	5/1/19	0.210		5/1/19	0.210		8/7/19	0.340		5/1/19	0.200		11/7/19	0.240
	5/15/19	0.220		5/15/19	0.190		8/22/19	0.400		5/15/19	0.190		11/21/19	0.390
	5/29/19	0.200		5/29/19	0.190		9/4/19	0.370		5/29/19	0.170		12/5/19	0.310
	6/12/19	0.300		6/12/19	0.230		9/17/19	0.380		6/12/19	0.240		12/20/19	0.430
	6/26/19	0.250		6/26/19	0.260		9/30/19	0.480		6/26/19	0.230		1/3/20	0.660
	7/9/19	0.350		7/9/19	0.240		10/13/19	0.680		7/9/19	0.230		1/16/20	0.400
	7/24/19	0.250		7/24/19	0.240		10/25/19	0.370		7/24/19	0.240		1/30/20	0.230
	8/7/19	0.340		8/7/19	0.270		11/7/19	0.320		8/7/19	0.270		2/14/20	0.380
	8/22/19	0.260		8/22/19	0.300		11/21/19	0.390		8/22/19	0.240		2/27/20	0.180
	9/4/19	0.290		9/4/19	0.220		12/5/19	0.280		9/4/19	0.200		3/12/20	0.260
	9/17/19	0.250		9/17/19	0.230		12/20/19	0.480		9/17/19	0.220		3/26/20	0.190
	9/30/19	0.360		9/30/19	0.350		1/3/20	0.630		9/30/19	0.310		4/9/20	0.190
	10/13/19	0.500		10/13/19	0.420		1/16/20	0.390		10/13/19	0.320		4/23/20	0.180
	10/25/19	0.390		10/25/19	0.320		1/30/20	0.200		10/25/19	0.300		5/7/20	0.230
	11/7/19	0.340		11/7/19	0.210		2/14/20	0.390		11/7/19	0.220		5/21/20	0.200
	11/21/19	0.390		11/21/19	0.370		2/27/20	0.240		11/21/19	0.320		6/4/20	0.220
	12/5/19	0.340		12/5/19	0.260		3/12/20	0.300		12/5/19	0.300		6/18/20	0.300
	12/20/19	0.870		12/20/19	0.400		3/26/20	0.210		12/20/19	0.380		7/1/20	0.300
	1/3/20	0.920		1/3/20	0.620		4/9/20	0.270		1/3/20	0.590		7/16/20	0.350
	1/16/20	0.430		1/16/20	0.380		4/23/20	0.290		1/16/20	0.350		7/31/20	0.230
	1/30/20	0.410		1/30/20	0.220		5/7/20	0.310		1/30/20	0.200		8/13/20	0.350
	2/14/20	0.560		2/14/20	0.370		5/21/20	0.260		2/14/20	0.340		8/28/20	0.340
	2/27/20	0.270		2/27/20	0.210		6/4/20	0.360		2/27/20	0.170		9/10/20	0.270
	3/12/20	0.280		3/12/20	0.250		6/18/20	0.470		3/12/20	0.250		9/24/20	0.370
	3/26/20	0.290		3/26/20	0.170		7/1/20	0.340		3/26/20	0.180			
	4/9/20	0.450		4/9/20	0.200		7/16/20	0.410		4/9/20	0.180			
	4/23/20	0.170		4/23/20	0.180		7/31/20	0.250		4/23/20	0.170			
	5/7/20	0.350		5/7/20	0.250		8/13/20	0.380		5/7/20	0.200			
	5/21/20	0.200		5/21/20	0.210		8/28/20	0.520		5/21/20	0.270			
	6/4/20	0.250		6/4/20	0.290	1674%	9/10/20	6.500		6/4/20	0.210			
	6/18/20	0.330		6/18/20	0.330	above avg conc	9/24/20	0.560		6/18/20	0.290			
	7/1/20	0.260		7/1/20	0.230					7/1/20	0.220			
	7/16/20	0.230		7/16/20	0.360					7/16/20	0.340			
	7/31/20	0.210		7/31/20	0.310					7/31/20	0.230			
	8/13/20	0.340		8/13/20	0.240					8/13/20	0.270			
	8/28/20	0.410		8/28/20	0.450					8/28/20	0.380			
	9/10/20	0.210	2269%	9/10/20	6.800					9/10/20	0.580			
	9/24/20	0.330	above avg conc	9/24/20	0.400					9/24/20	0.220			
o-Xylene	5/27/15	0.082	**o-Xylene**	6/10/15	0.092	**o-Xylene**	5/13/15	0.130	**o-Xylene**	6/10/15	0.110	**o-Xylene**	11/9/15	0.140
	6/10/15	0.081		6/24/15	0.087		5/27/15	0.085		7/8/15	0.120		11/25/15	0.150
	6/24/15	0.077		7/8/15	0.120		6/10/15	0.140		7/22/15	0.092		12/8/15	0.120

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1		A5		A7		A8		A12	
7/8/15	0.082	7/22/15	0.099	6/24/15	0.160	8/5/15	0.110	12/23/15	0.100
7/22/15	0.090	8/5/15	0.120	7/8/15	0.130	8/19/15	0.120	2/3/16	0.090
8/5/15	0.100	8/19/15	0.120	7/22/15	0.110	9/2/15	0.130	2/17/16	0.084
8/19/15	0.095	9/2/15	0.150	8/5/15	0.140	9/16/15	0.100	3/16/16	0.097
9/2/15	0.150	9/16/15	0.120	8/19/15	0.130	9/30/15	0.130	4/27/16	0.130
9/16/15	0.095	9/30/15	0.150	9/2/15	0.180	10/14/15	0.086	5/11/16	0.080
9/30/15	0.130	10/14/15	0.090	9/16/15	0.120	10/27/15	0.130	5/26/16	0.100
10/14/15	0.086	10/27/15	0.130	9/30/15	0.190	11/9/15	0.120	6/7/16	0.096
10/27/15	0.110	11/9/15	0.120	10/14/15	0.110	11/25/15	0.160	6/23/16	0.099
11/9/15	0.130	11/25/15	0.150	10/27/15	0.150	12/8/15	0.130	7/6/16	0.084
11/25/15	0.220	12/8/15	0.120	11/9/15	0.150	12/23/15	0.093	7/20/16	0.100
12/8/15	0.280	12/23/15	0.100	11/25/15	0.160	2/3/16	0.098	8/3/16	0.081
12/23/15	0.120	1/20/16	0.091	12/8/15	0.140	3/16/16	0.110	8/17/16	0.077
1/7/16	0.074	2/3/16	0.089	12/23/15	0.130	3/31/16	0.078	8/31/16	0.110
1/20/16	0.090	2/17/16	0.082	1/20/16	0.094	4/27/16	0.140	9/14/16	0.084
2/3/16	0.083	3/16/16	0.110	2/3/16	0.100	5/26/16	0.084	9/28/16	0.130
3/16/16	0.110	3/31/16	0.076	2/17/16	0.120	6/7/16	0.110	10/17/16	0.100
3/31/16	0.074	4/27/16	0.150	3/2/16	0.088	6/23/16	0.100	11/9/16	0.160
4/27/16	0.120	5/26/16	0.110	3/16/16	0.110	7/20/16	0.096	11/23/16	0.150
6/23/16	0.096	6/7/16	0.140	3/31/16	0.081	8/17/16	0.087	12/7/16	0.130
7/20/16	0.097	6/23/16	0.120	4/27/16	0.160	8/31/16	0.120	12/21/16	0.110
8/31/16	0.120	7/20/16	0.110	5/11/16	0.110	9/14/16	0.082	1/4/17	0.120
9/14/16	0.073	8/3/16	0.080	5/26/16	0.110	9/28/16	0.120	2/1/17	0.120
9/28/16	0.150	8/17/16	0.089	6/7/16	0.140	10/17/16	0.089	3/1/17	0.098
10/17/16	0.094	8/31/16	0.120	6/23/16	0.210	11/9/16	0.150	3/29/17	0.086
11/9/16	0.160	9/14/16	0.079	7/6/16	0.090	11/23/16	0.140	4/12/17	0.094
11/23/16	0.210	9/28/16	0.140	7/20/16	0.140	12/7/16	0.120	4/26/17	0.110
12/7/16	0.230	10/17/16	0.083	8/3/16	0.120	12/21/16	0.110	5/10/17	0.078
12/21/16	0.110	11/9/16	0.180	8/17/16	0.100	1/4/17	0.110	5/24/17	0.082
1/4/17	0.110	11/23/16	0.160	8/31/16	0.170	2/1/17	0.095	6/7/17	0.120
1/18/17	0.120	12/7/16	0.130	9/14/16	0.140	3/1/17	0.099	6/21/17	0.120
2/1/17	0.120	12/21/16	0.110	9/28/16	0.160	4/26/17	0.100	7/5/17	0.100
2/14/17	0.110	1/4/17	0.110	10/17/16	0.100	5/10/17	0.097	8/2/17	0.083
3/1/17	0.100	1/18/17	0.084	10/26/16	0.130	6/7/17	0.100	8/16/17	0.085
3/29/17	0.099	2/1/17	0.110	11/9/16	0.250	7/5/17	0.097	8/30/17	0.150
4/12/17	0.100	2/14/17	0.097	11/23/16	0.220	8/2/17	0.098	9/13/17	0.160
4/26/17	0.120	3/1/17	0.110	12/7/16	0.150	8/16/17	0.200	9/27/17	0.170
5/10/17	0.100	4/12/17	0.100	12/21/16	0.110	8/30/17	0.100	10/11/17	0.150
5/24/17	0.097	4/26/17	0.130	1/4/17	0.130	9/13/17	0.140	10/25/17	0.099
6/7/17	0.150	5/10/17	0.130	1/18/17	0.094	9/27/17	0.170	11/8/17	0.093
6/21/17	0.081	5/24/17	0.100	2/1/17	0.120	10/11/17	0.180	11/22/17	0.120
7/5/17	0.093	6/7/17	0.130	2/14/17	0.120	11/8/17	0.096	12/6/17	0.150
7/19/17	0.093	6/21/17	0.120	3/1/17	0.180	12/6/17	0.140	3/1/18	0.097
8/2/17	0.190	7/5/17	0.120	3/29/17	0.086	3/1/18	0.092	4/2/18	0.085
8/16/17	0.120	7/19/17	0.140	4/12/17	0.180	3/16/18	0.080	5/2/18	0.080
8/30/17	0.110	8/2/17	0.110	4/26/17	0.210	4/2/18	0.083	5/16/18	0.083
9/13/17	0.097	8/16/17	0.110	5/10/17	0.160	5/30/18	0.110	5/30/18	0.100
9/27/17	0.150	8/30/17	0.100	5/24/17	0.140	6/13/18	0.110	6/13/18	0.100
10/11/17	0.120	9/13/17	0.130	6/7/17	0.190	6/27/18	0.083	6/27/18	0.080
10/25/17	0.130	9/27/17	0.190	6/21/17	0.270	7/11/18	0.100	7/11/18	0.099
11/8/17	0.140	10/11/17	0.180	7/5/17	0.150	8/8/18	0.085	8/8/18	0.086
11/22/17	0.100	10/25/17	0.120	7/19/17	0.130	8/22/18	0.098	8/22/18	0.110
12/6/17	0.170	11/8/17	0.100	11/8/17	0.120	9/5/18	0.083	9/5/18	0.073
2/14/18	0.084	11/22/17	0.100	11/22/17	0.130	9/19/18	0.130	9/19/18	0.130

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1		A5		A7		A8		A12	
3/1/18	0.140	12/6/17	0.160	12/6/17	0.190	10/3/18	0.080	10/3/18	0.082
3/16/18	0.088	3/1/18	0.098	12/20/17	0.120	10/31/18	0.120	10/17/18	0.086
4/2/18	0.096	3/16/18	0.089	1/18/18	0.100	11/28/18	0.140	10/31/18	0.130
5/2/18	0.098	4/2/18	0.094	1/31/18	0.100	12/12/18	0.130	11/28/18	0.160
5/16/18	0.110	5/2/18	0.096	3/1/18	0.120	12/26/18	0.220	12/12/18	0.160
5/30/18	0.091	5/16/18	0.100	3/16/18	0.130	1/9/19	0.120	12/26/18	0.200
6/13/18	0.150	5/30/18	0.120	4/2/18	0.110	1/23/19	0.091	1/9/19	0.120
6/27/18	0.120	6/13/18	0.160	4/17/18	0.098	4/3/19	0.082	1/23/19	0.090
7/11/18	0.091	6/27/18	0.100	5/2/18	0.120	4/17/19	0.110	2/20/19	0.120
8/8/18	0.130	7/11/18	0.110	5/16/18	0.160	5/1/19	0.080	2/20/19	0.120
8/22/18	0.100	7/25/18	0.084	5/30/18	0.130	6/12/19	0.089	4/3/19	0.095
9/5/18	0.089	8/8/18	0.097	6/13/18	0.230	6/26/19	0.085	4/17/19	0.100
9/19/18	0.260	8/22/18	0.100	6/27/18	0.130	7/9/19	0.083	5/1/19	0.088
10/3/18	0.110	9/5/18	0.080	7/11/18	0.130	7/24/19	0.084	6/12/19	0.082
10/31/18	0.120	9/19/18	0.120	7/25/18	0.093	8/7/19	0.095	6/26/19	0.092
11/28/18	0.240	10/3/18	0.091	8/8/18	0.170	8/22/19	0.084	7/9/19	0.085
12/12/18	0.180	10/17/18	0.089	8/22/18	0.130	9/17/19	0.084	7/24/19	0.081
12/26/18	0.220	10/31/18	0.140	9/5/18	0.130	9/30/19	0.100	8/7/19	0.095
1/9/19	0.200	11/28/18	0.150	9/19/18	0.140	10/13/19	0.110	8/22/19	0.120
1/23/19	0.110	12/12/18	0.140	10/3/18	0.160	10/25/19	0.110	9/4/19	0.120
2/7/19	0.110	12/26/18	0.170	10/17/18	0.130	11/21/19	0.120	9/17/19	0.110
3/7/19	0.120	1/9/19	0.120	10/31/18	0.200	12/5/19	0.100	9/30/19	0.120
4/3/19	0.100	1/23/19	0.098	11/14/18	0.096	12/20/19	0.140	10/13/19	0.130
4/17/19	0.110	2/7/19	0.087	11/28/18	0.190	1/3/20	0.210	10/25/19	0.130
5/1/19	0.079	3/7/19	0.078	12/12/18	0.150	1/16/20	0.130	11/21/19	0.140
5/15/19	0.084	4/3/19	0.088	12/26/18	0.200	2/14/20	0.130	12/5/19	0.110
6/12/19	0.100	4/17/19	0.099	1/9/19	0.170	3/12/20	0.092	12/20/19	0.150
6/26/19	0.090	5/1/19	0.084	1/23/19	0.093	5/21/20	0.092	1/3/20	0.240
7/9/19	0.120	5/15/19	0.078	2/7/19	0.086	6/18/20	0.110	1/16/20	0.150
7/24/19	0.084	6/12/19	0.085	3/7/19	0.081	7/1/20	0.098	1/30/20	0.088
8/7/19	0.110	6/26/19	0.097	4/3/19	0.120	7/16/20	0.110	2/14/20	0.140
8/22/19	0.085	7/9/19	0.082	4/17/19	0.130	7/31/20	0.084	3/12/20	0.095
9/4/19	0.093	7/24/19	0.086	5/1/19	0.100	8/13/20	0.098	5/7/20	0.085
9/17/19	0.087	8/7/19	0.098	5/15/19	0.110	8/28/20	0.120	6/4/20	0.077
9/30/19	0.120	8/22/19	0.100	5/29/19	0.099	9/10/20	0.180	6/18/20	0.110
10/13/19	0.170	9/4/19	0.083	6/12/19	0.160	9/24/20	0.082	7/1/20	0.110
10/25/19	0.150	9/17/19	0.083	6/26/19	0.130			7/16/20	0.120
11/7/19	0.130	9/30/19	0.120	7/9/19	0.120			7/31/20	0.078
11/21/19	0.130	10/13/19	0.140	7/24/19	0.120			8/13/20	0.120
12/5/19	0.120	10/25/19	0.120	8/7/19	0.120			8/28/20	0.120
12/20/19	0.290	11/21/19	0.140	8/22/19	0.120			9/10/20	0.086
1/3/20	0.380	12/5/19	0.094	9/4/19	0.120			9/24/20	0.130
1/16/20	0.210	12/20/19	0.150	9/17/19	0.130				
1/30/20	0.140	1/3/20	0.230	9/30/19	0.150				
2/14/20	0.210	1/16/20	0.140	10/13/19	0.220				
2/27/20	0.110	2/14/20	0.140	10/25/19	0.140				
3/12/20	0.120	3/12/20	0.087	11/7/19	0.110				
3/26/20	0.110	5/7/20	0.093	11/21/19	0.140				
4/9/20	0.170	6/4/20	0.099	12/5/19	0.097				
4/23/20	0.080	6/18/20	0.120	12/20/19	0.170				
5/7/20	0.140	7/16/20	0.120	1/3/20	0.230				
6/4/20	0.088	7/31/20	0.110	1/16/20	0.140				
6/18/20	0.120	8/13/20	0.084	2/14/20	0.140				
7/16/20	0.073	8/28/20	0.150	3/12/20	0.110				

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1			A5			A7			A8			A12		
	7/31/20	0.073	1756%	9/10/20	2.000		4/9/20	0.098						
	8/13/20	0.120	above avg conc	9/24/20	0.150		4/23/20	0.100						
	8/28/20	0.140					5/7/20	0.110						
	9/24/20	0.120					5/21/20	0.089						
							6/4/20	0.120						
							6/18/20	0.160						
							7/1/20	0.130						
							7/16/20	0.130						
							7/31/20	0.091						
							8/13/20	0.130						
							8/28/20	0.180						
						1461%	9/10/20	2.000						
						above avg conc	9/24/20	0.220						
Propylbenzene	1/3/20	0.130	**Propylbenzene**	no detections		**Propylbenzene**	no detections		**Propylbenzene**	11/9/16	0.110	**Propylbenzene**	no detections	
Tetrachloroethene	5/27/15	0.180	**Tetrachloroethene**	7/22/15	0.088	**Tetrachloroethene**	6/10/15	0.093	**Tetrachloroethene**	7/22/15	0.100	**Tetrachloroethene**	11/9/15	0.120
	6/10/15	0.140		8/19/15	0.094		6/24/15	0.100		9/16/15	0.100		11/25/15	0.095
	6/24/15	0.240		9/2/15	0.100		7/8/15	0.086		9/30/15	0.150		2/3/16	0.100
	7/8/15	0.240		9/16/15	0.098		7/22/15	0.100		10/27/15	0.100		4/27/16	0.091
	7/22/15	0.150		9/30/15	0.140		8/5/15	0.110		11/9/15	0.130		5/26/16	0.087
	8/5/15	0.280		10/27/15	0.099		8/19/15	0.097		11/25/15	0.080		7/20/16	0.084
	8/19/15	0.470		11/9/15	0.130		9/2/15	0.120		4/27/16	0.095		11/23/16	0.170
	9/2/15	0.200		11/25/15	0.090		9/16/15	0.120		5/26/16	0.080		12/7/16	0.100
	9/16/15	0.200		4/27/16	0.100		9/30/15	0.170		6/23/16	0.074		12/21/16	0.110
	9/30/15	0.370		5/26/16	0.092		10/27/15	0.100		11/23/16	0.130		1/4/17	0.110
	10/14/15	0.450		6/23/16	0.080		11/9/15	0.150		5/24/17	0.140		5/24/17	0.100
	10/27/15	0.150		8/31/16	0.091		11/25/15	0.100		8/16/17	0.089		10/31/18	0.092
	11/9/15	0.260		9/28/16	0.100		12/8/15	0.098		12/26/18	0.120		12/26/18	0.120
	11/25/15	0.180		10/17/16	0.064		12/23/15	0.088		9/17/19	0.140		1/9/19	0.097
	12/23/15	0.084		11/9/16	0.090		3/16/16	0.093		12/20/19	0.120		12/20/19	0.086
	1/7/16	0.120		11/23/16	0.130		3/31/16	0.083		1/3/20	0.170		1/3/20	0.150
	1/20/16	0.170		12/7/16	0.098		4/13/16	0.100						
	2/3/16	0.140		3/1/17	0.091		4/27/16	0.140						
	2/17/16	0.330		5/10/17	0.090		5/11/16	0.096						
	3/2/16	0.300		5/24/17	0.180		5/26/16	0.130						
	3/16/16	0.170		6/7/17	0.086		6/23/16	0.120						
	3/31/16	0.088		7/19/17	0.092		7/20/16	0.130						
	4/13/16	0.250		9/27/17	0.090		8/3/16	0.093						
	4/27/16	0.100		3/16/18	0.094		8/31/16	0.110						
	5/11/16	0.180		6/13/18	0.110		9/28/16	0.130						
	5/26/16	0.200		12/26/18	0.099		10/17/16	0.066						
	6/23/16	0.840		1/9/19	0.094		11/9/16	0.140						
	7/6/16	0.150		9/17/19	0.110		11/23/16	0.160						
	7/20/16	0.200		12/20/19	0.140		12/7/16	0.120						
	8/3/16	0.280		1/3/20	0.170		12/21/16	0.100						
	8/31/16	0.088		8/28/20	0.082		1/4/17	0.120						
	9/28/16	0.250					2/1/17	0.160						
	10/17/16	0.130					3/1/17	0.160						
	11/9/16	0.170					3/15/17	0.110						
	11/23/16	0.280					3/29/17	0.120						
	12/7/16	0.190					4/26/17	0.100						
	12/21/16	0.240					5/10/17	0.120						
	1/4/17	0.140					5/24/17	0.250						
	1/18/17	0.190					6/7/17	0.110						

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1		A5	A7		A8	A12
2/1/17	0.140		6/21/17	0.140		
2/14/17	0.260		7/5/17	0.086		
3/1/17	0.220		7/19/17	0.140		
3/15/17	0.360		12/6/17	0.120		
3/29/17	0.140		1/4/18	0.098		
4/12/17	0.320		3/16/18	0.150		
4/26/17	0.110		4/2/18	0.082		
5/10/17	0.120		5/2/18	0.092		
5/24/17	0.260		5/16/18	0.100		
6/7/17	0.300		6/13/18	0.130		
6/21/17	0.190		6/27/18	0.089		
7/5/17	0.220		7/11/18	0.097		
7/19/17	0.250		8/8/18	0.094		
9/27/17	0.096		8/22/18	0.110		
10/11/17	0.140		9/5/18	0.110		
12/6/17	0.140		9/19/18	0.085		
1/4/18	0.270		10/3/18	0.120		
2/14/18	0.190		10/17/18	0.094		
3/1/18	0.150		10/31/18	0.120		
3/16/18	0.120		11/28/18	0.100		
4/2/18	0.160		12/26/18	0.180		
4/17/18	0.110		1/9/19	0.140		
5/2/18	0.220		8/22/19	0.087		
5/16/18	0.170		10/13/19	0.160		
5/30/18	0.380		11/21/19	0.089		
6/13/18	0.120		12/20/19	0.130		
6/27/18	0.120		1/3/20	0.150		
7/11/18	0.410		4/9/20	0.093		
7/25/18	0.350		6/18/20	0.087		
8/8/18	0.210		8/28/20	0.110		
8/22/18	0.340					
9/5/18	0.090					
9/19/18	0.380					
10/3/18	0.110					
10/17/18	0.220					
10/31/18	0.150					
11/14/18	0.160					
11/28/18	0.250					
12/12/18	0.260					
12/26/18	0.300					
1/9/19	0.170					
1/23/19	0.110					
2/7/19	0.160					
3/7/19	0.180					
4/3/19	0.200					
4/17/19	0.180					
5/1/19	0.160					
5/15/19	0.240					
5/29/19	0.100					
6/12/19	0.096					
6/26/19	0.094					
7/24/19	0.130					
8/7/19	0.100					
9/30/19	0.120					

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1			A5			A7			A8			A12		
	10/13/19	0.190												
	10/25/19	0.160												
	11/7/19	0.240												
	11/21/19	0.180												
	12/5/19	0.099												
	12/20/19	0.220												
	1/3/20	0.200												
	1/16/20	0.120												
	1/30/20	0.110												
	2/14/20	0.480												
	2/27/20	0.220												
	3/12/20	0.098												
	3/26/20	0.180												
	4/9/20	0.100												
	8/13/20	0.092												
	8/28/20	0.084												
	9/24/20	0.095												
Toluene	5/13/15	0.520	**Toluene**	5/13/15	0.560	**Toluene**	5/13/15	0.990	**Toluene**	5/13/15	0.640	**Toluene**	11/9/15	0.800
	5/27/15	0.430		5/27/15	0.430		5/27/15	0.570		5/27/15	0.340		11/25/15	0.900
	6/10/15	0.590		6/10/15	0.540		6/10/15	0.730		6/10/15	0.480		12/8/15	0.660
	6/24/15	0.460		6/24/15	0.480		6/24/15	0.940		6/24/15	0.340		12/23/15	0.630
	7/8/15	0.550		7/8/15	19.000		7/8/15	0.860		7/8/15	0.620		1/7/16	0.400
	7/22/15	0.530		7/22/15	0.570		7/22/15	0.730		7/22/15	0.500		1/20/16	0.430
	8/5/15	0.700		8/5/15	0.820		8/5/15	0.980		8/5/15	0.640		2/3/16	0.640
	8/19/15	0.640		8/19/15	0.780		8/19/15	0.870		8/19/15	0.640		2/17/16	0.500
	9/2/15	0.820		9/2/15	0.820		9/2/15	1.000		9/2/15	0.670		3/2/16	0.470
	9/16/15	0.540		9/16/15	0.670		9/16/15	0.800		9/16/15	0.590		3/16/16	0.610
	9/30/15	0.790		9/30/15	0.890		9/30/15	1.200		9/30/15	0.710		3/31/16	0.440
	10/14/15	0.450		10/14/15	0.690		10/14/15	0.870		10/14/15	0.540		4/13/16	0.440
	10/27/15	0.640		10/27/15	0.940		10/27/15	1.000		10/27/15	0.810		4/27/16	0.770
	11/9/15	0.850		11/9/15	0.760		11/9/15	0.940		11/9/15	0.720		5/11/16	0.520
	11/25/15	1.300		11/25/15	0.940		11/25/15	1.000		11/25/15	0.860		5/26/16	0.640
	12/8/15	0.850		12/8/15	0.640		12/8/15	0.790		12/8/15	0.700		6/7/16	0.600
	12/23/15	0.770		12/23/15	0.640		12/23/15	0.820		12/23/15	0.600		6/23/16	0.570
	1/7/16	0.500		1/7/16	0.450		1/7/16	0.390		1/7/16	0.390		7/6/16	0.480
	1/20/16	0.610		1/20/16	0.460		1/20/16	0.570		1/20/16	0.410		7/20/16	0.620
	2/3/16	0.590		2/3/16	0.580		2/3/16	0.640		2/3/16	0.580		8/3/16	0.510
	2/17/16	0.450		2/17/16	0.500		2/17/16	0.620		2/17/16	0.440		8/17/16	0.500
	3/2/16	0.560		3/2/16	0.480		3/2/16	0.580		3/2/16	0.470		8/31/16	0.680
	3/16/16	0.650		3/16/16	0.660		3/16/16	0.760		3/16/16	0.670		9/14/16	0.530
	3/31/16	0.530		3/31/16	0.510		3/31/16	0.580		3/31/16	0.510		9/28/16	0.880
	4/13/16	0.310		4/13/16	0.420		4/13/16	0.460		4/13/16	0.380		10/17/16	0.560
	4/27/16	0.690		4/27/16	1.000		4/27/16	1.100		4/27/16	0.900		10/26/16	0.620
	5/11/16	0.420		5/11/16	0.520		5/11/16	0.740		5/11/16	0.480		11/9/16	0.910
	5/26/16	0.580		5/26/16	0.760		5/26/16	1.000		5/26/16	0.560		11/23/16	0.900
	6/7/16	0.430		6/7/16	0.810		6/7/16	1.100		6/7/16	0.710		12/7/16	0.800
	6/23/16	0.580		6/23/16	0.740		6/23/16	1.200		6/23/16	0.550		12/21/16	0.770
	7/6/16	0.460		7/6/16	0.580		7/6/16	0.610		7/6/16	0.470		1/4/17	0.780
	7/20/16	0.610		7/20/16	0.710		7/20/16	0.860		7/20/16	0.620		1/18/17	0.520
	8/3/16	0.410		8/3/16	0.590		8/3/16	0.810		8/3/16	0.450		2/1/17	0.810
	8/17/16	0.620		8/17/16	0.530		8/17/16	0.740		8/17/16	0.520		2/14/17	0.600
	8/31/16	0.720		8/31/16	0.830		8/31/16	1.400		8/31/16	0.740		3/1/17	0.580
	9/14/16	0.450		9/14/16	0.570		9/14/16	0.870		9/14/16	0.500		3/15/17	0.460
	9/28/16	0.850		9/28/16	0.990		9/28/16	1.200		9/28/16	0.780		3/29/17	0.490

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1		A5		A7		A8		A12	
10/17/16	0.610	10/17/16	0.610	10/17/16	0.710	10/17/16	0.520	4/12/17	0.510
10/26/16	0.630	10/26/16	0.730	10/26/16	0.940	10/26/16	0.580	4/26/17	0.630
11/9/16	1.000	11/9/16	1.100	11/9/16	1.500	11/9/16	0.920	5/10/17	0.420
11/23/16	1.000	11/23/16	0.980	11/23/16	1.500	11/23/16	0.850	5/24/17	0.480
12/7/16	0.740	12/7/16	0.760	12/7/16	1.100	12/7/16	0.720	6/7/17	0.790
12/21/16	0.730	12/21/16	0.770	12/21/16	0.800	12/21/16	0.690	6/21/17	0.620
1/4/17	0.630	1/4/17	0.680	1/4/17	0.830	1/4/17	0.690	7/5/17	0.480
1/18/17	0.560	1/18/17	0.520	1/18/17	0.620	1/18/17	0.550	7/19/17	0.460
2/1/17	0.680	2/1/17	0.760	2/1/17	0.920	2/1/17	0.640	8/2/17	0.490
2/14/17	0.700	2/14/17	0.700	2/14/17	0.890	2/14/17	0.500	8/16/17	0.460
3/1/17	0.640	3/1/17	0.710	3/1/17	1.400	3/1/17	0.660	8/30/17	0.660
3/15/17	0.360	3/15/17	0.520	3/15/17	0.700	3/15/17	0.370	9/13/17	0.830
3/29/17	0.500	3/29/17	0.490	3/29/17	0.560	3/29/17	0.400	9/27/17	0.840
4/12/17	0.590	4/12/17	0.550	4/12/17	0.780	4/12/17	0.420	10/11/17	0.770
4/26/17	0.940	4/26/17	0.740	4/26/17	1.300	4/26/17	0.590	10/25/17	0.600
5/10/17	0.570	5/10/17	0.680	5/10/17	0.780	5/10/17	0.520	11/8/17	0.590
5/24/17	0.520	5/24/17	0.630	5/24/17	0.890	5/24/17	0.420	11/22/17	0.590
6/7/17	0.710	6/7/17	0.860	6/7/17	1.100	6/7/17	0.590	12/6/17	0.970
6/21/17	0.520	6/21/17	0.740	6/21/17	1.300	6/21/17	0.440	12/20/17	0.550
7/5/17	0.470	7/5/17	0.620	7/5/17	0.860	7/5/17	0.480	1/4/18	0.460
7/19/17	0.500	7/19/17	1.000	7/19/17	1.100	7/19/17	0.400	1/18/18	0.650
8/2/17	0.870	8/2/17	0.770	11/8/17	0.880	8/2/17	0.550	1/31/18	0.520
8/16/17	0.660	8/16/17	0.660	11/22/17	0.880	8/16/17	1.400	2/14/18	0.460
8/30/17	0.620	8/30/17	0.700	12/6/17	1.400	8/30/17	0.560	3/1/18	0.570
9/13/17	0.680	9/13/17	0.920	12/20/17	0.860	9/13/17	0.820	3/16/18	0.480
9/27/17	0.850	9/27/17	1.000	1/4/18	0.640	9/27/17	0.780	4/2/18	0.490
10/11/17	0.820	10/11/17	0.870	1/18/18	0.740	10/11/17	0.800	4/17/18	0.410
10/25/17	0.830	10/25/17	0.690	1/31/18	0.570	10/25/17	0.460	5/2/18	0.460
11/8/17	0.700	11/8/17	0.710	2/14/18	0.620	11/8/17	0.550	5/16/18	0.470
11/22/17	0.560	11/22/17	0.720	3/1/18	0.780	11/22/17	0.570	5/30/18	0.560
12/6/17	0.990	12/6/17	1.100	3/16/18	0.900	12/6/17	0.930	6/13/18	0.610
12/20/17	0.610	12/20/17	0.660	4/2/18	0.780	12/20/17	0.550	6/27/18	0.480
1/4/18	0.550	1/4/18	0.560	4/17/18	0.710	1/4/18	0.450	7/11/18	0.610
1/18/18	0.400	1/18/18	0.600	5/2/18	0.670	1/18/18	0.560	8/8/18	0.480
1/31/18	0.410	1/31/18	0.430	5/16/18	1.100	1/31/18	0.440	8/22/18	0.640
2/14/18	0.680	2/14/18	0.540	5/30/18	0.780	2/14/18	0.450	9/5/18	0.470
3/1/18	0.730	3/1/18	0.700	6/13/18	1.300	3/1/18	0.580	9/19/18	1.200
3/16/18	0.600	3/16/18	0.570	6/27/18	0.950	3/16/18	0.470	10/3/18	0.590
4/2/18	0.530	4/2/18	0.790	7/11/18	0.820	4/2/18	0.600	10/17/18	0.620
4/17/18	0.420	4/17/18	0.430	7/25/18	0.530	4/17/18	0.350	10/31/18	0.900
5/2/18	0.480	5/2/18	0.580	8/8/18	0.940	5/2/18	0.390	11/14/18	0.490
5/16/18	0.520	5/16/18	0.630	8/22/18	0.900	5/16/18	0.470	11/28/18	0.940
5/30/18	0.530	5/30/18	0.620	9/5/18	1.200	5/30/18	0.590	12/12/18	0.920
6/13/18	0.990	6/13/18	0.930	9/19/18	1.400	6/13/18	0.640	12/26/18	1.200
6/27/18	0.790	6/27/18	0.720	10/3/18	1.000	6/27/18	0.470	1/9/19	0.730
7/11/18	0.550	7/11/18	0.690	10/17/18	1.100	7/11/18	0.580	1/23/19	0.550
7/25/18	0.420	7/25/18	0.550	10/31/18	1.800	7/25/18	0.360	2/7/19	0.490
8/8/18	0.650	8/8/18	0.640	11/14/18	0.670	8/8/18	0.520	2/20/19	0.840
8/22/18	0.700	8/22/18	0.670	11/28/18	1.100	8/22/18	0.680	3/7/19	0.480
9/5/18	0.520	9/5/18	0.680	12/12/18	1.200	9/5/18	0.550	3/20/19	0.390
9/19/18	1.100	9/19/18	2.000	12/26/18	1.300	9/19/18	1.700	4/3/19	0.550
10/3/18	0.840	10/3/18	0.660	1/9/19	0.970	10/3/18	0.600	4/17/19	0.550
10/17/18	0.570	10/17/18	0.780	1/23/19	0.580	10/17/18	0.660	5/1/19	0.470
10/31/18	1.000	10/31/18	1.300	2/7/19	0.600	10/31/18	0.990	5/15/19	0.390

Table 2n - Summary of VOC Detections Since May 2015

all values reported in ug/m^3

A1		A5		A7		A8		A12	
11/14/18	0.510	11/14/18	0.600	2/20/19	0.460	11/14/18	0.430	5/29/19	0.310
11/28/18	1.100	11/28/18	0.970	3/7/19	0.570	11/28/18	0.860	6/12/19	0.470
12/12/18	0.870	12/12/18	1.000	3/20/19	0.430	12/12/18	0.830	6/26/19	0.420
12/26/18	1.200	12/26/18	1.200	4/3/19	0.780	12/26/18	1.400	7/9/19	0.530
1/9/19	0.860	1/9/19	0.790	4/17/19	0.780	1/9/19	0.780	7/24/19	0.550
1/23/19	0.550	1/23/19	0.610	5/1/19	0.580	1/23/19	0.540	8/7/19	0.570
2/7/19	0.560	2/7/19	0.560	5/15/19	0.600	2/7/19	0.530	8/22/19	0.670
2/20/19	0.460	2/20/19	0.430	5/29/19	0.650	2/20/19	0.490	9/4/19	0.640
3/7/19	0.540	3/7/19	0.580	6/12/19	0.910	3/7/19	0.470	9/17/19	0.640
3/20/19	0.460	3/20/19	0.500	6/26/19	0.640	3/20/19	0.460	9/30/19	0.660
4/3/19	0.800	4/3/19	0.600	7/9/19	0.760	4/3/19	0.540	10/13/19	0.740
4/17/19	0.630	4/17/19	0.570	7/24/19	0.700	4/17/19	0.640	10/25/19	0.500
5/1/19	0.400	5/1/19	0.530	8/7/19	0.750	5/1/19	0.460	11/7/19	0.610
5/15/19	0.390	5/15/19	0.490	8/22/19	0.720	5/15/19	0.440	11/21/19	0.950
5/29/19	0.370	5/29/19	0.410	9/4/19	0.730	5/29/19	0.410	12/5/19	0.630
6/12/19	0.510	6/12/19	0.540	9/17/19	0.750	6/12/19	0.540	12/20/19	0.970
6/26/19	0.480	6/26/19	0.480	9/30/19	0.840	6/26/19	0.420	1/3/20	1.300
7/9/19	0.600	7/9/19	0.540	10/13/19	1.200	7/9/19	0.530	1/16/20	0.870
7/24/19	0.480	7/24/19	0.570	10/25/19	0.640	7/24/19	0.520	1/30/20	0.580
8/7/19	0.810	8/7/19	0.600	11/7/19	0.700	8/7/19	0.590	2/14/20	0.860
8/22/19	0.690	8/22/19	0.600	11/21/19	0.940	8/22/19	0.480	2/27/20	0.430
9/4/19	0.540	9/4/19	0.550	12/5/19	0.640	9/4/19	0.430	3/12/20	0.620
9/17/19	0.620	9/17/19	0.480	12/20/19	1.000	9/17/19	0.470	3/26/20	0.410
9/30/19	0.780	9/30/19	0.660	1/3/20	1.200	9/30/19	0.610	4/9/20	0.420
10/13/19	0.860	10/13/19	0.820	1/16/20	0.860	10/13/19	0.670	4/23/20	0.400
10/25/19	0.640	10/25/19	0.620	1/30/20	0.580	10/25/19	0.560	5/7/20	0.540
11/7/19	0.560	11/7/19	0.560	2/14/20	0.920	11/7/19	0.550	5/21/20	0.420
11/21/19	0.860	11/21/19	0.930	2/27/20	0.620	11/21/19	0.800	6/4/20	0.450
12/5/19	0.580	12/5/19	0.600	3/12/20	0.720	12/5/19	0.630	6/18/20	0.650
12/20/19	1.100	12/20/19	0.940	3/26/20	0.490	12/20/19	0.860	7/1/20	0.530
1/3/20	1.600	1/3/20	1.300	4/9/20	0.800	1/3/20	1.200	7/16/20	0.680
1/16/20	0.680	1/16/20	0.880	4/23/20	0.640	1/16/20	0.780	7/31/20	0.520
1/30/20	0.680	1/30/20	0.640	5/7/20	0.580	1/30/20	0.530	8/13/20	0.740
2/14/20	0.910	2/14/20	1.000	5/21/20	0.440	2/14/20	0.780	8/28/20	0.730
2/27/20	0.480	2/27/20	0.600	6/4/20	0.620	2/27/20	0.440	9/10/20	0.360
3/12/20	0.640	3/12/20	0.610	6/18/20	0.900	3/12/20	0.580	9/24/20	0.960
3/26/20	0.470	3/26/20	0.440	7/1/20	0.660	3/26/20	0.440		
4/9/20	1.700	4/9/20	0.500	7/16/20	0.640	4/9/20	0.420		
4/23/20	0.490	4/23/20	0.390	7/31/20	0.560	4/23/20	0.370		
5/7/20	0.440	5/7/20	0.580	8/13/20	0.860	5/7/20	0.460		
5/21/20	0.510	5/21/20	0.430	8/28/20	1.100	5/21/20	0.490		
6/4/20	0.770	6/4/20	0.600	9/10/20	0.630	6/4/20	0.510		
6/18/20	0.720	6/18/20	0.670	9/24/20	1.200	6/18/20	0.650		
7/1/20	0.600	7/1/20	0.500			7/1/20	0.510		
7/16/20	0.550	7/16/20	0.600			7/16/20	0.590		
7/31/20	0.730	7/31/20	0.690			7/31/20	0.530		
8/13/20	0.910	8/13/20	0.590			8/13/20	0.660		
8/28/20	1.100	8/28/20	0.900			8/28/20	0.730		
9/10/20	0.490	9/10/20	0.610			9/10/20	0.390		
9/24/20	1.200	9/24/20	0.990			9/24/20	0.610		
Trichloroethene	no detections	**Trichloroethene**	no detections	**Trichloroethene**	3/1/17 0.080 10/17/18 0.082	**Trichloroethene**	no detections	**Trichloroethene**	6/23/16 0.062

Table 3a
Off-Site Stations (USEPA) vs On-Site Stations (BLF)
Benzene

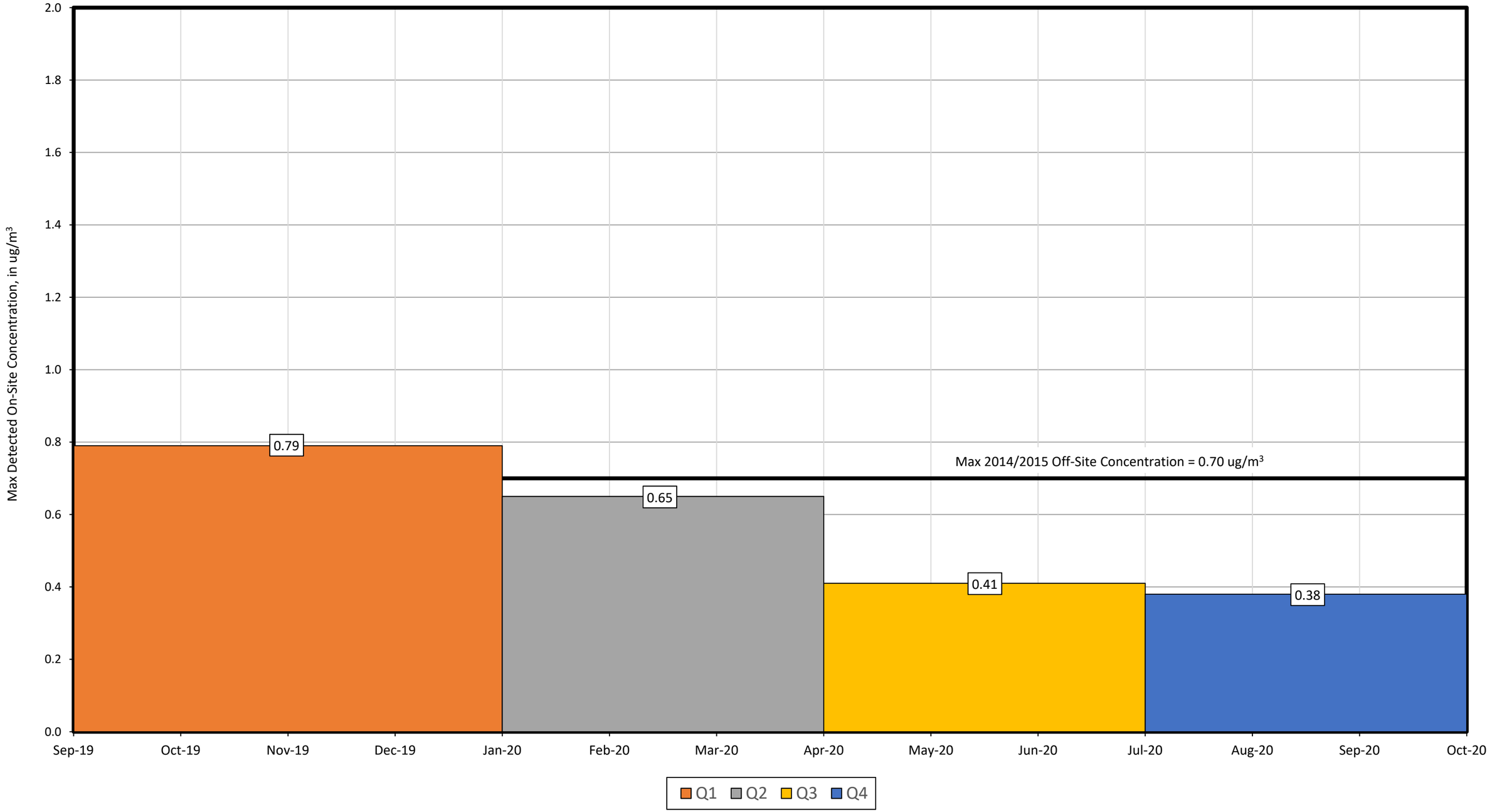


Table 3b
Off-Site Stations (USEPA) vs On-Site Stations (BLF)
Ethyl Benzene

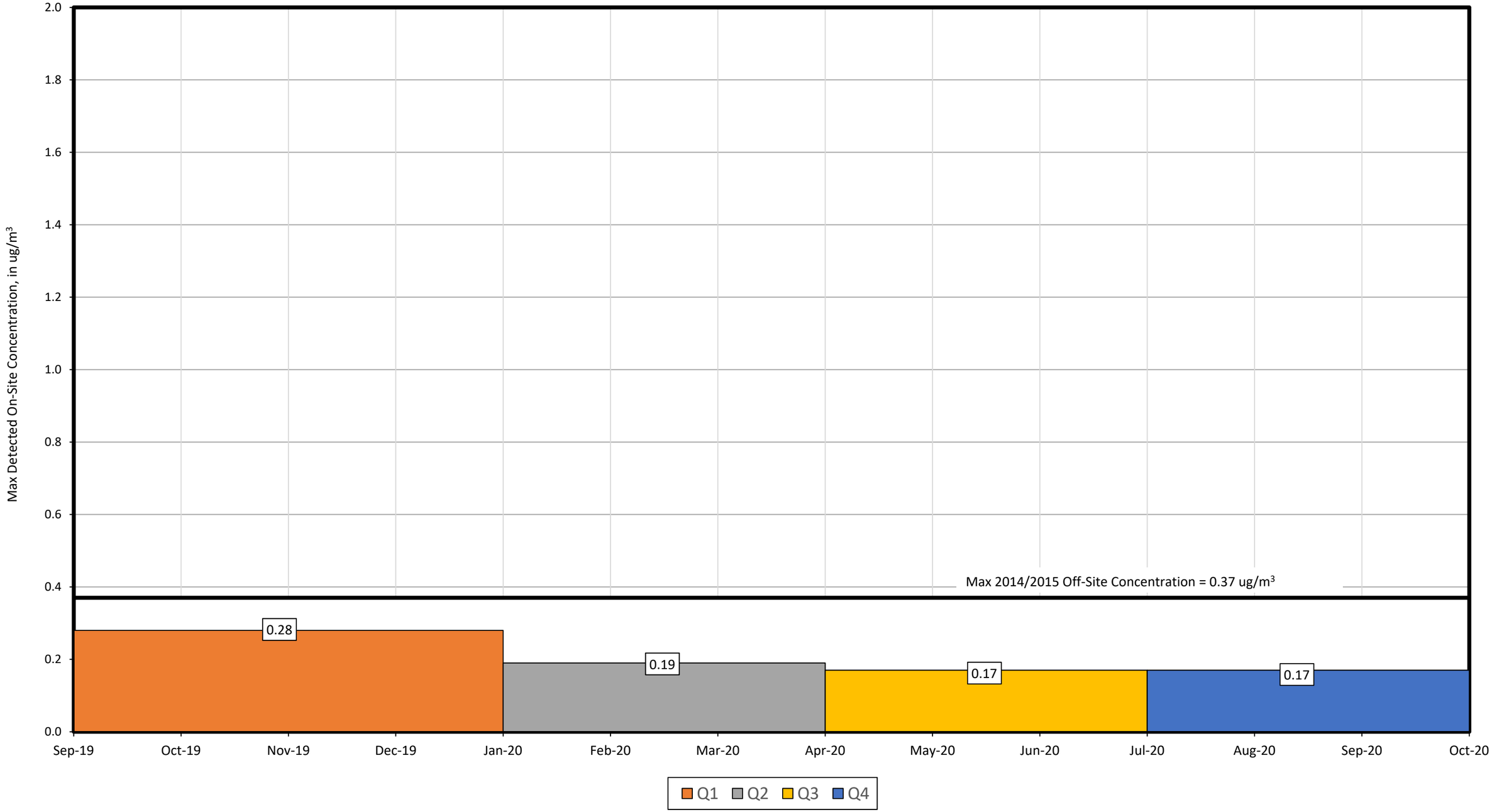


Table 3c
Off-Site Stations (USEPA) vs On-Site Stations (BLF)
m,p-Xylene

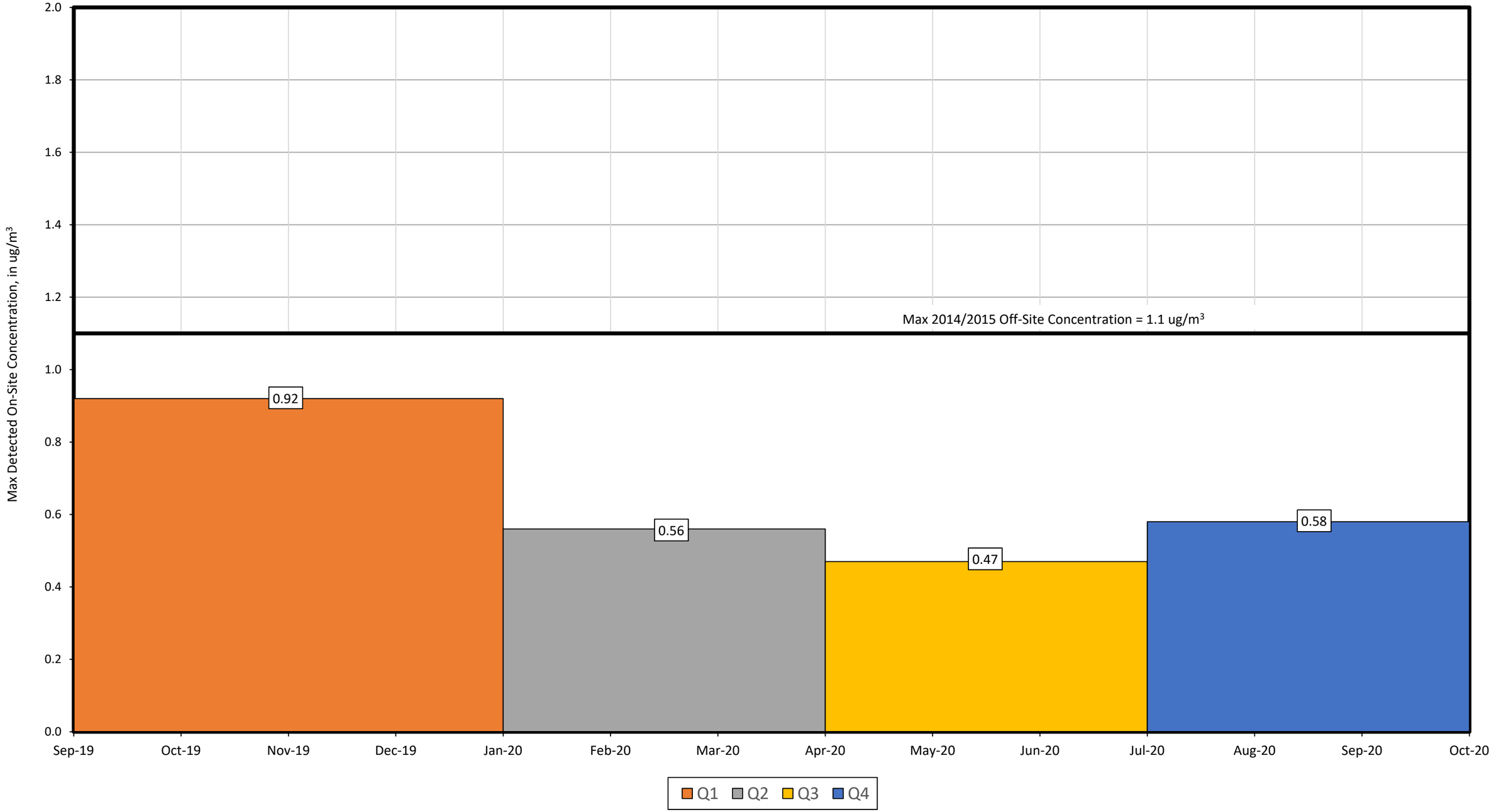


Table 3d
Off-Site Stations (USEPA) vs On-Site Stations (BLF)
o-Xylene

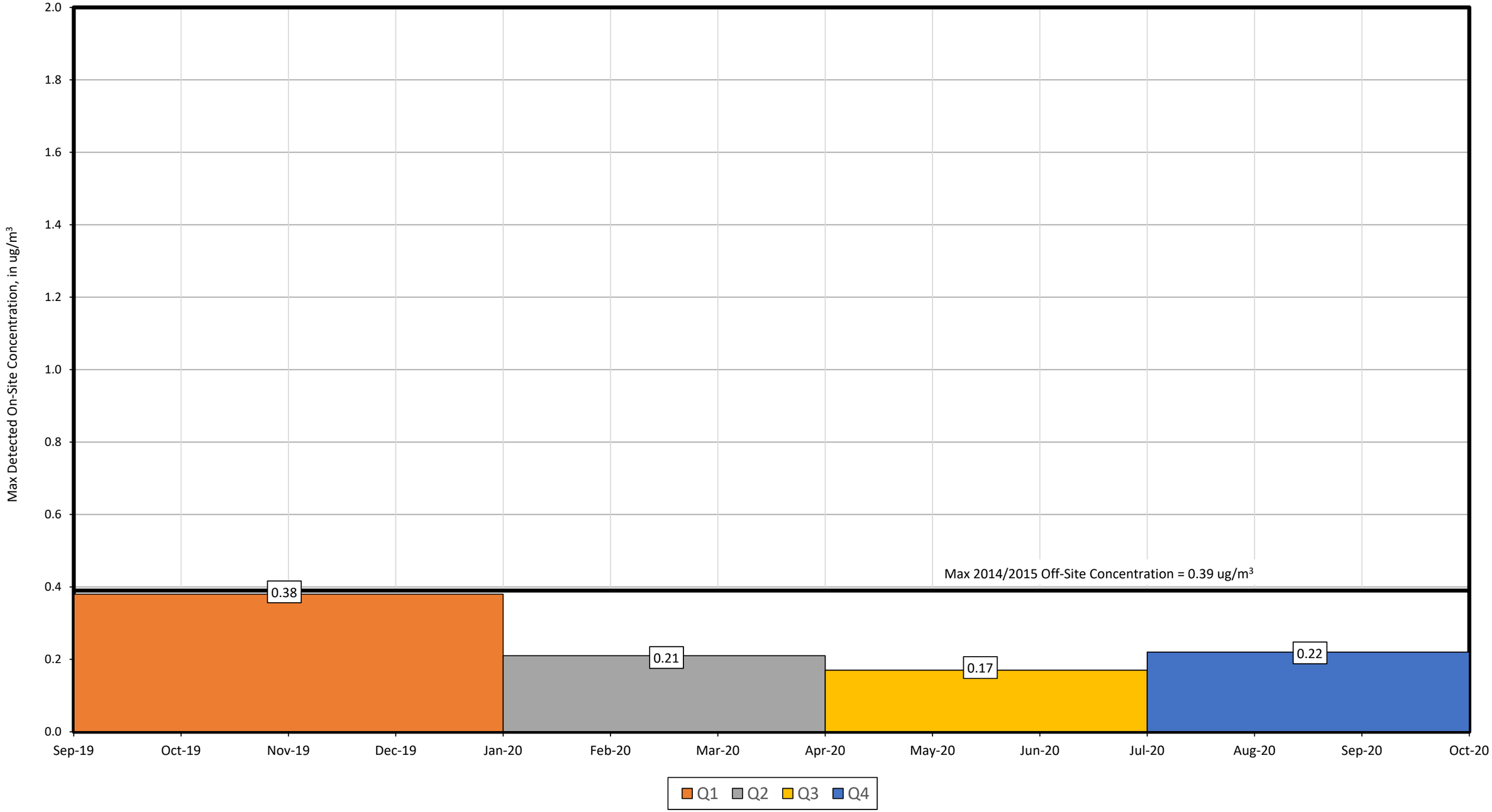


Table 3e
Off-Site Stations (USEPA) vs On-Site Stations (BLF)
Toluene

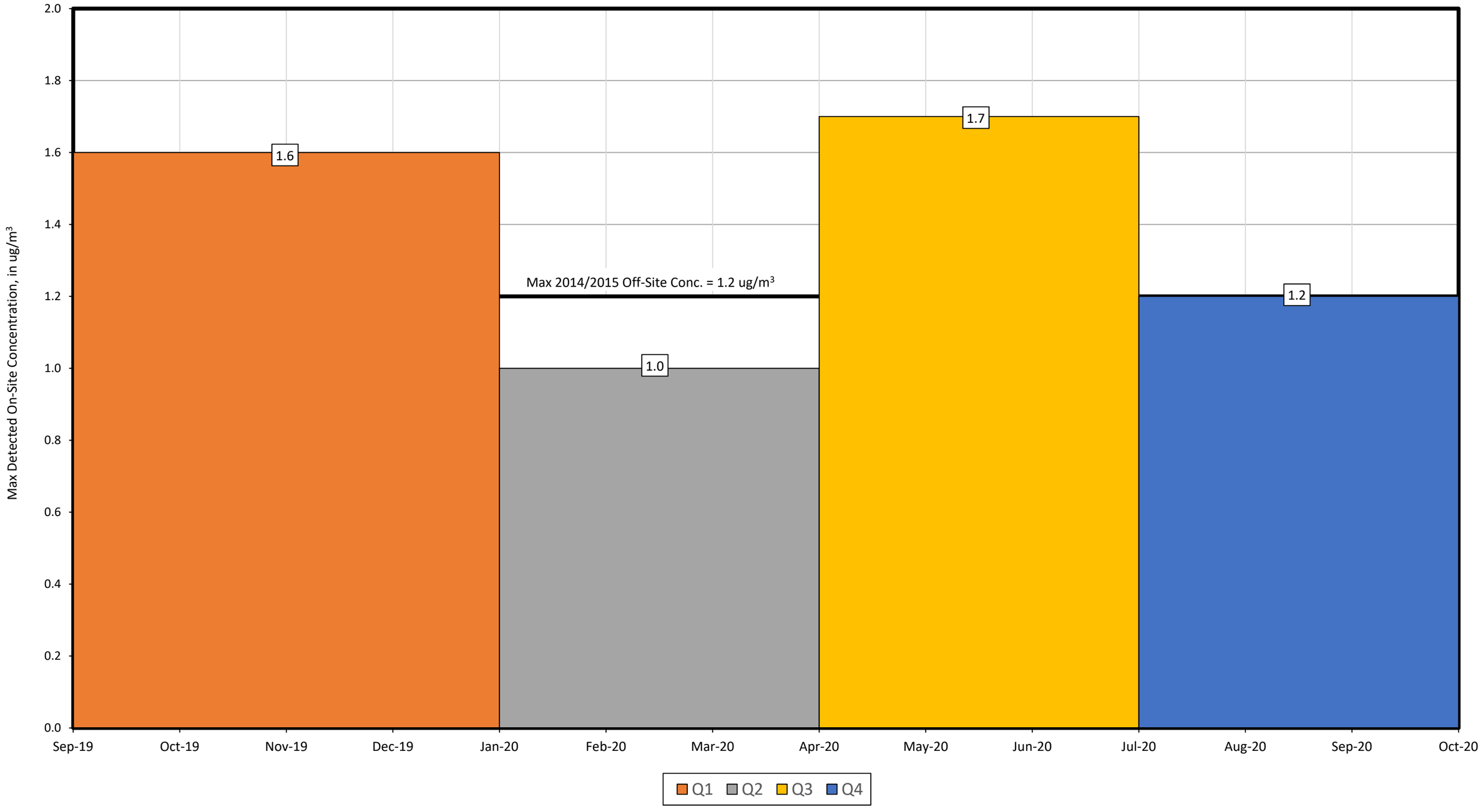
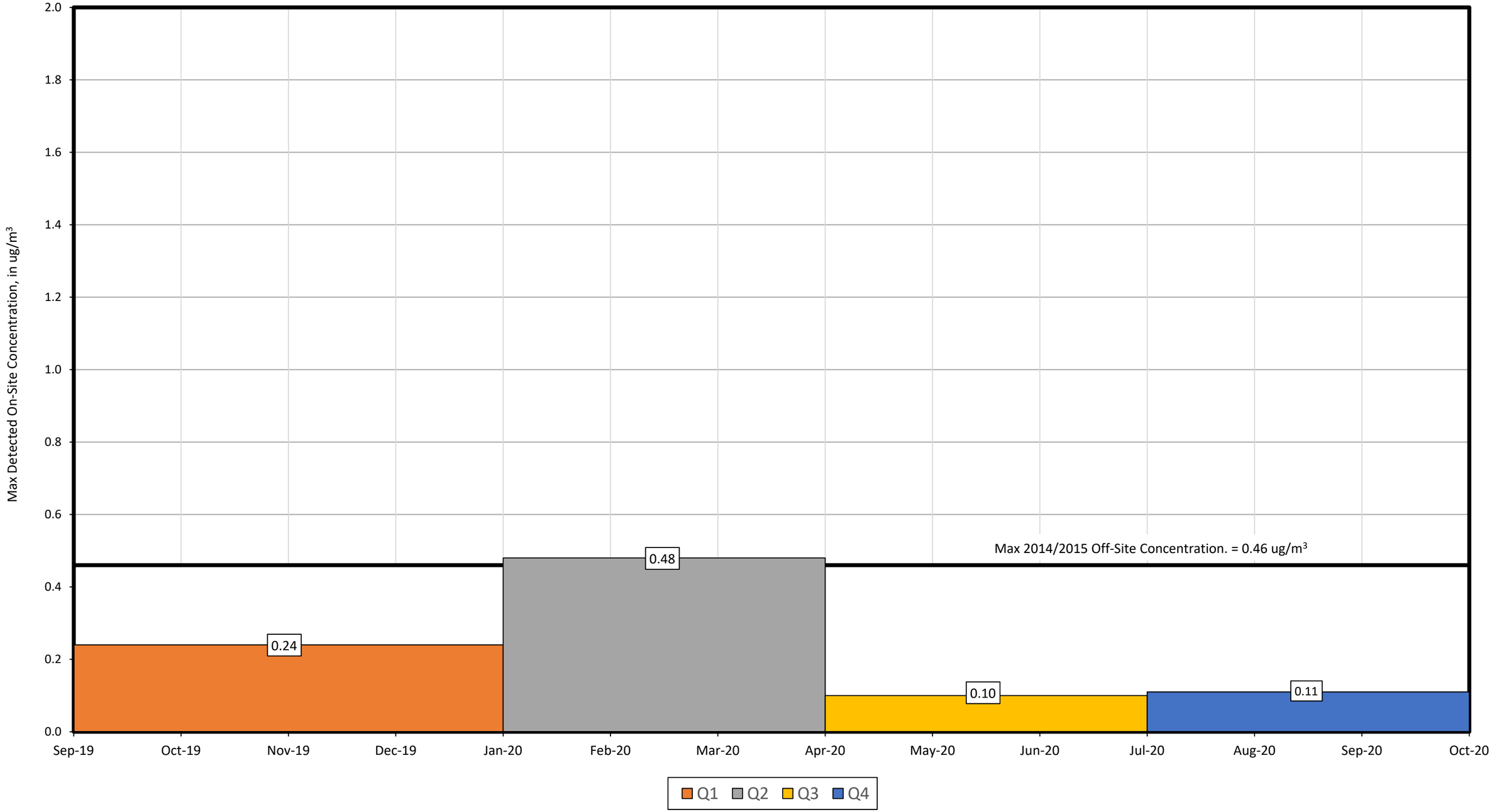


Table 3f
Off-Site Stations (USEPA) vs On-Site Stations (BLF)
Tetrachloroethene



APPENDICES

Appendix 1

Quarterly Chains-of-Custody

PASSIVE SAMPLE COLLECTION

eurofins | Air Toxics

CHAIN-OF-CUSTODY RECORD

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

Project Manager: Bill Abernathy
Collected by: (Print and Sign) WILLIAM ABERNATHY
Company: Feezor Engineering, Inc. Email: babernathy@feezorengineering.com
Address: 3377 Hollenberg Drive Bridgeton, Missouri 63044
Phone: 314-502-1299

Project Info:
P.O. #:
Project #:
Project Name: Bridgeton Landfill VOCs

Turn Around Time: ☒ Normal ☐ Rush (specify)

Reporting Units: ☐ ppmv ☐ ppbv ☒ µg/m3 ☐ mg/m3

	Lab I.D.	Field Sample I.D. (Location)	Sampler #	Date of Deployment (mm/dd/yy)	Time of Deployment (hr : min)	Date of Retrieval (mm/dd/yy)	Time of Retrieval (hr : min)	Air Temperature	Analysis Requested	Indoor Air	Outdoor Air	Workplace Monitoring	Other (not deployed)
6.55	01A	1	Y125X	7/1/20	1032	7/16/20	0823	71° F	see attached	☐	☒	☐	☐
6.48	02A	5	Y126X	7/1/20	1006	7/16/20	0958	75° F	see attached	☐	☒	☐	☐
6.57	03A	7	Y127X	7/1/20	0959	7/16/20	0949	75° F	see attached	☐	☒	☐	☐
6.32	04A	8	Y128X	7/1/20	1014	7/16/20	1006	76° F	see attached	☐	☒	☐	☐
6.48	05A	12	Y129X	7/1/20	0941	7/16/20	0935	74° F	see attached	☐	☒	☐	☐
6.36	06A	Dup	Y130X	7/1/20	1032	7/16/20	0823	71° F	see attached	☐	☒	☐	☐
6.52	07A	TB	0736K	left in packaging - not deployed					see attached	☐	☐	☐	☒
										☐	☐	☐	☐
										☐	☐	☐	☐
										☐	☐	☐	☐

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	7/16/20 1400	FEDEX 7709 7405 3337	
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
		[signature]	7/17/20 0959
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	GOOD	Yes No (None)	2007423

PASSIVE SAMPLE COLLECTION

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Project Manager: Bill Abernathy

Collected by: (Print and Sign) Dane Hale Dane C Hale

Company: Feezor Engineering, Inc. Email: babernathy@feezorengineering.com

Address: 3377 Hollenberg Drive Bridgeton, Missouri 63044

Phone: 314-502-1299

Project Info:

P.O. #:

Project #:

Project Name: Bridgeton Landfill VOCs

Turn Around Time: ☒ Normal ☐ Rush _____ specify

Reporting Units: ☐ ppmv ☐ ppbv ☒ µg/m3 ☐ mg/m3

Lab I.D.	Field Sample I.D. (Location)	Sampler #	Date of Deployment (mm/dd/yy)	Time of Deployment (hr : min)	Date of Retrieval (mm/dd/yy)	Time of Retrieval (hr : min)	Air Temperature	Analysis Requested	Indoor Air	Outdoor Air	Workplace Monitoring	Other (not deployed)
01A	1	0737K	07/16/20	08:24	07/31/20	09:35	70	see attached	☐	☒	☐	☐
02A	5	Y131X	07/16/20	09:59	07/31/20	10:15	72	see attached	☐	☒	☐	☐
03A	7	Y132X	07/16/20	09:52	07/31/20	10:20	72	see attached	☐	☒	☐	☐
04A	8	Y135X	07/16/20	10:07	07/31/20	10:30	74	see attached	☐	☒	☐	☐
05A	12	Y134X	07/16/20	09:40	07/31/20	10:00	72	see attached	☐	☒	☐	☐
06A	Dup	Y133X	07/16/20	09:40	07/31/20	10:00	72	see attached	☐	☒	☐	☐
07A	TB	Y122Z	left in packaging - not deployed					see attached	☐	☐	☐	☒
									☐	☐	☐	☐
									☐	☐	☐	☐
									☐	☐	☐	☐

Relinquished by: (signature) Date/Time: Dane C Hale 07/31/20 11:00

Received by: (signature) Date/Time: 8/3/20 SATL 1020

Relinquished by: (signature) Date/Time:

Received by: (signature) Date/Time:

Relinquished by: (signature) Date/Time:

Received by: (signature) Date/Time:

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	Good	Yes No (None)	2008009

PASSIVE SAMPLE COLLECTION

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180 BLUE RAVINE ROAD, SUITE B
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Project Manager: Bill Abernathy
Collected by: (Print and Sign)
Company: Feezor Engineering, Inc. Email: babernathy@feezorengineering.com
Address: 3377 Hollenberg Drive Bridgeton, Missouri 63044
Phone: 314-502-1299

Project Info:
P.O. #
Project #
Project Name: Bridgeton Landfill VOCs

Turn Around Time: ☒ Normal ☐ Rush (specify)

Reporting Units: ☐ ppmv ☐ ppbv ☒ µg/m3 ☐ mg/m3

Lab I.D.	Field Sample I.D. (Location)	Sampler #	Date of Deployment (mm/dd/yy)	Time of Deployment (hr : min)	Date of Retrieval (mm/dd/yy)	Time of Retrieval (hr : min)	Air Temperature	Analysis Requested	Indoor Air	Outdoor Air	Workplace Monitoring	Other (not deployed)
01A	1	Y121Z	07/31/20	09:35	08/13/20	09.25	74 °F	see attached	☐	☒	☐	☐
02A	5	Y116Z	07/31/20	10:19	08/13/20	12:45	80 °F	see attached	☐	☒	☐	☐
03A	7	Y117Z	07/31/20	10:25	08/13/20	12:34	80 °F	see attached	☐	☒	☐	☐
04A	8	Y118Z	07/31/20	10:35	08/13/20	12:55	81 °F	see attached	☐	☒	☐	☐
05A	12	Y119Z	07/31/20	10:05	08/13/20	09:05	73 °F	see attached	☐	☒	☐	☐
06A	Dup	Y120Z	07/31/20	10:05	08/13/20	09:08	73 °F	see attached	☐	☒	☐	☐
07A	TB	Y123Z	left in packaging - not deployed					see attached	☐	☐	☐	☒
									☐	☐	☐	☐
									☐	☐	☐	☐
									☐	☐	☐	☐

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Dana C Hale	08-13-20 / 13:00	[illegible] CAR	8/14/20 1008
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	GOOD	Yes No (None)	2008357

PASSIVE SAMPLE COLLECTION

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(916) 985-1000 FAX (916) 985-1020

Project Manager: Bill Abernathy
Collected by: (Print and Sign) Dane Hale
Company: Feezor Engineering, Inc. Email: babernathy@feezorengineering.com
Address: 3377 Hollenberg Drive Bridgeton, Missouri 63044
Phone: 314-502-1299

Project Info:
P.O. #:
Project #:
Project Name: Bridgeton Landfill VOCs

Turn Around Time: ☒ Normal ☐ Rush (specify)

Reporting Units: ☐ ppmv ☐ ppbv ☒ µg/m3 ☐ mg/m3

Lab I.D.	Field Sample I.D. (Location)	Sampler #	Date of Deployment (mm/dd/yy)	Time of Deployment (hr : min)	Date of Retrieval (mm/dd/yy)	Time of Retrieval (hr : min)	Air Temperature	Analysis Requested	Indoor Air	Outdoor Air	Workplace Monitoring	Other ( )
01A	1	Y139X	08/13/20	09 29	08/28/20	11:54	81	see attached	☐	☒	☐	☐
02A	5	Y140X	08/13/20	12 46	08/28/20	13:55	81	see attached	☐	☒	☐	☐
03A	7	Y141X	08/13/20	12 35	08/28/20	13:50	82	see attached	☐	☒	☐	☐
04A	8	Y142X	08/13/20	12 56	08/28/20	14.00	82	see attached	☐	☒	☐	☐
05A	12	Y143X	08/13/20	09 06	08/28/20	11:40	80	see attached	☐	☒	☐	☐
06A	Dup	Y144X	08/13/20	0909	08/28/20	11:40	80	see attached	☐	☒	☐	☐
07A	TB	Y135Z	left in packaging - not deployed					see attached	☐	☐	☐	☒
									☐	☐	☐	☐
									☐	☐	☐	☐
									☐	☐	☐	☐

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Dane Hale	9-1-20 / 14:42	FAIR	09/01/20 1048
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FEDEX		NA	GOOD	Yes No None	2009037

PASSIVE SAMPLE COLLECTION

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Address: 3377 Hollenberg Drive Bridgeton, Missouri 63044
Phone: 314-502-1299

Project Info:
P.O. #
Project #
Project Name: Bridgeton Landfill VOCs

Turn Around Time: ☒ Normal ☐ Rush (specify)

Reporting Units: ☐ ppmv ☐ ppbv ☒ µg/m3 ☐ mg/m3

Lab I.D.	Field Sample I.D. (Location)	Sampler #	Date of Deployment (mm/dd/yy)	Time of Deployment (hr : min)	Date of Retrieval (mm/dd/yy)	Time of Retrieval (hr : min)	Air Temperature	Analysis Requested	Indoor Air	Outdoor Air	Workplace Monitoring	Other (not deployed)
01A	1	Y571Z	08/28/20	11:55	09/10/20	0950	81°	see attached	☐	☒	☐	☐
02A	5	Y572Z	08/28/20	13:56	09/10/20	0935	81°	see attached	☐	☒	☐	☐
03A	7	Y573Z	08/28/20	13:51	09/10/20	0930	81°	see attached	☐	☒	☐	☐
04A	8	Y574Z	08/28/20	14:01	09/10/20	0912	81°	see attached	☐	☒	☐	☐
05A	12	Y575Z	08/28/20	11:41	09/10/20	0921	81°	see attached	☐	☒	☐	☐
06A	Dup	Y576Z	08/28/20	11:44	09/10/20	0922	81°	see attached	☐	☒	☐	☐
07A	TB	Y134Z	left in packaging - not deployed					see attached	☐	☐	☐	☒
									☐	☐	☐	☐
									☐	☐	☐	☐
									☐	☐	☐	☐

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Dane C Hale	9-10-20/16:00	[signature]	9/11/20 1028
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FEDEX		NA	Good	Yes No None	2009266

PASSIVE SAMPLE COLLECTION

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Collected by: (Print and Sign) Dane Hale
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Address: 3377 Hollenberg Drive Bridgeton, Missouri 63044
Phone: 314-502-1299

Project Info:
P.O. #:
Project #:
Project Name: Bridgeton Landfill VOCs

Turn Around Time: ☒ Normal ☐ Rush _____ specify

Reporting Units: ☐ ppmv ☐ ppbv ☒ µg/m3 ☐ mg/m3

Lab I.D.	Field Sample I.D. (Location)	Sampler #	Date of Deployment (mm/dd/yy)	Time of Deployment (hr : min)	Date of Retrieval (mm/dd/yy)	Time of Retrieval (hr : min)	Air Temperature	Analysis Requested	Indoor Air	Outdoor Air	Workplace Monitoring	Other (not deployed)
01A	1	Y283Z	09-10-20	9:51	09-24-20	1450	75°	see attached	☐	☒	☐	☐
02A	5	Y284Z	09-10-20	9:37	09-24-20	11:20	64°	see attached	☐	☒	☐	☐
03A	7	Y285Z	09-10-20	9:31	09-24-20	11:10	64°	see attached	☐	☒	☐	☐
04A	8	Y286Z	09-10-20	9:14	09-24-20	11:35	64°	see attached	☐	☒	☐	☐
05A	12	Y287Z	09-10-20	9:21	09-24-20	10:52	64°	see attached	☐	☒	☐	☐
06A	Dup	Y288Z	09-10-20	9:22	09-24-20	10:52	64°	see attached	☐	☒	☐	☐
07A	TB	Y132Z	left in packaging - not deployed					see attached	☐	☐	☐	☒
									☐	☐	☐	☐
									☐	☐	☐	☐
									☐	☐	☐	☐

Relinquished by: (signature) Date/Time: 9-24-20
Received by: (signature) Date/Time: 9/25/20 1330
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Notes:

2009650

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

Appendix 2

Quarterly Analytical Reports from Eurofins Air Toxics, Inc.

July 1, 2020 to July 16, 2020

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7/29/2020
Mr. Bill Abernathy
Feezor Engineering
3377 Hollenberg Drive

Bridgeton MO 63044

Project Name: Bridgeton Landfill VOCs
Project #:
Workorder #: 2007423

Dear Mr. Bill Abernathy

The following report includes the data for the above referenced project for sample(s) received on 7/17/2020 at Air Toxics Ltd.

The data and associated QC analyzed by Passive S.E. RAD130/SKC are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,

Brian Whittaker

Project Manager

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WORK ORDER #: 2007423

Work Order Summary

CLIENT:	Mr. Bill Abernathy Feezor Engineering, Inc. 3377 Hollenberg Drive Bridgeton, MO 63044	**BILL TO:**	Accounts Payable Feezor Engineering, Inc. 406 E. Walnut Chatham, IL 62629
PHONE:	314-502-1299	**P.O. #**	BT-204
FAX:		**PROJECT #**	Bridgeton Landfill VOCs
DATE RECEIVED:	07/17/2020	**CONTACT:**	Brian Whittaker
DATE COMPLETED:	07/29/2020		

FRACTION #	NAME	TEST
01A	1	Passive S.E. RAD130/SKC
02A	5	Passive S.E. RAD130/SKC
03A	7	Passive S.E. RAD130/SKC
04A	8	Passive S.E. RAD130/SKC
05A	12	Passive S.E. RAD130/SKC
06A	Dup	Passive S.E. RAD130/SKC
07A	TB	Passive S.E. RAD130/SKC
08A	Lab Blank	Passive S.E. RAD130/SKC
09A	LCS	Passive S.E. RAD130/SKC
09AA	LCSD	Passive S.E. RAD130/SKC

CERTIFIED BY:  DATE: 07/29/20

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209219, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-19-14, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-013, Effective date: 10/18/2019, Expiration date: 10/17/2020.
Eurofins Air Toxics, LLC certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

LABORATORY NARRATIVE
RAD130 Passive SE by Mod EPA TO-17
Feezor Engineering
Workorder# 2007423

Seven Radiello 130 (Solvent) samples were received on July 17, 2020. The laboratory analyzed the charcoal sorbent bed of the passive sampler following modified method EPA TO-17. The VOCs were chemically extracted using carbon disulfide and an aliquot of the extract was injected into a GC/MS for identification and quantification of volatile organic compounds (VOCs).

The mass of each target compound adsorbed by the sampler was converted to units of concentration using the sample deployment time and the sampling rate for each VOC. If sampling rates were calculated by the lab or the manufacturer, the concentration result has been flagged as an estimated value. Results are not corrected for desorption efficiency.

The reference method used for this procedure is EPA TO-17, which describes the collection of VOCs in ambient air using sorbents and analysis by GC/MS. Because TO-17 describes active sample collection using a pump and thermal desorption as the preparation step, several modifications are required. Modifications to TO-17 are listed in the table below:

Requirement	***TO-17***	***ATL Modifications***
Sample Collection	Pump pulls measured air volume through sorbent tube	VOCs in air adsorbed onto sorbent bed passively through diffusion
Sample Preparation	Thermal extraction	Solvent extraction
Sorbent tube conditioning	Condition newly packed tubes prior to use	Charcoal-based sorbent is a single use media and conditioning is conducted by vendor.
Instrumentation	Thermal desorption introduction system	Liquid injection introduction system
Internal Standard	Gas-phase internal standard introduced on the tube or focusing trap during analysis	Liquid-phase internal standard introduced on the tube at the time of extraction
Media and sample storage	<4 deg C, 30 days	Media shelf life is determined by vendor; sample hold-time is 6 months for the RAD130 and WMS. Sample preservation requirements are storage in a cool, solvent-free refrigerator and optional use of ice during shipping.
Internal Standard Recovery	+/-40% of daily CCV area	-50% to +100% of daily CCV area

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The uptake rates were corrected based on average field temperatures if provided. In the absence of field temperatures, the uptake rates determined at 25 deg C were used.

To calculate ug/m3 concentrations in the Lab Blank and Trip Blank, a sampling duration of 21594 minutes was applied. The assumed temperature used for the uptake rate is listed on the data page. If the field temperatures were provided, the rate was adjusted in the same manner as the field samples.

The Relative Percent Difference (RPD) of the LCS/LCSD exceeded acceptance limits for Naphthalene.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicate as follows:

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

C - Estimated concentration due to calculated sampling rate

CN - See case narrative explanation.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: 1

Lab ID#: 2007423-01A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.072	0.46	0.33
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.22	0.13
Chloroform	0.10	0.063	0.10	0.063
Cyclohexane	0.10	0.088	0.11	0.097
Carbon Tetrachloride	0.10	0.070	0.53	0.37
Benzene	0.40	0.24	0.42	0.25
Heptane	0.10	0.082	0.28	0.23
Toluene	0.10	0.064	0.86	0.55
Ethyl Benzene	0.10	0.070	0.12	0.082
m,p-Xylene	0.10	0.068	0.33	0.23
o-Xylene	0.10	0.073	0.10	0.073

Client Sample ID: 5

Lab ID#: 2007423-02A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.070	0.43	0.30
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.22	0.13
Cyclohexane	0.10	0.086	0.11	0.094
Carbon Tetrachloride	0.10	0.069	0.43	0.30
Benzene	0.40	0.23	0.41	0.24
Heptane	0.10	0.080	0.28	0.22
Toluene	0.10	0.063	0.95	0.60
Ethyl Benzene	0.10	0.068	0.18	0.12
m,p-Xylene	0.10	0.066	0.55	0.36
o-Xylene	0.10	0.072	0.17	0.12

Client Sample ID: 7

Lab ID#: 2007423-03A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.070	0.45	0.32
Ethyl Acetate	0.40	0.24	0.47	0.28

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: 7

Lab ID#: 2007423-03A

2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.21	0.12
Cyclohexane	0.10	0.086	0.13	0.11
Carbon Tetrachloride	0.10	0.069	0.43	0.30
Benzene	0.40	0.23	0.40	0.23
Heptane	0.10	0.080	0.32	0.26
Toluene	0.10	0.063	1.0	0.64
Ethyl Benzene	0.10	0.068	0.20	0.13
m,p-Xylene	0.10	0.066	0.62	0.41
o-Xylene	0.10	0.072	0.19	0.13

Client Sample ID: 8

Lab ID#: 2007423-04A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.070	0.45	0.32
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.25	0.15
Cyclohexane	0.10	0.086	0.10	0.090
Carbon Tetrachloride	0.10	0.069	0.43	0.30
Benzene	0.40	0.23	0.42	0.24
Heptane	0.10	0.080	0.32	0.25
Toluene	0.10	0.063	0.94	0.59
Ethyl Benzene	0.10	0.068	0.16	0.11
m,p-Xylene	0.10	0.066	0.52	0.34
o-Xylene	0.10	0.072	0.16	0.11

Client Sample ID: 12

Lab ID#: 2007423-05A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.071	0.48	0.34
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.27	0.16
Cyclohexane	0.10	0.087	0.14	0.12
Carbon Tetrachloride	0.10	0.070	0.53	0.37
Benzene	0.40	0.23	0.50	0.29

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: 12

Lab ID#: 2007423-05A

Heptane	0.10	0.081	0.56	0.45
Toluene	0.10	0.063	1.1	0.68
Ethyl Benzene	0.10	0.069	0.18	0.12
m,p-Xylene	0.10	0.067	0.52	0.35
o-Xylene	0.10	0.072	0.17	0.12

Client Sample ID: Dup

Lab ID#: 2007423-06A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.072	0.46	0.33
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.25	0.15
Cyclohexane	0.10	0.088	0.12	0.10
Carbon Tetrachloride	0.10	0.070	0.47	0.33
Benzene	0.40	0.24	0.43	0.26
Heptane	0.10	0.082	0.30	0.24
Toluene	0.10	0.064	0.98	0.63
Ethyl Benzene	0.10	0.070	0.14	0.099
m,p-Xylene	0.10	0.068	0.41	0.28
o-Xylene	0.10	0.073	0.13	0.094

Client Sample ID: TB

Lab ID#: 2007423-07A

No Detections Were Found.

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Client Sample ID: 1

Lab ID#: 2007423-01A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c072807sim**	**Date of Collection: 7/16/20 8:23:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/20 11:40 AM**	
		Date of Extraction: 7/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.073	Not Detected	Not Detected
Hexane	0.10	0.072	0.46	0.33
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.22	0.13
Chloroform	0.10	0.063	0.10	0.063
1,1,1-Trichloroethane	0.10	0.076	Not Detected	Not Detected
Cyclohexane	0.10	0.088	0.11	0.097
Carbon Tetrachloride	0.10	0.070	0.53	0.37
Benzene	0.40	0.24	0.42	0.25
1,2-Dichloroethane	0.10	0.061	Not Detected	Not Detected
Heptane	0.10	0.082	0.28	0.23
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.064	0.86	0.55
Tetrachloroethene	0.10	0.080	Not Detected	Not Detected
Chlorobenzene	0.10	0.070	Not Detected	Not Detected
Ethyl Benzene	0.10	0.070	0.12	0.082
m,p-Xylene	0.10	0.068	0.33	0.23
o-Xylene	0.10	0.073	0.10	0.073
Styrene	0.10	0.078	Not Detected	Not Detected
Propylbenzene	0.10	0.083	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.093	Not Detected	Not Detected
Naphthalene	0.10	0.19	Not Detected	Not Detected

Temperature = 71.0F , duration time = 21471 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	80	70-130

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Client Sample ID: 5

Lab ID#: 2007423-02A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c072808sim**	**Date of Collection: 7/16/20 9:58:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/20 12:07 PM**	
		Date of Extraction: 7/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.070	0.43	0.30
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.22	0.13
Chloroform	0.10	0.062	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.075	Not Detected	Not Detected
Cyclohexane	0.10	0.086	0.11	0.094
Carbon Tetrachloride	0.10	0.069	0.43	0.30
Benzene	0.40	0.23	0.41	0.24
1,2-Dichloroethane	0.10	0.060	Not Detected	Not Detected
Heptane	0.10	0.080	0.28	0.22
Trichloroethene	0.10	0.067	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	0.95	0.60
Tetrachloroethene	0.10	0.079	Not Detected	Not Detected
Chlorobenzene	0.10	0.068	Not Detected	Not Detected
Ethyl Benzene	0.10	0.068	0.18	0.12
m,p-Xylene	0.10	0.066	0.55	0.36
o-Xylene	0.10	0.072	0.17	0.12
Styrene	0.10	0.076	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.091	Not Detected	Not Detected
Naphthalene	0.10	0.19	Not Detected	Not Detected

Temperature = 75.0F , duration time = 21592 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	79	70-130

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Client Sample ID: 7

Lab ID#: 2007423-03A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c072809sim**	**Date of Collection: 7/16/20 9:49:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/20 12:34 PM**	
		Date of Extraction: 7/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.070	0.45	0.32
Ethyl Acetate	0.40	0.24	0.47	0.28
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.21	0.12
Chloroform	0.10	0.062	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.075	Not Detected	Not Detected
Cyclohexane	0.10	0.086	0.13	0.11
Carbon Tetrachloride	0.10	0.069	0.43	0.30
Benzene	0.40	0.23	0.40	0.23
1,2-Dichloroethane	0.10	0.060	Not Detected	Not Detected
Heptane	0.10	0.080	0.32	0.26
Trichloroethene	0.10	0.067	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	1.0	0.64
Tetrachloroethene	0.10	0.079	Not Detected	Not Detected
Chlorobenzene	0.10	0.068	Not Detected	Not Detected
Ethyl Benzene	0.10	0.068	0.20	0.13
m,p-Xylene	0.10	0.066	0.62	0.41
o-Xylene	0.10	0.072	0.19	0.13
Styrene	0.10	0.076	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.091	Not Detected	Not Detected
Naphthalene	0.10	0.19	Not Detected	Not Detected

Temperature = 75.0F , duration time = 21590 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	79	70-130

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Client Sample ID: 8

Lab ID#: 2007423-04A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c072810sim**	**Date of Collection: 7/16/20 10:06:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/20 01:01 PM**	
		Date of Extraction: 7/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.070	0.45	0.32
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.25	0.15
Chloroform	0.10	0.062	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.075	Not Detected	Not Detected
Cyclohexane	0.10	0.086	0.10	0.090
Carbon Tetrachloride	0.10	0.069	0.43	0.30
Benzene	0.40	0.23	0.42	0.24
1,2-Dichloroethane	0.10	0.060	Not Detected	Not Detected
Heptane	0.10	0.080	0.32	0.25
Trichloroethene	0.10	0.067	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	0.94	0.59
Tetrachloroethene	0.10	0.079	Not Detected	Not Detected
Chlorobenzene	0.10	0.068	Not Detected	Not Detected
Ethyl Benzene	0.10	0.068	0.16	0.11
m,p-Xylene	0.10	0.066	0.52	0.34
o-Xylene	0.10	0.072	0.16	0.11
Styrene	0.10	0.076	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.091	Not Detected	Not Detected
Naphthalene	0.10	0.19	Not Detected	Not Detected

Temperature = 76.0F , duration time = 21592 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	79	70-130

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Client Sample ID: 12

Lab ID#: 2007423-05A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c072811sim**	**Date of Collection: 7/16/20 9:35:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/20 01:27 PM**	
		Date of Extraction: 7/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.071	0.48	0.34
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.27	0.16
Chloroform	0.10	0.062	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.075	Not Detected	Not Detected
Cyclohexane	0.10	0.087	0.14	0.12
Carbon Tetrachloride	0.10	0.070	0.53	0.37
Benzene	0.40	0.23	0.50	0.29
1,2-Dichloroethane	0.10	0.061	Not Detected	Not Detected
Heptane	0.10	0.081	0.56	0.45
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	1.1	0.68
Tetrachloroethene	0.10	0.079	Not Detected	Not Detected
Chlorobenzene	0.10	0.069	Not Detected	Not Detected
Ethyl Benzene	0.10	0.069	0.18	0.12
m,p-Xylene	0.10	0.067	0.52	0.35
o-Xylene	0.10	0.072	0.17	0.12
Styrene	0.10	0.077	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.092	Not Detected	Not Detected
Naphthalene	0.10	0.19	Not Detected	Not Detected

Temperature = 74.0F , duration time = 21594 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	80	70-130

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Client Sample ID: Dup

Lab ID#: 2007423-06A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c072812sim**	**Date of Collection: 7/16/20 8:23:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/20 01:54 PM**	
		Date of Extraction: 7/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.073	Not Detected	Not Detected
Hexane	0.10	0.072	0.46	0.33
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.25	0.15
Chloroform	0.10	0.063	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.076	Not Detected	Not Detected
Cyclohexane	0.10	0.088	0.12	0.10
Carbon Tetrachloride	0.10	0.070	0.47	0.33
Benzene	0.40	0.24	0.43	0.26
1,2-Dichloroethane	0.10	0.061	Not Detected	Not Detected
Heptane	0.10	0.082	0.30	0.24
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.064	0.98	0.63
Tetrachloroethene	0.10	0.080	Not Detected	Not Detected
Chlorobenzene	0.10	0.070	Not Detected	Not Detected
Ethyl Benzene	0.10	0.070	0.14	0.099
m,p-Xylene	0.10	0.068	0.41	0.28
o-Xylene	0.10	0.073	0.13	0.094
Styrene	0.10	0.078	Not Detected	Not Detected
Propylbenzene	0.10	0.083	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.093	Not Detected	Not Detected
Naphthalene	0.10	0.19	Not Detected	Not Detected

Temperature = 71.0F , duration time = 21471 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	80	70-130

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Client Sample ID: TB

Lab ID#: 2007423-07A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c072813sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/20 02:21 PM**	
		Date of Extraction: 7/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.070	Not Detected	Not Detected
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	Not Detected	Not Detected
Chloroform	0.10	0.062	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.075	Not Detected	Not Detected
Cyclohexane	0.10	0.086	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.069	Not Detected	Not Detected
Benzene	0.40	0.23	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.060	Not Detected	Not Detected
Heptane	0.10	0.080	Not Detected	Not Detected
Trichloroethene	0.10	0.067	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	Not Detected	Not Detected
Tetrachloroethene	0.10	0.079	Not Detected	Not Detected
Chlorobenzene	0.10	0.068	Not Detected	Not Detected
Ethyl Benzene	0.10	0.068	Not Detected	Not Detected
m,p-Xylene	0.10	0.066	Not Detected	Not Detected
o-Xylene	0.10	0.072	Not Detected	Not Detected
Styrene	0.10	0.076	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.091	Not Detected	Not Detected
Naphthalene	0.10	0.19	Not Detected	Not Detected

Temperature = 76.0F , duration time = 21594 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	79	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2007423-08A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c072806sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/20 10:37 AM**	
		Date of Extraction: 7/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.070	Not Detected	Not Detected
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	Not Detected	Not Detected
Chloroform	0.10	0.062	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.075	Not Detected	Not Detected
Cyclohexane	0.10	0.086	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.069	Not Detected	Not Detected
Benzene	0.40	0.23	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.060	Not Detected	Not Detected
Heptane	0.10	0.080	Not Detected	Not Detected
Trichloroethene	0.10	0.067	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	Not Detected	Not Detected
Tetrachloroethene	0.10	0.079	Not Detected	Not Detected
Chlorobenzene	0.10	0.068	Not Detected	Not Detected
Ethyl Benzene	0.10	0.068	Not Detected	Not Detected
m,p-Xylene	0.10	0.066	Not Detected	Not Detected
o-Xylene	0.10	0.072	Not Detected	Not Detected
Styrene	0.10	0.076	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.091	Not Detected	Not Detected
Naphthalene	0.10	0.19	Not Detected	Not Detected

Temperature = 76.0F , duration time = 21594 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	77	70-130

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Client Sample ID: LCS

Lab ID#: 2007423-09A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c072804sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/20 09:44 AM**	
		Date of Extraction: 7/28/20	

Compound	%Recovery	Method Limits
Ethanol	67	50-130
Methyl tert-butyl ether	104	70-130
Hexane	92	70-130
Ethyl Acetate	95	70-130
2-Butanone (Methyl Ethyl Ketone)	83	70-130
Chloroform	100	70-130
1,1,1-Trichloroethane	103	70-130
Cyclohexane	97	70-130
Carbon Tetrachloride	101	70-130
Benzene	89	70-130
1,2-Dichloroethane	105	70-130
Heptane	94	70-130
Trichloroethene	87	70-130
4-Methyl-2-pentanone	92	70-130
Toluene	86	70-130
Tetrachloroethene	83	70-130
Chlorobenzene	79	70-130
Ethyl Benzene	86	70-130
m,p-Xylene	84	70-130
o-Xylene	79	70-130
Styrene	60	20-100
Propylbenzene	89	70-130
1,4-Dichlorobenzene	70	50-110
Naphthalene	9.2	5-80

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	78	70-130

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Client Sample ID: LCSD

Lab ID#: 2007423-09AA

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c072805sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/20 10:10 AM**	
		Date of Extraction: 7/28/20	

Compound	%Recovery	Method Limits
Ethanol	60	50-130
Methyl tert-butyl ether	99	70-130
Hexane	88	70-130
Ethyl Acetate	91	70-130
2-Butanone (Methyl Ethyl Ketone)	77	70-130
Chloroform	95	70-130
1,1,1-Trichloroethane	98	70-130
Cyclohexane	94	70-130
Carbon Tetrachloride	97	70-130
Benzene	85	70-130
1,2-Dichloroethane	100	70-130
Heptane	91	70-130
Trichloroethene	83	70-130
4-Methyl-2-pentanone	87	70-130
Toluene	83	70-130
Tetrachloroethene	79	70-130
Chlorobenzene	76	70-130
Ethyl Benzene	84	70-130
m,p-Xylene	81	70-130
o-Xylene	74	70-130
Styrene	54	20-100
Propylbenzene	86	70-130
1,4-Dichlorobenzene	65	50-110
Naphthalene	6.4	5-80

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	79	70-130

July 16, 2020 to July 31, 2020

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8/14/2020
Mr. Bill Abernathy
Feezor Engineering
3377 Hollenberg Drive

Bridgeton MO 63044

Project Name: Bridgeton Landfill
Project #:
Workorder #: 2008009

Dear Mr. Bill Abernathy

The following report includes the data for the above referenced project for sample(s) received on 8/3/2020 at Air Toxics Ltd.

The data and associated QC analyzed by Passive S.E. RAD130/SKC are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,

Brian Whittaker

Project Manager

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WORK ORDER #: 2008009

Work Order Summary

CLIENT:	Mr. Bill Abernathy Feezor Engineering, Inc. 3377 Hollenberg Drive Bridgeton, MO 63044	**BILL TO:**	Accounts Payable Feezor Engineering, Inc. 406 E. Walnut Chatham, IL 62629
PHONE:	314-502-1299	**P.O. #**	BT-204
FAX:		**PROJECT #**	Bridgeton Landfill
DATE RECEIVED:	08/03/2020	**CONTACT:**	Brian Whittaker
DATE COMPLETED:	08/14/2020		

FRACTION #	NAME	TEST
01A	1	Passive S.E. RAD130/SKC
02A	5	Passive S.E. RAD130/SKC
03A	7	Passive S.E. RAD130/SKC
04A	8	Passive S.E. RAD130/SKC
05A	12	Passive S.E. RAD130/SKC
06A	Dup	Passive S.E. RAD130/SKC
07A	TB	Passive S.E. RAD130/SKC
08A	Lab Blank	Passive S.E. RAD130/SKC
09A	LCS	Passive S.E. RAD130/SKC
09AA	LCSD	Passive S.E. RAD130/SKC

CERTIFIED BY: Heidi Hayes DATE: 08/14/20

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209219, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-19-14, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-013, Effective date: 10/18/2019, Expiration date: 10/17/2020.
Eurofins Air Toxics, LLC certifies that the test results contained in this report meet all requirements of the NELAC standards

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

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

LABORATORY NARRATIVE
RAD130 Passive SE by Mod EPA TO-17
Feezor Engineering
Workorder# 2008009

Seven Radiello 130 (Solvent) samples were received on August 03, 2020. The laboratory analyzed the charcoal sorbent bed of the passive sampler following modified method EPA TO-17. The VOCs were chemically extracted using carbon disulfide and an aliquot of the extract was injected into a GC/MS for identification and quantification of volatile organic compounds (VOCs).

The mass of each target compound adsorbed by the sampler was converted to units of concentration using the sample deployment time and the sampling rate for each VOC. If sampling rates were calculated by the lab or the manufacturer, the concentration result has been flagged as an estimated value. Results are not corrected for desorption efficiency.

The reference method used for this procedure is EPA TO-17, which describes the collection of VOCs in ambient air using sorbents and analysis by GC/MS. Because TO-17 describes active sample collection using a pump and thermal desorption as the preparation step, several modifications are required. Modifications to TO-17 are listed in the table below:

Requirement	***TO-17***	***ATL Modifications***
Sample Collection	Pump pulls measured air volume through sorbent tube	VOCs in air adsorbed onto sorbent bed passively through diffusion
Sample Preparation	Thermal extraction	Solvent extraction
Sorbent tube conditioning	Condition newly packed tubes prior to use	Charcoal-based sorbent is a single use media and conditioning is conducted by vendor.
Instrumentation	Thermal desorption introduction system	Liquid injection introduction system
Internal Standard	Gas-phase internal standard introduced on the tube or focusing trap during analysis	Liquid-phase internal standard introduced on the tube at the time of extraction
Media and sample storage	<4 deg C, 30 days	Media shelf life is determined by vendor; sample hold-time is 6 months for the RAD130 and WMS. Sample preservation requirements are storage in a cool, solvent-free refrigerator and optional use of ice during shipping.
Internal Standard Recovery	+/-40% of daily CCV area	-50% to +100% of daily CCV area

Receiving Notes

The Chain of Custody was not filled out with an ink pen. A pencil or other unapproved writing utensil was used.

Analytical Notes

The uptake rates were corrected based on average field temperatures if provided. In the absence of

field temperatures, the uptake rates determined at 25 deg C were used.

To calculate ug/m3 concentrations in the Lab Blank and Trip Blank, a sampling duration of 21671 minutes was applied. The assumed temperature used for the uptake rate is listed on the data page. If the field temperatures were provided, the rate was adjusted in the same manner as the field samples.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicate as follows:

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

C - Estimated concentration due to calculated sampling rate

CN - See case narrative explanation.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: 1

Lab ID#: 2008009-01A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.071	0.36	0.25
Carbon Tetrachloride	0.10	0.070	0.36	0.25
Heptane	0.10	0.081	0.31	0.25
Toluene	0.10	0.064	1.1	0.73
Ethyl Benzene	0.10	0.069	0.11	0.078
m,p-Xylene	0.10	0.067	0.31	0.21
o-Xylene	0.10	0.072	0.10	0.073

Client Sample ID: 5

Lab ID#: 2008009-02A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.071	0.45	0.32
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.23	0.14
Cyclohexane	0.10	0.087	0.10	0.090
Carbon Tetrachloride	0.10	0.070	0.36	0.25
Heptane	0.10	0.081	0.28	0.23
Toluene	0.10	0.063	1.1	0.69
Ethyl Benzene	0.10	0.069	0.16	0.11
m,p-Xylene	0.10	0.067	0.47	0.31
o-Xylene	0.10	0.072	0.16	0.11

Client Sample ID: 7

Lab ID#: 2008009-03A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.071	0.36	0.26
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.20	0.12
Carbon Tetrachloride	0.10	0.070	0.32	0.22
Heptane	0.10	0.081	0.22	0.18
Toluene	0.10	0.063	0.89	0.56
Ethyl Benzene	0.10	0.069	0.13	0.091
m,p-Xylene	0.10	0.067	0.38	0.25

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: 7

Lab ID#: 2008009-03A

o-Xylene	0.10	0.072	0.12	0.091

Client Sample ID: 8

Lab ID#: 2008009-04A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.071	0.36	0.25
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.22	0.13
Carbon Tetrachloride	0.10	0.070	0.36	0.25
Heptane	0.10	0.080	0.24	0.19
Toluene	0.10	0.063	0.84	0.53
Ethyl Benzene	0.10	0.069	0.12	0.085
m,p-Xylene	0.10	0.067	0.35	0.23
o-Xylene	0.10	0.072	0.12	0.084

Client Sample ID: 12

Lab ID#: 2008009-05A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.071	0.35	0.25
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.24	0.14
Carbon Tetrachloride	0.10	0.070	0.37	0.26
Heptane	0.10	0.081	0.36	0.29
Toluene	0.10	0.063	0.82	0.52
Ethyl Benzene	0.10	0.069	0.12	0.081
m,p-Xylene	0.10	0.067	0.34	0.23
o-Xylene	0.10	0.072	0.11	0.078

Client Sample ID: Dup

Lab ID#: 2008009-06A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.071	0.38	0.27
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.28	0.16

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: Dup

Lab ID#: 2008009-06A

Carbon Tetrachloride	0.10	0.070	0.39	0.27
Heptane	0.10	0.081	0.36	0.29
Toluene	0.10	0.063	0.85	0.54
Ethyl Benzene	0.10	0.069	0.12	0.083
m,p-Xylene	0.10	0.067	0.35	0.23
o-Xylene	0.10	0.072	0.11	0.081

Client Sample ID: TB

Lab ID#: 2008009-07A

No Detections Were Found.

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Client Sample ID: 1

Lab ID#: 2008009-01A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18080621sim**	**Date of Collection: 7/31/20 9:35:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/6/20 03:30 PM**	
		Date of Extraction: 8/6/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.071	0.36	0.25
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	Not Detected	Not Detected
Chloroform	0.10	0.063	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.076	Not Detected	Not Detected
Cyclohexane	0.10	0.087	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.070	0.36	0.25
Benzene	0.40	0.24	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.061	Not Detected	Not Detected
Heptane	0.10	0.081	0.31	0.25
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.064	1.1	0.73
Tetrachloroethene	0.10	0.080	Not Detected	Not Detected
Chlorobenzene	0.10	0.069	Not Detected	Not Detected
Ethyl Benzene	0.10	0.069	0.11	0.078
m,p-Xylene	0.10	0.067	0.31	0.21
o-Xylene	0.10	0.072	0.10	0.073
Styrene	0.10	0.077	Not Detected	Not Detected
Propylbenzene	0.10	0.083	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.092	Not Detected	Not Detected
Naphthalene	0.10	0.19	Not Detected	Not Detected

Temperature = 70.0F , duration time = 21671 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	81	70-130

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Client Sample ID: 5

Lab ID#: 2008009-02A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18080622sim**	**Date of Collection: 7/31/20 10:15:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/6/20 03:56 PM**	
		Date of Extraction: 8/6/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.071	0.45	0.32
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.23	0.14
Chloroform	0.10	0.063	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.076	Not Detected	Not Detected
Cyclohexane	0.10	0.087	0.10	0.090
Carbon Tetrachloride	0.10	0.070	0.36	0.25
Benzene	0.40	0.23	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.061	Not Detected	Not Detected
Heptane	0.10	0.081	0.28	0.23
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	1.1	0.69
Tetrachloroethene	0.10	0.080	Not Detected	Not Detected
Chlorobenzene	0.10	0.069	Not Detected	Not Detected
Ethyl Benzene	0.10	0.069	0.16	0.11
m,p-Xylene	0.10	0.067	0.47	0.31
o-Xylene	0.10	0.072	0.16	0.11
Styrene	0.10	0.077	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.092	Not Detected	Not Detected
Naphthalene	0.10	0.19	Not Detected	Not Detected

Temperature = 72.0F , duration time = 21616 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	81	70-130

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Client Sample ID: 7

Lab ID#: 2008009-03A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18080623sim**	**Date of Collection: 7/31/20 10:20:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/6/20 04:22 PM**	
		Date of Extraction: 8/6/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.071	0.36	0.26
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.20	0.12
Chloroform	0.10	0.062	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.076	Not Detected	Not Detected
Cyclohexane	0.10	0.087	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.070	0.32	0.22
Benzene	0.40	0.23	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.061	Not Detected	Not Detected
Heptane	0.10	0.081	0.22	0.18
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	0.89	0.56
Tetrachloroethene	0.10	0.080	Not Detected	Not Detected
Chlorobenzene	0.10	0.069	Not Detected	Not Detected
Ethyl Benzene	0.10	0.069	0.13	0.091
m,p-Xylene	0.10	0.067	0.38	0.25
o-Xylene	0.10	0.072	0.12	0.091
Styrene	0.10	0.077	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.092	Not Detected	Not Detected
Naphthalene	0.10	0.19	Not Detected	Not Detected

Temperature = 72.0F , duration time = 21628 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

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Client Sample ID: 8

Lab ID#: 2008009-04A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18080624sim**	**Date of Collection: 7/31/20 10:30:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/6/20 04:48 PM**	
		Date of Extraction: 8/6/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.071	0.36	0.25
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.22	0.13
Chloroform	0.10	0.062	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.075	Not Detected	Not Detected
Cyclohexane	0.10	0.086	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.070	0.36	0.25
Benzene	0.40	0.23	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.061	Not Detected	Not Detected
Heptane	0.10	0.080	0.24	0.19
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	0.84	0.53
Tetrachloroethene	0.10	0.079	Not Detected	Not Detected
Chlorobenzene	0.10	0.069	Not Detected	Not Detected
Ethyl Benzene	0.10	0.069	0.12	0.085
m,p-Xylene	0.10	0.067	0.35	0.23
o-Xylene	0.10	0.072	0.12	0.084
Styrene	0.10	0.076	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.092	Not Detected	Not Detected
Naphthalene	0.10	0.19	Not Detected	Not Detected

Temperature = 74.0F , duration time = 21623 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

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Client Sample ID: 12

Lab ID#: 2008009-05A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18080625sim**	**Date of Collection: 7/31/20 10:00:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/6/20 05:13 PM**	
		Date of Extraction: 8/6/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.071	0.35	0.25
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.24	0.14
Chloroform	0.10	0.063	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.076	Not Detected	Not Detected
Cyclohexane	0.10	0.087	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.070	0.37	0.26
Benzene	0.40	0.23	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.061	Not Detected	Not Detected
Heptane	0.10	0.081	0.36	0.29
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	0.82	0.52
Tetrachloroethene	0.10	0.080	Not Detected	Not Detected
Chlorobenzene	0.10	0.069	Not Detected	Not Detected
Ethyl Benzene	0.10	0.069	0.12	0.081
m,p-Xylene	0.10	0.067	0.34	0.23
o-Xylene	0.10	0.072	0.11	0.078
Styrene	0.10	0.077	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.092	Not Detected	Not Detected
Naphthalene	0.10	0.19	Not Detected	Not Detected

Temperature = 72.0F , duration time = 21620 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	81	70-130

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Client Sample ID: Dup

Lab ID#: 2008009-06A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18080626sim**	**Date of Collection: 7/31/20 10:00:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/6/20 05:40 PM**	
		Date of Extraction: 8/6/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.071	0.38	0.27
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.28	0.16
Chloroform	0.10	0.063	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.076	Not Detected	Not Detected
Cyclohexane	0.10	0.087	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.070	0.39	0.27
Benzene	0.40	0.23	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.061	Not Detected	Not Detected
Heptane	0.10	0.081	0.36	0.29
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	0.85	0.54
Tetrachloroethene	0.10	0.080	Not Detected	Not Detected
Chlorobenzene	0.10	0.069	Not Detected	Not Detected
Ethyl Benzene	0.10	0.069	0.12	0.083
m,p-Xylene	0.10	0.067	0.35	0.23
o-Xylene	0.10	0.072	0.11	0.081
Styrene	0.10	0.077	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.092	Not Detected	Not Detected
Naphthalene	0.10	0.19	Not Detected	Not Detected

Temperature = 72.0F , duration time = 21620 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

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Client Sample ID: TB

Lab ID#: 2008009-07A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18080627sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/6/20 06:06 PM**	
		Date of Extraction: 8/6/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.071	Not Detected	Not Detected
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	Not Detected	Not Detected
Chloroform	0.10	0.062	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.075	Not Detected	Not Detected
Cyclohexane	0.10	0.086	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.070	Not Detected	Not Detected
Benzene	0.40	0.23	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.060	Not Detected	Not Detected
Heptane	0.10	0.080	Not Detected	Not Detected
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	Not Detected	Not Detected
Tetrachloroethene	0.10	0.079	Not Detected	Not Detected
Chlorobenzene	0.10	0.068	Not Detected	Not Detected
Ethyl Benzene	0.10	0.068	Not Detected	Not Detected
m,p-Xylene	0.10	0.066	Not Detected	Not Detected
o-Xylene	0.10	0.072	Not Detected	Not Detected
Styrene	0.10	0.076	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.091	Not Detected	Not Detected
Naphthalene	0.10	0.19	Not Detected	Not Detected

Temperature = 74.0F , duration time = 21671 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2008009-08A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18080612sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/6/20 11:36 AM**	
		Date of Extraction: 8/6/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.071	Not Detected	Not Detected
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	Not Detected	Not Detected
Chloroform	0.10	0.062	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.075	Not Detected	Not Detected
Cyclohexane	0.10	0.086	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.070	Not Detected	Not Detected
Benzene	0.40	0.23	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.060	Not Detected	Not Detected
Heptane	0.10	0.080	Not Detected	Not Detected
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	Not Detected	Not Detected
Tetrachloroethene	0.10	0.079	Not Detected	Not Detected
Chlorobenzene	0.10	0.068	Not Detected	Not Detected
Ethyl Benzene	0.10	0.068	Not Detected	Not Detected
m,p-Xylene	0.10	0.066	Not Detected	Not Detected
o-Xylene	0.10	0.072	Not Detected	Not Detected
Styrene	0.10	0.076	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.091	Not Detected	Not Detected
Naphthalene	0.10	0.19	Not Detected	Not Detected

Temperature = 74.0F , duration time = 21671 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	79	70-130

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Client Sample ID: LCS

Lab ID#: 2008009-09A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18080610sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/6/20 10:44 AM**	
		Date of Extraction: 8/6/20	

Compound	%Recovery	Method Limits
Ethanol	62	50-130
Methyl tert-butyl ether	108	70-130
Hexane	105	70-130
Ethyl Acetate	107	70-130
2-Butanone (Methyl Ethyl Ketone)	100	70-130
Chloroform	104	70-130
1,1,1-Trichloroethane	108	70-130
Cyclohexane	112	70-130
Carbon Tetrachloride	108	70-130
Benzene	99	70-130
1,2-Dichloroethane	103	70-130
Heptane	115	70-130
Trichloroethene	108	70-130
4-Methyl-2-pentanone	107	70-130
Toluene	102	70-130
Tetrachloroethene	102	70-130
Chlorobenzene	93	70-130
Ethyl Benzene	105	70-130
m,p-Xylene	100	70-130
o-Xylene	92	70-130
Styrene	66	20-100
Propylbenzene	105	70-130
1,4-Dichlorobenzene	74	50-110
Naphthalene	9.1	5-80

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	80	70-130

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Client Sample ID: LCSD

Lab ID#: 2008009-09AA

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18080611sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/6/20 11:10 AM**	
		Date of Extraction: 8/6/20	

Compound	%Recovery	Method Limits
Ethanol	67	50-130
Methyl tert-butyl ether	115	70-130
Hexane	110	70-130
Ethyl Acetate	113	70-130
2-Butanone (Methyl Ethyl Ketone)	106	70-130
Chloroform	109	70-130
1,1,1-Trichloroethane	112	70-130
Cyclohexane	114	70-130
Carbon Tetrachloride	111	70-130
Benzene	102	70-130
1,2-Dichloroethane	107	70-130
Heptane	118	70-130
Trichloroethene	110	70-130
4-Methyl-2-pentanone	108	70-130
Toluene	104	70-130
Tetrachloroethene	102	70-130
Chlorobenzene	92	70-130
Ethyl Benzene	106	70-130
m,p-Xylene	100	70-130
o-Xylene	91	70-130
Styrene	66	20-100
Propylbenzene	105	70-130
1,4-Dichlorobenzene	74	50-110
Naphthalene	7.0	5-80

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	81	70-130

July 31, 2020 to August 13, 2020

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8/26/2020
Mr. Bill Abernathy
Feezor Engineering
3377 Hollenberg Drive

Bridgeton MO 63044

Project Name: Bridgeton Landfill VOCs
Project #:
Workorder #: 2008357

Dear Mr. Bill Abernathy

The following report includes the data for the above referenced project for sample(s) received on 8/14/2020 at Air Toxics Ltd.

The data and associated QC analyzed by Passive S.E. RAD130/SKC are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,

Brian Whittaker

Project Manager

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WORK ORDER #: 2008357

Work Order Summary

CLIENT:	Mr. Bill Abernathy Feezor Engineering, Inc. 3377 Hollenberg Drive Bridgeton, MO 63044	**BILL TO:**	Accounts Payable Feezor Engineering, Inc. 406 E. Walnut Chatham, IL 62629
PHONE:	314-502-1299	**P.O. #**	BT-204
FAX:		**PROJECT #**	Bridgeton Landfill VOCs
DATE RECEIVED:	08/14/2020	**CONTACT:**	Brian Whittaker
DATE COMPLETED:	08/26/2020		

FRACTION #	NAME	TEST
01A	1	Passive S.E. RAD130/SKC
02A	5	Passive S.E. RAD130/SKC
03A	7	Passive S.E. RAD130/SKC
04A	8	Passive S.E. RAD130/SKC
05A	12	Passive S.E. RAD130/SKC
06A	DUP	Passive S.E. RAD130/SKC
07A	TB	Passive S.E. RAD130/SKC
08A	Lab Blank	Passive S.E. RAD130/SKC
09A	LCS	Passive S.E. RAD130/SKC
09AA	LCSD	Passive S.E. RAD130/SKC

CERTIFIED BY:  DATE: 08/26/20

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209219, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-19-14, UT NELAP – CA009332019-12, VA NELAP - 10615, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-013, Effective date: 10/18/2019, Expiration date: 10/17/2020.
Eurofins Air Toxics, LLC certifies that the test results contained in this report meet all requirements of the NELAC standards

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

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

LABORATORY NARRATIVE
RAD130 Passive SE by Mod EPA TO-17
Feezor Engineering
Workorder# 2008357

Seven Radiello 130 (Solvent) samples were received on August 14, 2020. The laboratory analyzed the charcoal sorbent bed of the passive sampler following modified method EPA TO-17. The VOCs were chemically extracted using carbon disulfide and an aliquot of the extract was injected into a GC/MS for identification and quantification of volatile organic compounds (VOCs).

The mass of each target compound adsorbed by the sampler was converted to units of concentration using the sample deployment time and the sampling rate for each VOC. If sampling rates were calculated by the lab or the manufacturer, the concentration result has been flagged as an estimated value. Results are not corrected for desorption efficiency.

The reference method used for this procedure is EPA TO-17, which describes the collection of VOCs in ambient air using sorbents and analysis by GC/MS. Because TO-17 describes active sample collection using a pump and thermal desorption as the preparation step, several modifications are required. Modifications to TO-17 are listed in the table below:

Requirement	***TO-17***	***ATL Modifications***
Sample Collection	Pump pulls measured air volume through sorbent tube	VOCs in air adsorbed onto sorbent bed passively through diffusion
Sample Preparation	Thermal extraction	Solvent extraction
Sorbent tube conditioning	Condition newly packed tubes prior to use	Charcoal-based sorbent is a single use media and conditioning is conducted by vendor.
Instrumentation	Thermal desorption introduction system	Liquid injection introduction system
Internal Standard	Gas-phase internal standard introduced on the tube or focusing trap during analysis	Liquid-phase internal standard introduced on the tube at the time of extraction
Media and sample storage	<4 deg C, 30 days	Media shelf life is determined by vendor; sample hold-time is 6 months for the RAD130 and WMS. Sample preservation requirements are storage in a cool, solvent-free refrigerator and optional use of ice during shipping.
Internal Standard Recovery	+/-40% of daily CCV area	-50% to +100% of daily CCV area

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The uptake rates were corrected based on average field temperatures if provided. In the absence of field temperatures, the uptake rates determined at 25 deg C were used.

To calculate ug/m3 concentrations in the Lab Blank and Trip Blank, a sampling duration of 18866 minutes was applied. The assumed temperature used for the uptake rate is listed on the data page. If the field temperatures were provided, the rate was adjusted in the same manner as the field samples.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicate as follows:

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

C - Estimated concentration due to calculated sampling rate

CN - See case narrative explanation.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: 1

Lab ID#: 2008357-01A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.082	0.42	0.34
Cyclohexane	0.10	0.10	0.13	0.13
Carbon Tetrachloride	0.10	0.080	0.41	0.33
Heptane	0.10	0.093	0.35	0.33
Toluene	0.10	0.073	1.2	0.91
Tetrachloroethene	0.10	0.092	0.10	0.092
Ethyl Benzene	0.10	0.079	0.15	0.12
m,p-Xylene	0.10	0.077	0.45	0.34
o-Xylene	0.10	0.083	0.14	0.12

Client Sample ID: 5

Lab ID#: 2008357-02A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.080	0.32	0.26
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.22	0.15
Carbon Tetrachloride	0.10	0.078	0.29	0.23
Heptane	0.10	0.090	0.18	0.17
Toluene	0.10	0.071	0.84	0.59
Ethyl Benzene	0.10	0.077	0.11	0.084
m,p-Xylene	0.10	0.075	0.32	0.24
o-Xylene	0.10	0.081	0.10	0.084

Client Sample ID: 7

Lab ID#: 2008357-03A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.080	0.46	0.36
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.33	0.22
Cyclohexane	0.10	0.097	0.14	0.14
Carbon Tetrachloride	0.10	0.078	0.40	0.31
Heptane	0.10	0.090	0.31	0.28
Toluene	0.10	0.071	1.2	0.86

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: 7

Lab ID#: 2008357-03A

Ethyl Benzene	0.10	0.077	0.17	0.13
m,p-Xylene	0.10	0.075	0.50	0.38
o-Xylene	0.10	0.081	0.16	0.13

Client Sample ID: 8

Lab ID#: 2008357-04A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.080	0.35	0.28
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.27	0.18
Carbon Tetrachloride	0.10	0.078	0.35	0.27
Heptane	0.10	0.090	0.23	0.21
Toluene	0.10	0.071	0.93	0.66
Ethyl Benzene	0.10	0.077	0.13	0.098
m,p-Xylene	0.10	0.075	0.36	0.27
o-Xylene	0.10	0.081	0.12	0.098

Client Sample ID: 12

Lab ID#: 2008357-05A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.082	0.40	0.33
2-Butanone (Methyl Ethyl Ketone)	0.20	0.14	0.32	0.22
Cyclohexane	0.10	0.10	0.12	0.12
Carbon Tetrachloride	0.10	0.081	0.40	0.33
Benzene	0.40	0.27	0.40	0.27
Heptane	0.10	0.093	0.62	0.58
Toluene	0.10	0.073	1.0	0.74
Ethyl Benzene	0.10	0.080	0.15	0.12
m,p-Xylene	0.10	0.077	0.46	0.35
o-Xylene	0.10	0.083	0.14	0.12

Client Sample ID: DUP

Lab ID#: 2008357-06A

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: DUP

Lab ID#: 2008357-06A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.082	0.34	0.28
2-Butanone (Methyl Ethyl Ketone)	0.20	0.14	0.29	0.20
Cyclohexane	0.10	0.10	0.10	0.10
Carbon Tetrachloride	0.10	0.081	0.34	0.27
Heptane	0.10	0.093	0.52	0.48
Toluene	0.10	0.073	0.88	0.64
Ethyl Benzene	0.10	0.080	0.13	0.10
m,p-Xylene	0.10	0.077	0.38	0.29
o-Xylene	0.10	0.083	0.13	0.11

Client Sample ID: TB

Lab ID#: 2008357-07A

No Detections Were Found.

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Client Sample ID: 1

Lab ID#: 2008357-01A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18081906sim**	**Date of Collection: 8/13/20 9:25:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis: 8/19/20 02:11 PM**
		Date of Extraction: 8/19/20

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.53	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.083	Not Detected	Not Detected
Hexane	0.10	0.082	0.42	0.34
Ethyl Acetate	0.40	0.28	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.14	Not Detected	Not Detected
Chloroform	0.10	0.072	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.087	Not Detected	Not Detected
Cyclohexane	0.10	0.10	0.13	0.13
Carbon Tetrachloride	0.10	0.080	0.41	0.33
Benzene	0.40	0.27	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.070	Not Detected	Not Detected
Heptane	0.10	0.093	0.35	0.33
Trichloroethene	0.10	0.078	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.073	1.2	0.91
Tetrachloroethene	0.10	0.092	0.10	0.092
Chlorobenzene	0.10	0.079	Not Detected	Not Detected
Ethyl Benzene	0.10	0.079	0.15	0.12
m,p-Xylene	0.10	0.077	0.45	0.34
o-Xylene	0.10	0.083	0.14	0.12
Styrene	0.10	0.088	Not Detected	Not Detected
Propylbenzene	0.10	0.095	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected
Naphthalene	0.10	0.22	Not Detected	Not Detected

Temperature = 74.0F , duration time = 18710 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	80	70-130

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Client Sample ID: 5

Lab ID#: 2008357-02A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18081907sim**	**Date of Collection:**	**8/13/20 12:45:00 PM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**8/19/20 02:37 PM**
		Date of Extraction:	**8/19/20**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.51	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.081	Not Detected	Not Detected
Hexane	0.10	0.080	0.32	0.26
Ethyl Acetate	0.40	0.27	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.22	0.15
Chloroform	0.10	0.070	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.085	Not Detected	Not Detected
Cyclohexane	0.10	0.097	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.078	0.29	0.23
Benzene	0.40	0.26	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.068	Not Detected	Not Detected
Heptane	0.10	0.090	0.18	0.17
Trichloroethene	0.10	0.076	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.071	0.84	0.59
Tetrachloroethene	0.10	0.089	Not Detected	Not Detected
Chlorobenzene	0.10	0.077	Not Detected	Not Detected
Ethyl Benzene	0.10	0.077	0.11	0.084
m,p-Xylene	0.10	0.075	0.32	0.24
o-Xylene	0.10	0.081	0.10	0.084
Styrene	0.10	0.086	Not Detected	Not Detected
Propylbenzene	0.10	0.092	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 80.0F , duration time = 18866 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	80	70-130

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Client Sample ID: 7

Lab ID#: 2008357-03A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18081908sim**	**Date of Collection: 8/13/20 12:34:00 PM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/19/20 03:03 PM**	
		Date of Extraction: 8/19/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.51	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.081	Not Detected	Not Detected
Hexane	0.10	0.080	0.46	0.36
Ethyl Acetate	0.40	0.27	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.33	0.22
Chloroform	0.10	0.070	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.085	Not Detected	Not Detected
Cyclohexane	0.10	0.097	0.14	0.14
Carbon Tetrachloride	0.10	0.078	0.40	0.31
Benzene	0.40	0.26	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.068	Not Detected	Not Detected
Heptane	0.10	0.090	0.31	0.28
Trichloroethene	0.10	0.076	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.071	1.2	0.86
Tetrachloroethene	0.10	0.089	Not Detected	Not Detected
Chlorobenzene	0.10	0.077	Not Detected	Not Detected
Ethyl Benzene	0.10	0.077	0.17	0.13
m,p-Xylene	0.10	0.075	0.50	0.38
o-Xylene	0.10	0.081	0.16	0.13
Styrene	0.10	0.086	Not Detected	Not Detected
Propylbenzene	0.10	0.092	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 80.0F , duration time = 18849 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

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Client Sample ID: 8

Lab ID#: 2008357-04A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18081909sim**	**Date of Collection: 8/13/20 12:55:00 PM**
Dil. Factor:	**1.00**	**Date of Analysis: 8/19/20 03:29 PM**
		Date of Extraction: 8/19/20

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.51	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.081	Not Detected	Not Detected
Hexane	0.10	0.080	0.35	0.28
Ethyl Acetate	0.40	0.27	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.27	0.18
Chloroform	0.10	0.070	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.085	Not Detected	Not Detected
Cyclohexane	0.10	0.097	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.078	0.35	0.27
Benzene	0.40	0.26	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.068	Not Detected	Not Detected
Heptane	0.10	0.090	0.23	0.21
Trichloroethene	0.10	0.076	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.071	0.93	0.66
Tetrachloroethene	0.10	0.089	Not Detected	Not Detected
Chlorobenzene	0.10	0.077	Not Detected	Not Detected
Ethyl Benzene	0.10	0.077	0.13	0.098
m,p-Xylene	0.10	0.075	0.36	0.27
o-Xylene	0.10	0.081	0.12	0.098
Styrene	0.10	0.086	Not Detected	Not Detected
Propylbenzene	0.10	0.092	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 81.0F , duration time = 18860 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	80	70-130

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Client Sample ID: 12

Lab ID#: 2008357-05A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18081910sim**	**Date of Collection:**	**8/13/20 9:05:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**8/19/20 03:55 PM**
		Date of Extraction:	**8/19/20**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.53	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.083	Not Detected	Not Detected
Hexane	0.10	0.082	0.40	0.33
Ethyl Acetate	0.40	0.28	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.14	0.32	0.22
Chloroform	0.10	0.072	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.087	Not Detected	Not Detected
Cyclohexane	0.10	0.10	0.12	0.12
Carbon Tetrachloride	0.10	0.081	0.40	0.33
Benzene	0.40	0.27	0.40	0.27
1,2-Dichloroethane	0.10	0.070	Not Detected	Not Detected
Heptane	0.10	0.093	0.62	0.58
Trichloroethene	0.10	0.078	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.073	1.0	0.74
Tetrachloroethene	0.10	0.092	Not Detected	Not Detected
Chlorobenzene	0.10	0.080	Not Detected	Not Detected
Ethyl Benzene	0.10	0.080	0.15	0.12
m,p-Xylene	0.10	0.077	0.46	0.35
o-Xylene	0.10	0.083	0.14	0.12
Styrene	0.10	0.089	Not Detected	Not Detected
Propylbenzene	0.10	0.095	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.11	Not Detected	Not Detected
Naphthalene	0.10	0.22	Not Detected	Not Detected

Temperature = 73.0F , duration time = 18660 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	81	70-130

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Client Sample ID: DUP

Lab ID#: 2008357-06A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18081911sim**	**Date of Collection: 8/13/20 9:08:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/19/20 04:21 PM**	
		Date of Extraction: 8/19/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.53	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.083	Not Detected	Not Detected
Hexane	0.10	0.082	0.34	0.28
Ethyl Acetate	0.40	0.28	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.14	0.29	0.20
Chloroform	0.10	0.072	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.087	Not Detected	Not Detected
Cyclohexane	0.10	0.10	0.10	0.10
Carbon Tetrachloride	0.10	0.081	0.34	0.27
Benzene	0.40	0.27	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.070	Not Detected	Not Detected
Heptane	0.10	0.093	0.52	0.48
Trichloroethene	0.10	0.078	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.073	0.88	0.64
Tetrachloroethene	0.10	0.092	Not Detected	Not Detected
Chlorobenzene	0.10	0.080	Not Detected	Not Detected
Ethyl Benzene	0.10	0.080	0.13	0.10
m,p-Xylene	0.10	0.077	0.38	0.29
o-Xylene	0.10	0.083	0.13	0.11
Styrene	0.10	0.089	Not Detected	Not Detected
Propylbenzene	0.10	0.095	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.11	Not Detected	Not Detected
Naphthalene	0.10	0.22	Not Detected	Not Detected

Temperature = 73.0F , duration time = 18660 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	81	70-130

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Client Sample ID: TB

Lab ID#: 2008357-07A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18081912sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/19/20 04:47 PM**	
		Date of Extraction: 8/19/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.51	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.081	Not Detected	Not Detected
Hexane	0.10	0.080	Not Detected	Not Detected
Ethyl Acetate	0.40	0.27	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	Not Detected	Not Detected
Chloroform	0.10	0.070	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.085	Not Detected	Not Detected
Cyclohexane	0.10	0.097	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.078	Not Detected	Not Detected
Benzene	0.40	0.26	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.068	Not Detected	Not Detected
Heptane	0.10	0.090	Not Detected	Not Detected
Trichloroethene	0.10	0.076	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.071	Not Detected	Not Detected
Tetrachloroethene	0.10	0.089	Not Detected	Not Detected
Chlorobenzene	0.10	0.077	Not Detected	Not Detected
Ethyl Benzene	0.10	0.077	Not Detected	Not Detected
m,p-Xylene	0.10	0.075	Not Detected	Not Detected
o-Xylene	0.10	0.081	Not Detected	Not Detected
Styrene	0.10	0.086	Not Detected	Not Detected
Propylbenzene	0.10	0.092	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 81.0F , duration time = 18866 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	80	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2008357-08A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18081905sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/19/20 01:23 PM**	
		Date of Extraction: 8/19/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.51	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.081	Not Detected	Not Detected
Hexane	0.10	0.080	Not Detected	Not Detected
Ethyl Acetate	0.40	0.27	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	Not Detected	Not Detected
Chloroform	0.10	0.070	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.085	Not Detected	Not Detected
Cyclohexane	0.10	0.097	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.078	Not Detected	Not Detected
Benzene	0.40	0.26	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.068	Not Detected	Not Detected
Heptane	0.10	0.090	Not Detected	Not Detected
Trichloroethene	0.10	0.076	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.071	Not Detected	Not Detected
Tetrachloroethene	0.10	0.089	Not Detected	Not Detected
Chlorobenzene	0.10	0.077	Not Detected	Not Detected
Ethyl Benzene	0.10	0.077	Not Detected	Not Detected
m,p-Xylene	0.10	0.075	Not Detected	Not Detected
o-Xylene	0.10	0.081	Not Detected	Not Detected
Styrene	0.10	0.086	Not Detected	Not Detected
Propylbenzene	0.10	0.092	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 81.0F , duration time = 18866 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	79	70-130

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Client Sample ID: LCS

Lab ID#: 2008357-09A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18081903sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/19/20 12:28 PM**	
		Date of Extraction: 8/19/20	

Compound	%Recovery	Method Limits
Ethanol	52	50-130
Methyl tert-butyl ether	91	70-130
Hexane	88	70-130
Ethyl Acetate	91	70-130
2-Butanone (Methyl Ethyl Ketone)	86	70-130
Chloroform	88	70-130
1,1,1-Trichloroethane	94	70-130
Cyclohexane	95	70-130
Carbon Tetrachloride	95	70-130
Benzene	86	70-130
1,2-Dichloroethane	88	70-130
Heptane	99	70-130
Trichloroethene	99	70-130
4-Methyl-2-pentanone	99	70-130
Toluene	94	70-130
Tetrachloroethene	95	70-130
Chlorobenzene	89	70-130
Ethyl Benzene	99	70-130
m,p-Xylene	94	70-130
o-Xylene	89	70-130
Styrene	67	20-100
Propylbenzene	97	70-130
1,4-Dichlorobenzene	75	50-110
Naphthalene	13	5-80

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	79	70-130

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Client Sample ID: LCSD

Lab ID#: 2008357-09AA

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18081904sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/19/20 12:54 PM**	
		Date of Extraction: 8/19/20	

Compound	%Recovery	Method Limits
Ethanol	55	50-130
Methyl tert-butyl ether	94	70-130
Hexane	91	70-130
Ethyl Acetate	95	70-130
2-Butanone (Methyl Ethyl Ketone)	90	70-130
Chloroform	93	70-130
1,1,1-Trichloroethane	96	70-130
Cyclohexane	97	70-130
Carbon Tetrachloride	97	70-130
Benzene	89	70-130
1,2-Dichloroethane	91	70-130
Heptane	101	70-130
Trichloroethene	100	70-130
4-Methyl-2-pentanone	101	70-130
Toluene	96	70-130
Tetrachloroethene	97	70-130
Chlorobenzene	90	70-130
Ethyl Benzene	99	70-130
m,p-Xylene	95	70-130
o-Xylene	90	70-130
Styrene	69	20-100
Propylbenzene	98	70-130
1,4-Dichlorobenzene	75	50-110
Naphthalene	12	5-80

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	80	70-130

August 13, 2020 to August 28, 2020

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9/16/2020
Mr. Bill Abernathy
Feezor Engineering
3377 Hollenberg Drive

Bridgeton MO 63044

Project Name: Bridgeton Landfill VOCs
Project #:
Workorder #: 2009037

Dear Mr. Bill Abernathy

The following report includes the data for the above referenced project for sample(s) received on 9/2/2020 at Air Toxics Ltd.

The data and associated QC analyzed by Passive S.E. RAD130/SKC are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,

Brian Whittaker

Project Manager

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WORK ORDER #: 2009037

Work Order Summary

CLIENT:	Mr. Bill Abernathy Feezor Engineering, Inc. 3377 Hollenberg Drive Bridgeton, MO 63044	**BILL TO:**	Accounts Payable Feezor Engineering, Inc. 406 E. Walnut Chatham, IL 62629
PHONE:	314-502-1299	**P.O. #**	BT-204
FAX:		**PROJECT #**	Bridgeton Landfill VOCs
DATE RECEIVED:	09/02/2020	**CONTACT:**	Brian Whittaker
DATE COMPLETED:	09/16/2020		

FRACTION #	NAME	TEST
01A	1	Passive S.E. RAD130/SKC
02A	5	Passive S.E. RAD130/SKC
03A	7	Passive S.E. RAD130/SKC
04A	8	Passive S.E. RAD130/SKC
05A	12	Passive S.E. RAD130/SKC
06A	Dup	Passive S.E. RAD130/SKC
07A	TB	Passive S.E. RAD130/SKC
08A	Lab Blank	Passive S.E. RAD130/SKC
09A	LCS	Passive S.E. RAD130/SKC
09AA	LCSD	Passive S.E. RAD130/SKC

CERTIFIED BY:  DATE: 09/16/20

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209219, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-19-14, UT NELAP – CA009332020-12, VA NELAP - 10615, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-013, Effective date: 10/18/2019, Expiration date: 10/17/2020.
Eurofins Air Toxics, LLC certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

LABORATORY NARRATIVE
RAD130 Passive SE by Mod EPA TO-17
Feezor Engineering
Workorder# 2009037

Seven Radiello 130 (Solvent) samples were received on September 02, 2020. The laboratory analyzed the charcoal sorbent bed of the passive sampler following modified method EPA TO-17. The VOCs were chemically extracted using carbon disulfide and an aliquot of the extract was injected into a GC/MS for identification and quantification of volatile organic compounds (VOCs).

The mass of each target compound adsorbed by the sampler was converted to units of concentration using the sample deployment time and the sampling rate for each VOC. If sampling rates were calculated by the lab or the manufacturer, the concentration result has been flagged as an estimated value. Results are not corrected for desorption efficiency.

The reference method used for this procedure is EPA TO-17, which describes the collection of VOCs in ambient air using sorbents and analysis by GC/MS. Because TO-17 describes active sample collection using a pump and thermal desorption as the preparation step, several modifications are required. Modifications to TO-17 are listed in the table below:

Requirement	***TO-17***	***ATL Modifications***
Sample Collection	Pump pulls measured air volume through sorbent tube	VOCs in air adsorbed onto sorbent bed passively through diffusion
Sample Preparation	Thermal extraction	Solvent extraction
Sorbent tube conditioning	Condition newly packed tubes prior to use	Charcoal-based sorbent is a single use media and conditioning is conducted by vendor.
Instrumentation	Thermal desorption introduction system	Liquid injection introduction system
Internal Standard	Gas-phase internal standard introduced on the tube or focusing trap during analysis	Liquid-phase internal standard introduced on the tube at the time of extraction
Media and sample storage	<4 deg C, 30 days	Media shelf life is determined by vendor; sample hold-time is 6 months for the RAD130 and WMS. Sample preservation requirements are storage in a cool, solvent-free refrigerator and optional use of ice during shipping.
Internal Standard Recovery	+/-40% of daily CCV area	-50% to +100% of daily CCV area

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The uptake rates were corrected based on average field temperatures if provided. In the absence of field temperatures, the uptake rates determined at 25 deg C were used.

To calculate ug/m3 concentrations in the Lab Blank and Trip Blank, a sampling duration of 21754 minutes was applied. The assumed temperature used for the uptake rate is listed on the data page. If the field temperatures were provided, the rate was adjusted in the same manner as the field samples.

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

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicate as follows:

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

C - Estimated concentration due to calculated sampling rate

CN - See case narrative explanation.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: 1

Lab ID#: 2009037-01A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.069	0.62	0.43
Ethyl Acetate	0.40	0.23	0.41	0.24
Chloroform	0.10	0.061	0.11	0.068
Cyclohexane	0.10	0.084	0.18	0.15
Carbon Tetrachloride	0.10	0.068	0.73	0.49
Benzene	0.40	0.23	0.53	0.30
Heptane	0.10	0.078	0.47	0.37
Toluene	0.10	0.062	1.7	1.1
Tetrachloroethene	0.10	0.077	0.11	0.084
Ethyl Benzene	0.10	0.067	0.21	0.14
m,p-Xylene	0.10	0.065	0.64	0.41
o-Xylene	0.10	0.070	0.20	0.14

Client Sample ID: 5

Lab ID#: 2009037-02A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.069	0.56	0.38
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.31	0.18
Cyclohexane	0.10	0.085	0.15	0.12
Carbon Tetrachloride	0.10	0.068	0.48	0.33
Benzene	0.40	0.23	0.50	0.28
Heptane	0.10	0.079	0.36	0.28
Toluene	0.10	0.062	1.4	0.90
Tetrachloroethene	0.10	0.077	0.11	0.082
Ethyl Benzene	0.10	0.067	0.22	0.15
m,p-Xylene	0.10	0.065	0.69	0.45
o-Xylene	0.10	0.070	0.21	0.15

Client Sample ID: 7

Lab ID#: 2009037-03A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: 7

Lab ID#: 2009037-03A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.069	0.66	0.45
Ethyl Acetate	0.40	0.23	0.76	0.44
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.35	0.20
Cyclohexane	0.10	0.084	0.17	0.14
Carbon Tetrachloride	0.10	0.068	0.48	0.32
Benzene	0.40	0.23	0.48	0.27
Heptane	0.10	0.078	0.37	0.29
Toluene	0.10	0.061	1.8	1.1
Tetrachloroethene	0.10	0.077	0.14	0.11
Ethyl Benzene	0.10	0.067	0.26	0.17
m,p-Xylene	0.10	0.065	0.80	0.52
o-Xylene	0.10	0.070	0.25	0.18

Client Sample ID: 8

Lab ID#: 2009037-04A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.069	0.54	0.37
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.33	0.19
Cyclohexane	0.10	0.084	0.12	0.10
Carbon Tetrachloride	0.10	0.068	0.49	0.33
Benzene	0.40	0.23	0.48	0.27
Heptane	0.10	0.078	0.31	0.24
Toluene	0.10	0.061	1.2	0.73
Ethyl Benzene	0.10	0.067	0.19	0.13
m,p-Xylene	0.10	0.065	0.59	0.38
o-Xylene	0.10	0.070	0.18	0.12

Client Sample ID: 12

Lab ID#: 2009037-05A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.069	0.55	0.38

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: 12

Lab ID#: 2009037-05A

2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.32	0.19
Cyclohexane	0.10	0.084	0.13	0.11
Carbon Tetrachloride	0.10	0.068	0.51	0.35
Benzene	0.40	0.23	0.50	0.28
Heptane	0.10	0.078	0.38	0.30
Toluene	0.10	0.061	1.2	0.73
Ethyl Benzene	0.10	0.067	0.17	0.12
m,p-Xylene	0.10	0.065	0.52	0.34
o-Xylene	0.10	0.070	0.16	0.12

Client Sample ID: Dup

Lab ID#: 2009037-06A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.069	0.50	0.35
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.29	0.17
Cyclohexane	0.10	0.084	0.12	0.10
Carbon Tetrachloride	0.10	0.068	0.48	0.33
Benzene	0.40	0.23	0.47	0.27
Heptane	0.10	0.078	0.37	0.29
Toluene	0.10	0.062	1.1	0.68
Ethyl Benzene	0.10	0.067	0.17	0.11
m,p-Xylene	0.10	0.065	0.50	0.33
o-Xylene	0.10	0.070	0.16	0.11

Client Sample ID: TB

Lab ID#: 2009037-07A

No Detections Were Found.

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Client Sample ID: 1

Lab ID#: 2009037-01A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091520sim**	**Date of Collection: 8/28/20 11:54:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/20 03:31 PM**	
		Date of Extraction: 9/15/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.45	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.070	Not Detected	Not Detected
Hexane	0.10	0.069	0.62	0.43
Ethyl Acetate	0.40	0.23	0.41	0.24
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	Not Detected	Not Detected
Chloroform	0.10	0.061	0.11	0.068
1,1,1-Trichloroethane	0.10	0.073	Not Detected	Not Detected
Cyclohexane	0.10	0.084	0.18	0.15
Carbon Tetrachloride	0.10	0.068	0.73	0.49
Benzene	0.40	0.23	0.53	0.30
1,2-Dichloroethane	0.10	0.059	Not Detected	Not Detected
Heptane	0.10	0.078	0.47	0.37
Trichloroethene	0.10	0.066	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.062	1.7	1.1
Tetrachloroethene	0.10	0.077	0.11	0.084
Chlorobenzene	0.10	0.067	Not Detected	Not Detected
Ethyl Benzene	0.10	0.067	0.21	0.14
m,p-Xylene	0.10	0.065	0.64	0.41
o-Xylene	0.10	0.070	0.20	0.14
Styrene	0.10	0.075	Not Detected	Not Detected
Propylbenzene	0.10	0.080	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.089	Not Detected	Not Detected
Naphthalene	0.10	0.18	Not Detected	Not Detected

Temperature = 81.0F , duration time = 21745 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

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Client Sample ID: 5

Lab ID#: 2009037-02A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091521sim**	**Date of Collection: 8/28/20 1:55:00 PM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/20 03:58 PM**	
		Date of Extraction: 9/15/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.45	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.070	Not Detected	Not Detected
Hexane	0.10	0.069	0.56	0.38
Ethyl Acetate	0.40	0.23	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.31	0.18
Chloroform	0.10	0.061	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.074	Not Detected	Not Detected
Cyclohexane	0.10	0.085	0.15	0.12
Carbon Tetrachloride	0.10	0.068	0.48	0.33
Benzene	0.40	0.23	0.50	0.28
1,2-Dichloroethane	0.10	0.059	Not Detected	Not Detected
Heptane	0.10	0.079	0.36	0.28
Trichloroethene	0.10	0.066	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.062	1.4	0.90
Tetrachloroethene	0.10	0.077	0.11	0.082
Chlorobenzene	0.10	0.067	Not Detected	Not Detected
Ethyl Benzene	0.10	0.067	0.22	0.15
m,p-Xylene	0.10	0.065	0.69	0.45
o-Xylene	0.10	0.070	0.21	0.15
Styrene	0.10	0.075	Not Detected	Not Detected
Propylbenzene	0.10	0.080	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.090	Not Detected	Not Detected
Naphthalene	0.10	0.18	Not Detected	Not Detected

Temperature = 81.0F , duration time = 21669 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	83	70-130

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Client Sample ID: 7

Lab ID#: 2009037-03A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091522sim**	**Date of Collection: 8/28/20 1:50:00 PM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/20 04:25 PM**	
		Date of Extraction: 9/15/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.44	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.070	Not Detected	Not Detected
Hexane	0.10	0.069	0.66	0.45
Ethyl Acetate	0.40	0.23	0.76	0.44
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.35	0.20
Chloroform	0.10	0.060	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.073	Not Detected	Not Detected
Cyclohexane	0.10	0.084	0.17	0.14
Carbon Tetrachloride	0.10	0.068	0.48	0.32
Benzene	0.40	0.23	0.48	0.27
1,2-Dichloroethane	0.10	0.059	Not Detected	Not Detected
Heptane	0.10	0.078	0.37	0.29
Trichloroethene	0.10	0.066	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.061	1.8	1.1
Tetrachloroethene	0.10	0.077	0.14	0.11
Chlorobenzene	0.10	0.067	Not Detected	Not Detected
Ethyl Benzene	0.10	0.067	0.26	0.17
m,p-Xylene	0.10	0.065	0.80	0.52
o-Xylene	0.10	0.070	0.25	0.18
Styrene	0.10	0.074	Not Detected	Not Detected
Propylbenzene	0.10	0.080	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.089	Not Detected	Not Detected
Naphthalene	0.10	0.18	Not Detected	Not Detected

Temperature = 82.0F , duration time = 21675 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	83	70-130

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Client Sample ID: 8

Lab ID#: 2009037-04A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091523sim**	**Date of Collection: 8/28/20 2:00:00 PM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/20 04:51 PM**	
		Date of Extraction: 9/15/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.44	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.070	Not Detected	Not Detected
Hexane	0.10	0.069	0.54	0.37
Ethyl Acetate	0.40	0.23	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.33	0.19
Chloroform	0.10	0.061	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.073	Not Detected	Not Detected
Cyclohexane	0.10	0.084	0.12	0.10
Carbon Tetrachloride	0.10	0.068	0.49	0.33
Benzene	0.40	0.23	0.48	0.27
1,2-Dichloroethane	0.10	0.059	Not Detected	Not Detected
Heptane	0.10	0.078	0.31	0.24
Trichloroethene	0.10	0.066	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.061	1.2	0.73
Tetrachloroethene	0.10	0.077	Not Detected	Not Detected
Chlorobenzene	0.10	0.067	Not Detected	Not Detected
Ethyl Benzene	0.10	0.067	0.19	0.13
m,p-Xylene	0.10	0.065	0.59	0.38
o-Xylene	0.10	0.070	0.18	0.12
Styrene	0.10	0.074	Not Detected	Not Detected
Propylbenzene	0.10	0.080	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.089	Not Detected	Not Detected
Naphthalene	0.10	0.18	Not Detected	Not Detected

Temperature = 82.0F , duration time = 21664 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

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Client Sample ID: 12

Lab ID#: 2009037-05A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091524sim**	**Date of Collection: 8/28/20 11:40:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/20 05:18 PM**	
		Date of Extraction: 9/15/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.45	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.070	Not Detected	Not Detected
Hexane	0.10	0.069	0.55	0.38
Ethyl Acetate	0.40	0.23	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.32	0.19
Chloroform	0.10	0.061	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.073	Not Detected	Not Detected
Cyclohexane	0.10	0.084	0.13	0.11
Carbon Tetrachloride	0.10	0.068	0.51	0.35
Benzene	0.40	0.23	0.50	0.28
1,2-Dichloroethane	0.10	0.059	Not Detected	Not Detected
Heptane	0.10	0.078	0.38	0.30
Trichloroethene	0.10	0.066	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.061	1.2	0.73
Tetrachloroethene	0.10	0.077	Not Detected	Not Detected
Chlorobenzene	0.10	0.067	Not Detected	Not Detected
Ethyl Benzene	0.10	0.067	0.17	0.12
m,p-Xylene	0.10	0.065	0.52	0.34
o-Xylene	0.10	0.070	0.16	0.12
Styrene	0.10	0.075	Not Detected	Not Detected
Propylbenzene	0.10	0.080	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.089	Not Detected	Not Detected
Naphthalene	0.10	0.18	Not Detected	Not Detected

Temperature = 80.0F , duration time = 21754 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

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Client Sample ID: Dup

Lab ID#: 2009037-06A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091525sim**	**Date of Collection: 8/28/20 11:40:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/20 05:45 PM**	
		Date of Extraction: 9/15/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.45	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.070	Not Detected	Not Detected
Hexane	0.10	0.069	0.50	0.35
Ethyl Acetate	0.40	0.23	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.29	0.17
Chloroform	0.10	0.061	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.073	Not Detected	Not Detected
Cyclohexane	0.10	0.084	0.12	0.10
Carbon Tetrachloride	0.10	0.068	0.48	0.33
Benzene	0.40	0.23	0.47	0.27
1,2-Dichloroethane	0.10	0.059	Not Detected	Not Detected
Heptane	0.10	0.078	0.37	0.29
Trichloroethene	0.10	0.066	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.062	1.1	0.68
Tetrachloroethene	0.10	0.077	Not Detected	Not Detected
Chlorobenzene	0.10	0.067	Not Detected	Not Detected
Ethyl Benzene	0.10	0.067	0.17	0.11
m,p-Xylene	0.10	0.065	0.50	0.33
o-Xylene	0.10	0.070	0.16	0.11
Styrene	0.10	0.075	Not Detected	Not Detected
Propylbenzene	0.10	0.080	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.089	Not Detected	Not Detected
Naphthalene	0.10	0.18	Not Detected	Not Detected

Temperature = 80.0F , duration time = 21751 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	83	70-130

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Client Sample ID: TB

Lab ID#: 2009037-07A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091526sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/20 06:11 PM**	
		Date of Extraction: 9/15/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.44	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.070	Not Detected	Not Detected
Hexane	0.10	0.069	Not Detected	Not Detected
Ethyl Acetate	0.40	0.23	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.11	Not Detected	Not Detected
Chloroform	0.10	0.060	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.073	Not Detected	Not Detected
Cyclohexane	0.10	0.084	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.068	Not Detected	Not Detected
Benzene	0.40	0.23	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.059	Not Detected	Not Detected
Heptane	0.10	0.078	Not Detected	Not Detected
Trichloroethene	0.10	0.066	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.061	Not Detected	Not Detected
Tetrachloroethene	0.10	0.077	Not Detected	Not Detected
Chlorobenzene	0.10	0.066	Not Detected	Not Detected
Ethyl Benzene	0.10	0.066	Not Detected	Not Detected
m,p-Xylene	0.10	0.065	Not Detected	Not Detected
o-Xylene	0.10	0.070	Not Detected	Not Detected
Styrene	0.10	0.074	Not Detected	Not Detected
Propylbenzene	0.10	0.079	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.089	Not Detected	Not Detected
Naphthalene	0.10	0.18	Not Detected	Not Detected

Temperature = 82.0F , duration time = 21754 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2009037-08A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091506sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/20 09:17 AM**	
		Date of Extraction: 9/15/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.44	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.070	Not Detected	Not Detected
Hexane	0.10	0.069	Not Detected	Not Detected
Ethyl Acetate	0.40	0.23	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.11	Not Detected	Not Detected
Chloroform	0.10	0.060	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.073	Not Detected	Not Detected
Cyclohexane	0.10	0.084	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.068	Not Detected	Not Detected
Benzene	0.40	0.23	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.059	Not Detected	Not Detected
Heptane	0.10	0.078	Not Detected	Not Detected
Trichloroethene	0.10	0.066	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.061	Not Detected	Not Detected
Tetrachloroethene	0.10	0.077	Not Detected	Not Detected
Chlorobenzene	0.10	0.066	Not Detected	Not Detected
Ethyl Benzene	0.10	0.066	Not Detected	Not Detected
m,p-Xylene	0.10	0.065	Not Detected	Not Detected
o-Xylene	0.10	0.070	Not Detected	Not Detected
Styrene	0.10	0.074	Not Detected	Not Detected
Propylbenzene	0.10	0.079	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.089	Not Detected	Not Detected
Naphthalene	0.10	0.18	Not Detected	Not Detected

Temperature = 82.0F , duration time = 21754 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	80	70-130

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Client Sample ID: LCS

Lab ID#: 2009037-09A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091505sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/20 08:50 AM**	
		Date of Extraction: 9/15/20	

Compound	%Recovery	Method Limits
Ethanol	43 Q	50-130
Methyl tert-butyl ether	101	70-130
Hexane	95	70-130
Ethyl Acetate	92	70-130
2-Butanone (Methyl Ethyl Ketone)	86	70-130
Chloroform	97	70-130
1,1,1-Trichloroethane	99	70-130
Cyclohexane	91	70-130
Carbon Tetrachloride	96	70-130
Benzene	82	70-130
1,2-Dichloroethane	103	70-130
Heptane	95	70-130
Trichloroethene	87	70-130
4-Methyl-2-pentanone	85	70-130
Toluene	85	70-130
Tetrachloroethene	86	70-130
Chlorobenzene	77	70-130
Ethyl Benzene	86	70-130
m,p-Xylene	83	70-130
o-Xylene	78	70-130
Styrene	59	20-100
Propylbenzene	91	70-130
1,4-Dichlorobenzene	69	50-110
Naphthalene	9.6	5-80

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

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Client Sample ID: LCSD

Lab ID#: 2009037-09AA

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091504sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/20 08:23 AM**	
		Date of Extraction: 9/15/20	

Compound	%Recovery	Method Limits
Ethanol	51	50-130
Methyl tert-butyl ether	107	70-130
Hexane	98	70-130
Ethyl Acetate	97	70-130
2-Butanone (Methyl Ethyl Ketone)	91	70-130
Chloroform	102	70-130
1,1,1-Trichloroethane	102	70-130
Cyclohexane	93	70-130
Carbon Tetrachloride	100	70-130
Benzene	85	70-130
1,2-Dichloroethane	106	70-130
Heptane	97	70-130
Trichloroethene	89	70-130
4-Methyl-2-pentanone	86	70-130
Toluene	85	70-130
Tetrachloroethene	86	70-130
Chlorobenzene	77	70-130
Ethyl Benzene	86	70-130
m,p-Xylene	84	70-130
o-Xylene	78	70-130
Styrene	58	20-100
Propylbenzene	91	70-130
1,4-Dichlorobenzene	69	50-110
Naphthalene	10	5-80

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	83	70-130

August 28, 2020 to September 10, 2020

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9/24/2020
Mr. Bill Abernathy
Feezor Engineering
3377 Hollenberg Drive

Bridgeton MO 63044

Project Name: Bridgeton Landfill VOCs
Project #:
Workorder #: 2009266

Dear Mr. Bill Abernathy

The following report includes the data for the above referenced project for sample(s) received on 9/11/2020 at Air Toxics Ltd.

The data and associated QC analyzed by Passive S.E. RAD130/SKC are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,

Brian Whittaker

Project Manager

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WORK ORDER #: 2009266

Work Order Summary

CLIENT:	Mr. Bill Abernathy Feezor Engineering, Inc. 3377 Hollenberg Drive Bridgeton, MO 63044	**BILL TO:**	Accounts Payable Feezor Engineering, Inc. 406 E. Walnut Chatham, IL 62629
PHONE:	314-502-1299	**P.O. #**	BT-204
FAX:		**PROJECT #**	Bridgeton Landfill VOCs
DATE RECEIVED:	09/11/2020	**CONTACT:**	Brian Whittaker
DATE COMPLETED:	09/24/2020		

FRACTION #	NAME	TEST
01A	1	Passive S.E. RAD130/SKC
02A	5	Passive S.E. RAD130/SKC
03A	7	Passive S.E. RAD130/SKC
04A	8	Passive S.E. RAD130/SKC
05A	12	Passive S.E. RAD130/SKC
06A	Dup	Passive S.E. RAD130/SKC
07A	TB	Passive S.E. RAD130/SKC
08A	Lab Blank	Passive S.E. RAD130/SKC
09A	LCS	Passive S.E. RAD130/SKC
09AA	LCSD	Passive S.E. RAD130/SKC

CERTIFIED BY:  DATE: 09/24/20

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209219, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-19-14, UT NELAP – CA009332020-12, VA NELAP - 10615, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-013, Effective date: 10/18/2019, Expiration date: 10/17/2020.
Eurofins Air Toxics, LLC certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
RAD130 Passive SE by Mod EPA TO-17
Feezor Engineering
Workorder# 2009266

Seven Radiello 130 (Solvent) samples were received on September 11, 2020. The laboratory analyzed the charcoal sorbent bed of the passive sampler following modified method EPA TO-17. The VOCs were chemically extracted using carbon disulfide and an aliquot of the extract was injected into a GC/MS for identification and quantification of volatile organic compounds (VOCs).

The mass of each target compound adsorbed by the sampler was converted to units of concentration using the sample deployment time and the sampling rate for each VOC. If sampling rates were calculated by the lab or the manufacturer, the concentration result has been flagged as an estimated value. Results are not corrected for desorption efficiency.

The reference method used for this procedure is EPA TO-17, which describes the collection of VOCs in ambient air using sorbents and analysis by GC/MS. Because TO-17 describes active sample collection using a pump and thermal desorption as the preparation step, several modifications are required. Modifications to TO-17 are listed in the table below:

Requirement	***TO-17***	***ATL Modifications***
Sample Collection	Pump pulls measured air volume through sorbent tube	VOCs in air adsorbed onto sorbent bed passively through diffusion
Sample Preparation	Thermal extraction	Solvent extraction
Sorbent tube conditioning	Condition newly packed tubes prior to use	Charcoal-based sorbent is a single use media and conditioning is conducted by vendor.
Instrumentation	Thermal desorption introduction system	Liquid injection introduction system
Internal Standard	Gas-phase internal standard introduced on the tube or focusing trap during analysis	Liquid-phase internal standard introduced on the tube at the time of extraction
Media and sample storage	<4 deg C, 30 days	Media shelf life is determined by vendor; sample hold-time is 6 months for the RAD130 and WMS. Sample preservation requirements are storage in a cool, solvent-free refrigerator and optional use of ice during shipping.
Internal Standard Recovery	+/-40% of daily CCV area	-50% to +100% of daily CCV area

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The uptake rates were corrected based on average field temperatures if provided. In the absence of field temperatures, the uptake rates determined at 25 deg C were used.

To calculate ug/m3 concentrations in the Lab Blank and Trip Blank, a sampling duration of 18595 minutes was applied. The assumed temperature used for the uptake rate is listed on the data page. If the field temperatures were provided, the rate was adjusted in the same manner as the field samples.

The Relative Percent Difference (RPD) of the LCS/LCSD exceeded acceptance limits for Naphthalene.

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

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicate as follows:

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

C - Estimated concentration due to calculated sampling rate

CN - See case narrative explanation.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: 1

Lab ID#: 2009266-01A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.081	0.22	0.18
Carbon Tetrachloride	0.10	0.079	0.34	0.27
Heptane	0.10	0.092	0.18	0.17
Toluene	0.10	0.072	0.68	0.49
m,p-Xylene	0.10	0.076	0.27	0.21

Client Sample ID: 5

Lab ID#: 2009266-02A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.081	0.23	0.19
2-Butanone (Methyl Ethyl Ketone)	0.20	0.14	0.22	0.15
Carbon Tetrachloride	0.10	0.080	0.27	0.22
Heptane	0.10	0.092	0.13	0.12
Toluene	0.10	0.072	0.85	0.61
Ethyl Benzene	0.10	0.079	2.1	1.6
m,p-Xylene	0.10	0.077	8.8	6.8
o-Xylene	0.10	0.082	2.5	2.0

Client Sample ID: 7

Lab ID#: 2009266-03A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.081	0.25	0.20
2-Butanone (Methyl Ethyl Ketone)	0.20	0.14	0.26	0.17
Carbon Tetrachloride	0.10	0.080	0.26	0.20
Heptane	0.10	0.092	0.15	0.14
Toluene	0.10	0.072	0.87	0.63
Ethyl Benzene	0.10	0.079	2.0	1.6
m,p-Xylene	0.10	0.077	8.5	6.5
o-Xylene	0.10	0.082	2.4	2.0

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: 8

Lab ID#: 2009266-04A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.081	0.23	0.18
2-Butanone (Methyl Ethyl Ketone)	0.20	0.14	0.26	0.18
Carbon Tetrachloride	0.10	0.080	0.29	0.23
Heptane	0.10	0.093	0.13	0.12
Toluene	0.10	0.072	0.53	0.39
Ethyl Benzene	0.10	0.079	0.20	0.16
m,p-Xylene	0.10	0.077	0.76	0.58
o-Xylene	0.10	0.083	0.21	0.18

Client Sample ID: 12

Lab ID#: 2009266-05A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.081	0.23	0.18
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.25	0.17
Carbon Tetrachloride	0.10	0.080	0.27	0.22
Heptane	0.10	0.092	0.15	0.14
Toluene	0.10	0.072	0.50	0.36
Ethyl Benzene	0.10	0.078	0.10	0.082
m,p-Xylene	0.10	0.076	0.35	0.27
o-Xylene	0.10	0.082	0.10	0.086

Client Sample ID: Dup

Lab ID#: 2009266-06A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.081	0.22	0.18
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.23	0.16
Carbon Tetrachloride	0.10	0.080	0.28	0.22
Heptane	0.10	0.092	0.16	0.15
Toluene	0.10	0.072	0.52	0.37
Ethyl Benzene	0.10	0.078	0.11	0.084
m,p-Xylene	0.10	0.076	0.35	0.27

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: Dup

Lab ID#: 2009266-06A

o-Xylene	0.10	0.082	0.10	0.083

Client Sample ID: TB

Lab ID#: 2009266-07A

No Detections Were Found.

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Client Sample ID: 1

Lab ID#: 2009266-01A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091620sim**	**Date of Collection: 9/10/20 9:50:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/20 03:26 PM**	
		Date of Extraction: 9/16/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.52	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.082	Not Detected	Not Detected
Hexane	0.10	0.081	0.22	0.18
Ethyl Acetate	0.40	0.27	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	Not Detected	Not Detected
Chloroform	0.10	0.071	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.086	Not Detected	Not Detected
Cyclohexane	0.10	0.098	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.079	0.34	0.27
Benzene	0.40	0.27	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.069	Not Detected	Not Detected
Heptane	0.10	0.092	0.18	0.17
Trichloroethene	0.10	0.077	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.072	0.68	0.49
Tetrachloroethene	0.10	0.090	Not Detected	Not Detected
Chlorobenzene	0.10	0.078	Not Detected	Not Detected
Ethyl Benzene	0.10	0.078	Not Detected	Not Detected
m,p-Xylene	0.10	0.076	0.27	0.21
o-Xylene	0.10	0.082	Not Detected	Not Detected
Styrene	0.10	0.087	Not Detected	Not Detected
Propylbenzene	0.10	0.093	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 81.0F , duration time = 18595 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	83	70-130

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Client Sample ID: 5

Lab ID#: 2009266-02A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091621sim**	**Date of Collection: 9/10/20 9:35:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/20 03:53 PM**	
		Date of Extraction: 9/16/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.52	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.082	Not Detected	Not Detected
Hexane	0.10	0.081	0.23	0.19
Ethyl Acetate	0.40	0.28	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.14	0.22	0.15
Chloroform	0.10	0.072	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.086	Not Detected	Not Detected
Cyclohexane	0.10	0.099	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.080	0.27	0.22
Benzene	0.40	0.27	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.070	Not Detected	Not Detected
Heptane	0.10	0.092	0.13	0.12
Trichloroethene	0.10	0.078	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.072	0.85	0.61
Tetrachloroethene	0.10	0.091	Not Detected	Not Detected
Chlorobenzene	0.10	0.079	Not Detected	Not Detected
Ethyl Benzene	0.10	0.079	2.1	1.6
m,p-Xylene	0.10	0.077	8.8	6.8
o-Xylene	0.10	0.082	2.5	2.0
Styrene	0.10	0.088	Not Detected	Not Detected
Propylbenzene	0.10	0.094	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 81.0F , duration time = 18459 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130

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Client Sample ID: 7

Lab ID#: 2009266-03A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091622sim**	**Date of Collection: 9/10/20 9:30:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/20 04:20 PM**	
		Date of Extraction: 9/16/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.52	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.082	Not Detected	Not Detected
Hexane	0.10	0.081	0.25	0.20
Ethyl Acetate	0.40	0.28	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.14	0.26	0.17
Chloroform	0.10	0.072	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.086	Not Detected	Not Detected
Cyclohexane	0.10	0.099	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.080	0.26	0.20
Benzene	0.40	0.27	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.070	Not Detected	Not Detected
Heptane	0.10	0.092	0.15	0.14
Trichloroethene	0.10	0.078	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.072	0.87	0.63
Tetrachloroethene	0.10	0.091	Not Detected	Not Detected
Chlorobenzene	0.10	0.079	Not Detected	Not Detected
Ethyl Benzene	0.10	0.079	2.0	1.6
m,p-Xylene	0.10	0.077	8.5	6.5
o-Xylene	0.10	0.082	2.4	2.0
Styrene	0.10	0.088	Not Detected	Not Detected
Propylbenzene	0.10	0.094	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 81.0F , duration time = 18459 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	83	70-130

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Client Sample ID: 8

Lab ID#: 2009266-04A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091623sim**	**Date of Collection: 9/10/20 9:12:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/20 04:46 PM**	
		Date of Extraction: 9/16/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.53	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.083	Not Detected	Not Detected
Hexane	0.10	0.081	0.23	0.18
Ethyl Acetate	0.40	0.28	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.14	0.26	0.18
Chloroform	0.10	0.072	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.087	Not Detected	Not Detected
Cyclohexane	0.10	0.099	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.080	0.29	0.23
Benzene	0.40	0.27	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.070	Not Detected	Not Detected
Heptane	0.10	0.093	0.13	0.12
Trichloroethene	0.10	0.078	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.072	0.53	0.39
Tetrachloroethene	0.10	0.091	Not Detected	Not Detected
Chlorobenzene	0.10	0.079	Not Detected	Not Detected
Ethyl Benzene	0.10	0.079	0.20	0.16
m,p-Xylene	0.10	0.077	0.76	0.58
o-Xylene	0.10	0.083	0.21	0.18
Styrene	0.10	0.088	Not Detected	Not Detected
Propylbenzene	0.10	0.094	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 81.0F , duration time = 18431 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

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Client Sample ID: 12

Lab ID#: 2009266-05A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091624sim**	**Date of Collection: 9/10/20 9:21:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/20 05:13 PM**	
		Date of Extraction: 9/16/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.52	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.082	Not Detected	Not Detected
Hexane	0.10	0.081	0.23	0.18
Ethyl Acetate	0.40	0.27	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.25	0.17
Chloroform	0.10	0.071	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.086	Not Detected	Not Detected
Cyclohexane	0.10	0.099	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.080	0.27	0.22
Benzene	0.40	0.27	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.069	Not Detected	Not Detected
Heptane	0.10	0.092	0.15	0.14
Trichloroethene	0.10	0.077	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.072	0.50	0.36
Tetrachloroethene	0.10	0.090	Not Detected	Not Detected
Chlorobenzene	0.10	0.078	Not Detected	Not Detected
Ethyl Benzene	0.10	0.078	0.10	0.082
m,p-Xylene	0.10	0.076	0.35	0.27
o-Xylene	0.10	0.082	0.10	0.086
Styrene	0.10	0.087	Not Detected	Not Detected
Propylbenzene	0.10	0.093	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 81.0F , duration time = 18580 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	83	70-130

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Client Sample ID: Dup

Lab ID#: 2009266-06A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091625sim**	**Date of Collection: 9/10/20 9:22:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/20 05:40 PM**	
		Date of Extraction: 9/16/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.52	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.082	Not Detected	Not Detected
Hexane	0.10	0.081	0.22	0.18
Ethyl Acetate	0.40	0.27	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.23	0.16
Chloroform	0.10	0.071	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.086	Not Detected	Not Detected
Cyclohexane	0.10	0.099	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.080	0.28	0.22
Benzene	0.40	0.27	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.069	Not Detected	Not Detected
Heptane	0.10	0.092	0.16	0.15
Trichloroethene	0.10	0.077	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.072	0.52	0.37
Tetrachloroethene	0.10	0.090	Not Detected	Not Detected
Chlorobenzene	0.10	0.078	Not Detected	Not Detected
Ethyl Benzene	0.10	0.078	0.11	0.084
m,p-Xylene	0.10	0.076	0.35	0.27
o-Xylene	0.10	0.082	0.10	0.083
Styrene	0.10	0.087	Not Detected	Not Detected
Propylbenzene	0.10	0.093	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 81.0F , duration time = 18578 minutes.
Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130

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Client Sample ID: TB

Lab ID#: 2009266-07A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091626sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/20 06:07 PM**	
		Date of Extraction: 9/16/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.52	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.082	Not Detected	Not Detected
Hexane	0.10	0.081	Not Detected	Not Detected
Ethyl Acetate	0.40	0.27	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	Not Detected	Not Detected
Chloroform	0.10	0.071	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.086	Not Detected	Not Detected
Cyclohexane	0.10	0.098	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.079	Not Detected	Not Detected
Benzene	0.40	0.27	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.069	Not Detected	Not Detected
Heptane	0.10	0.092	Not Detected	Not Detected
Trichloroethene	0.10	0.077	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.072	Not Detected	Not Detected
Tetrachloroethene	0.10	0.090	Not Detected	Not Detected
Chlorobenzene	0.10	0.078	Not Detected	Not Detected
Ethyl Benzene	0.10	0.078	Not Detected	Not Detected
m,p-Xylene	0.10	0.076	Not Detected	Not Detected
o-Xylene	0.10	0.082	Not Detected	Not Detected
Styrene	0.10	0.087	Not Detected	Not Detected
Propylbenzene	0.10	0.093	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 81.0F , duration time = 18595 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2009266-08A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091606sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/20 09:13 AM**	
		Date of Extraction: 9/16/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.52	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.082	Not Detected	Not Detected
Hexane	0.10	0.081	Not Detected	Not Detected
Ethyl Acetate	0.40	0.27	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	Not Detected	Not Detected
Chloroform	0.10	0.071	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.086	Not Detected	Not Detected
Cyclohexane	0.10	0.098	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.079	Not Detected	Not Detected
Benzene	0.40	0.27	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.069	Not Detected	Not Detected
Heptane	0.10	0.092	Not Detected	Not Detected
Trichloroethene	0.10	0.077	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.072	Not Detected	Not Detected
Tetrachloroethene	0.10	0.090	Not Detected	Not Detected
Chlorobenzene	0.10	0.078	Not Detected	Not Detected
Ethyl Benzene	0.10	0.078	Not Detected	Not Detected
m,p-Xylene	0.10	0.076	Not Detected	Not Detected
o-Xylene	0.10	0.082	Not Detected	Not Detected
Styrene	0.10	0.087	Not Detected	Not Detected
Propylbenzene	0.10	0.093	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 81.0F , duration time = 18595 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	83	70-130

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Client Sample ID: LCS

Lab ID#: 2009266-09A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091603sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/20 07:53 AM**	
		Date of Extraction: 9/16/20	

Compound	%Recovery	Method Limits
Ethanol	44 Q	50-130
Methyl tert-butyl ether	99	70-130
Hexane	94	70-130
Ethyl Acetate	92	70-130
2-Butanone (Methyl Ethyl Ketone)	85	70-130
Chloroform	99	70-130
1,1,1-Trichloroethane	100	70-130
Cyclohexane	92	70-130
Carbon Tetrachloride	100	70-130
Benzene	85	70-130
1,2-Dichloroethane	104	70-130
Heptane	98	70-130
Trichloroethene	91	70-130
4-Methyl-2-pentanone	88	70-130
Toluene	88	70-130
Tetrachloroethene	88	70-130
Chlorobenzene	80	70-130
Ethyl Benzene	88	70-130
m,p-Xylene	86	70-130
o-Xylene	81	70-130
Styrene	64	20-100
Propylbenzene	92	70-130
1,4-Dichlorobenzene	72	50-110
Naphthalene	14	5-80

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	83	70-130

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Client Sample ID: LCSD

Lab ID#: 2009266-09AA

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091605sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/20 08:46 AM**	
		Date of Extraction: 9/16/20	

Compound	%Recovery	Method Limits
Ethanol	34 Q	50-130
Methyl tert-butyl ether	92	70-130
Hexane	92	70-130
Ethyl Acetate	87	70-130
2-Butanone (Methyl Ethyl Ketone)	79	70-130
Chloroform	94	70-130
1,1,1-Trichloroethane	99	70-130
Cyclohexane	93	70-130
Carbon Tetrachloride	100	70-130
Benzene	85	70-130
1,2-Dichloroethane	101	70-130
Heptane	101	70-130
Trichloroethene	91	70-130
4-Methyl-2-pentanone	91	70-130
Toluene	92	70-130
Tetrachloroethene	93	70-130
Chlorobenzene	84	70-130
Ethyl Benzene	93	70-130
m,p-Xylene	92	70-130
o-Xylene	85	70-130
Styrene	64	20-100
Propylbenzene	99	70-130
1,4-Dichlorobenzene	73	50-110
Naphthalene	10	5-80

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130

September 10, 2020 to September 24, 2020

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10/8/2020
Mr. Bill Abernathy
Feezor Engineering
3377 Hollenberg Drive

Bridgeton MO 63044

Project Name: Bridgeton Landfill VOCs
Project #:
Workorder #: 2009650

Dear Mr. Bill Abernathy

The following report includes the data for the above referenced project for sample(s) received on 9/25/2020 at Air Toxics Ltd.

The data and associated QC analyzed by Passive S.E. RAD130/SKC are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,

Brian Whittaker

Project Manager

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WORK ORDER #: 2009650

Work Order Summary

CLIENT:	Mr. Bill Abernathy Feezor Engineering, Inc. 3377 Hollenberg Drive Bridgeton, MO 63044	**BILL TO:**	Accounts Payable Feezor Engineering, Inc. 406 E. Walnut Chatham, IL 62629
PHONE:	314-502-1299	**P.O. #**	BT-204
FAX:		**PROJECT #**	Bridgeton Landfill VOCs
DATE RECEIVED:	09/25/2020	**CONTACT:**	Brian Whittaker
DATE COMPLETED:	10/08/2020		

FRACTION #	NAME	TEST
01A	1	Passive S.E. RAD130/SKC
02A	5	Passive S.E. RAD130/SKC
03A	7	Passive S.E. RAD130/SKC
04A	8	Passive S.E. RAD130/SKC
05A	12	Passive S.E. RAD130/SKC
06A	Dup	Passive S.E. RAD130/SKC
07A	TB	Passive S.E. RAD130/SKC
08A	Lab Blank	Passive S.E. RAD130/SKC
09A	LCS	Passive S.E. RAD130/SKC
09AA	LCSD	Passive S.E. RAD130/SKC

CERTIFIED BY:  DATE: 10/08/20

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209219, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-19-14, UT NELAP – CA009332020-12, VA NELAP - 10615, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-013, Effective date: 10/18/2019, Expiration date: 10/17/2020.
Eurofins Air Toxics, LLC certifies that the test results contained in this report meet all requirements of the NELAC standards

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

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

LABORATORY NARRATIVE
RAD130 Passive SE by Mod EPA TO-17
Feezor Engineering
Workorder# 2009650

Seven Radiello 130 (Solvent) samples were received on September 25, 2020. The laboratory analyzed the charcoal sorbent bed of the passive sampler following modified method EPA TO-17. The VOCs were chemically extracted using carbon disulfide and an aliquot of the extract was injected into a GC/MS for identification and quantification of volatile organic compounds (VOCs).

The mass of each target compound adsorbed by the sampler was converted to units of concentration using the sample deployment time and the sampling rate for each VOC. If sampling rates were calculated by the lab or the manufacturer, the concentration result has been flagged as an estimated value. Results are not corrected for desorption efficiency.

The reference method used for this procedure is EPA TO-17, which describes the collection of VOCs in ambient air using sorbents and analysis by GC/MS. Because TO-17 describes active sample collection using a pump and thermal desorption as the preparation step, several modifications are required. Modifications to TO-17 are listed in the table below:

Requirement	***TO-17***	***ATL Modifications***
Sample Collection	Pump pulls measured air volume through sorbent tube	VOCs in air adsorbed onto sorbent bed passively through diffusion
Sample Preparation	Thermal extraction	Solvent extraction
Sorbent tube conditioning	Condition newly packed tubes prior to use	Charcoal-based sorbent is a single use media and conditioning is conducted by vendor.
Instrumentation	Thermal desorption introduction system	Liquid injection introduction system
Internal Standard	Gas-phase internal standard introduced on the tube or focusing trap during analysis	Liquid-phase internal standard introduced on the tube at the time of extraction
Media and sample storage	<4 deg C, 30 days	Media shelf life is determined by vendor; sample hold-time is 6 months for the RAD130 and WMS. Sample preservation requirements are storage in a cool, solvent-free refrigerator and optional use of ice during shipping.
Internal Standard Recovery	+/-40% of daily CCV area	-50% to +100% of daily CCV area

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

To calculate ug/m3 concentrations in the Lab Blank and Trip Blank, a sampling duration of 20459 minutes was applied. The assumed temperature used for the uptake rate is listed on the data page. If

the field temperatures were provided, the rate was adjusted in the same manner as the field samples.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicate as follows:

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

C - Estimated concentration due to calculated sampling rate

CN - See case narrative explanation.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: 1

Lab ID#: 2009650-01A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.074	0.53	0.40
Chloroform	0.10	0.066	0.11	0.075
Cyclohexane	0.10	0.091	0.19	0.17
Carbon Tetrachloride	0.10	0.073	0.57	0.42
Benzene	0.40	0.24	0.55	0.34
Heptane	0.10	0.085	0.34	0.28
Toluene	0.10	0.066	1.7	1.2
Tetrachloroethene	0.10	0.083	0.11	0.095
Ethyl Benzene	0.10	0.072	0.17	0.12
m,p-Xylene	0.10	0.070	0.48	0.33
o-Xylene	0.10	0.076	0.15	0.12

Client Sample ID: 5

Lab ID#: 2009650-02A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.077	0.52	0.41
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.30	0.20
Cyclohexane	0.10	0.095	0.20	0.19
Carbon Tetrachloride	0.10	0.076	0.47	0.36
Benzene	0.40	0.26	0.52	0.33
Heptane	0.10	0.088	0.32	0.29
Toluene	0.10	0.069	1.4	0.99
Ethyl Benzene	0.10	0.075	0.18	0.14
m,p-Xylene	0.10	0.073	0.54	0.40
o-Xylene	0.10	0.079	0.19	0.15

Client Sample ID: 7

Lab ID#: 2009650-03A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.078	0.68	0.53
Ethyl Acetate	0.40	0.26	0.59	0.39

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: 7

Lab ID#: 2009650-03A

2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.37	0.24
Chloroform	0.10	0.068	0.10	0.071
Cyclohexane	0.10	0.095	0.26	0.25
Carbon Tetrachloride	0.10	0.076	0.54	0.41
Benzene	0.40	0.26	0.60	0.38
Heptane	0.10	0.088	0.34	0.30
Toluene	0.10	0.069	1.7	1.2
Ethyl Benzene	0.10	0.075	0.23	0.17
m,p-Xylene	0.10	0.073	0.76	0.56
o-Xylene	0.10	0.079	0.27	0.22

Client Sample ID: 8

Lab ID#: 2009650-04A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.077	0.41	0.31
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.30	0.20
Cyclohexane	0.10	0.094	0.23	0.21
Carbon Tetrachloride	0.10	0.076	0.32	0.24
Heptane	0.10	0.088	0.26	0.23
Toluene	0.10	0.069	0.88	0.61
Ethyl Benzene	0.10	0.075	0.10	0.078
m,p-Xylene	0.10	0.073	0.31	0.22
o-Xylene	0.10	0.078	0.10	0.082

Client Sample ID: 12

Lab ID#: 2009650-05A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.078	0.58	0.45
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.34	0.22
Chloroform	0.10	0.068	0.11	0.074
Cyclohexane	0.10	0.095	0.19	0.18
Carbon Tetrachloride	0.10	0.076	0.56	0.43

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: 12

Lab ID#: 2009650-05A

Benzene	0.40	0.26	0.60	0.38
Heptane	0.10	0.088	0.49	0.43
Toluene	0.10	0.069	1.4	0.96
Ethyl Benzene	0.10	0.075	0.18	0.13
m,p-Xylene	0.10	0.073	0.51	0.37
o-Xylene	0.10	0.079	0.16	0.13

Client Sample ID: Dup

Lab ID#: 2009650-06A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.078	0.51	0.40
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.28	0.18
Cyclohexane	0.10	0.095	0.18	0.17
Carbon Tetrachloride	0.10	0.076	0.48	0.37
Benzene	0.40	0.26	0.54	0.34
Heptane	0.10	0.088	0.44	0.39
Toluene	0.10	0.069	1.3	0.87
Ethyl Benzene	0.10	0.075	0.16	0.12
m,p-Xylene	0.10	0.073	0.46	0.33
o-Xylene	0.10	0.079	0.15	0.12

Client Sample ID: TB

Lab ID#: 2009650-07A

No Detections Were Found.

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Client Sample ID: 1

Lab ID#: 2009650-01A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c092822sim**	**Date of Collection: 9/24/20 2:50:00 PM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/28/20 06:53 PM**	
		Date of Extraction: 9/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.48	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.076	Not Detected	Not Detected
Hexane	0.10	0.074	0.53	0.40
Ethyl Acetate	0.40	0.25	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	Not Detected	Not Detected
Chloroform	0.10	0.066	0.11	0.075
1,1,1-Trichloroethane	0.10	0.079	Not Detected	Not Detected
Cyclohexane	0.10	0.091	0.19	0.17
Carbon Tetrachloride	0.10	0.073	0.57	0.42
Benzene	0.40	0.24	0.55	0.34
1,2-Dichloroethane	0.10	0.064	Not Detected	Not Detected
Heptane	0.10	0.085	0.34	0.28
Trichloroethene	0.10	0.071	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.15	Not Detected	Not Detected
Toluene	0.10	0.066	1.7	1.2
Tetrachloroethene	0.10	0.083	0.11	0.095
Chlorobenzene	0.10	0.072	Not Detected	Not Detected
Ethyl Benzene	0.10	0.072	0.17	0.12
m,p-Xylene	0.10	0.070	0.48	0.33
o-Xylene	0.10	0.076	0.15	0.12
Styrene	0.10	0.080	Not Detected	Not Detected
Propylbenzene	0.10	0.086	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.096	Not Detected	Not Detected
Naphthalene	0.10	0.20	Not Detected	Not Detected

Temperature = 75.0F , duration time = 20459 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130

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Client Sample ID: 5

Lab ID#: 2009650-02A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c092823sim**	**Date of Collection: 9/24/20 11:20:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/28/20 07:20 PM**	
		Date of Extraction: 9/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.50	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.079	Not Detected	Not Detected
Hexane	0.10	0.077	0.52	0.41
Ethyl Acetate	0.40	0.26	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.30	0.20
Chloroform	0.10	0.068	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.082	Not Detected	Not Detected
Cyclohexane	0.10	0.095	0.20	0.19
Carbon Tetrachloride	0.10	0.076	0.47	0.36
Benzene	0.40	0.26	0.52	0.33
1,2-Dichloroethane	0.10	0.066	Not Detected	Not Detected
Heptane	0.10	0.088	0.32	0.29
Trichloroethene	0.10	0.074	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.15	Not Detected	Not Detected
Toluene	0.10	0.069	1.4	0.99
Tetrachloroethene	0.10	0.087	Not Detected	Not Detected
Chlorobenzene	0.10	0.075	Not Detected	Not Detected
Ethyl Benzene	0.10	0.075	0.18	0.14
m,p-Xylene	0.10	0.073	0.54	0.40
o-Xylene	0.10	0.079	0.19	0.15
Styrene	0.10	0.084	Not Detected	Not Detected
Propylbenzene	0.10	0.090	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected
Naphthalene	0.10	0.20	Not Detected	Not Detected

Temperature = 64.0F , duration time = 20263 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	85	70-130

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Client Sample ID: 7

Lab ID#: 2009650-03A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c092824sim**	**Date of Collection: 9/24/20 11:10:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/28/20 07:46 PM**	
		Date of Extraction: 9/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.50	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.079	Not Detected	Not Detected
Hexane	0.10	0.078	0.68	0.53
Ethyl Acetate	0.40	0.26	0.59	0.39
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.37	0.24
Chloroform	0.10	0.068	0.10	0.071
1,1,1-Trichloroethane	0.10	0.082	Not Detected	Not Detected
Cyclohexane	0.10	0.095	0.26	0.25
Carbon Tetrachloride	0.10	0.076	0.54	0.41
Benzene	0.40	0.26	0.60	0.38
1,2-Dichloroethane	0.10	0.066	Not Detected	Not Detected
Heptane	0.10	0.088	0.34	0.30
Trichloroethene	0.10	0.074	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.15	Not Detected	Not Detected
Toluene	0.10	0.069	1.7	1.2
Tetrachloroethene	0.10	0.087	Not Detected	Not Detected
Chlorobenzene	0.10	0.075	Not Detected	Not Detected
Ethyl Benzene	0.10	0.075	0.23	0.17
m,p-Xylene	0.10	0.073	0.76	0.56
o-Xylene	0.10	0.079	0.27	0.22
Styrene	0.10	0.084	Not Detected	Not Detected
Propylbenzene	0.10	0.090	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected
Naphthalene	0.10	0.20	Not Detected	Not Detected

Temperature = 64.0F , duration time = 20259 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130

eurofins | Air Toxics

Client Sample ID: 8

Lab ID#: 2009650-04A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c092825sim**	**Date of Collection: 9/24/20 11:35:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/28/20 08:13 PM**	
		Date of Extraction: 9/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.50	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.078	Not Detected	Not Detected
Hexane	0.10	0.077	0.41	0.31
Ethyl Acetate	0.40	0.26	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.30	0.20
Chloroform	0.10	0.068	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.082	Not Detected	Not Detected
Cyclohexane	0.10	0.094	0.23	0.21
Carbon Tetrachloride	0.10	0.076	0.32	0.24
Benzene	0.40	0.26	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.066	Not Detected	Not Detected
Heptane	0.10	0.088	0.26	0.23
Trichloroethene	0.10	0.074	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.15	Not Detected	Not Detected
Toluene	0.10	0.069	0.88	0.61
Tetrachloroethene	0.10	0.086	Not Detected	Not Detected
Chlorobenzene	0.10	0.075	Not Detected	Not Detected
Ethyl Benzene	0.10	0.075	0.10	0.078
m,p-Xylene	0.10	0.073	0.31	0.22
o-Xylene	0.10	0.078	0.10	0.082
Styrene	0.10	0.084	Not Detected	Not Detected
Propylbenzene	0.10	0.090	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected
Naphthalene	0.10	0.20	Not Detected	Not Detected

Temperature = 64.0F , duration time = 20301 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130

eurofins | Air Toxics

Client Sample ID: 12

Lab ID#: 2009650-05A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c092826sim**	**Date of Collection: 9/24/20 10:52:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/28/20 08:40 PM**	
		Date of Extraction: 9/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.50	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.079	Not Detected	Not Detected
Hexane	0.10	0.078	0.58	0.45
Ethyl Acetate	0.40	0.26	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.34	0.22
Chloroform	0.10	0.068	0.11	0.074
1,1,1-Trichloroethane	0.10	0.082	Not Detected	Not Detected
Cyclohexane	0.10	0.095	0.19	0.18
Carbon Tetrachloride	0.10	0.076	0.56	0.43
Benzene	0.40	0.26	0.60	0.38
1,2-Dichloroethane	0.10	0.066	Not Detected	Not Detected
Heptane	0.10	0.088	0.49	0.43
Trichloroethene	0.10	0.074	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.15	Not Detected	Not Detected
Toluene	0.10	0.069	1.4	0.96
Tetrachloroethene	0.10	0.087	Not Detected	Not Detected
Chlorobenzene	0.10	0.075	Not Detected	Not Detected
Ethyl Benzene	0.10	0.075	0.18	0.13
m,p-Xylene	0.10	0.073	0.51	0.37
o-Xylene	0.10	0.079	0.16	0.13
Styrene	0.10	0.084	Not Detected	Not Detected
Propylbenzene	0.10	0.090	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected
Naphthalene	0.10	0.20	Not Detected	Not Detected

Temperature = 64.0F , duration time = 20251 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130

eurofins | Air Toxics

Client Sample ID: Dup

Lab ID#: 2009650-06A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c092827sim**	**Date of Collection: 9/24/20 10:52:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/28/20 09:06 PM**	
		Date of Extraction: 9/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.50	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.079	Not Detected	Not Detected
Hexane	0.10	0.078	0.51	0.40
Ethyl Acetate	0.40	0.26	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.28	0.18
Chloroform	0.10	0.068	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.082	Not Detected	Not Detected
Cyclohexane	0.10	0.095	0.18	0.17
Carbon Tetrachloride	0.10	0.076	0.48	0.37
Benzene	0.40	0.26	0.54	0.34
1,2-Dichloroethane	0.10	0.066	Not Detected	Not Detected
Heptane	0.10	0.088	0.44	0.39
Trichloroethene	0.10	0.074	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.15	Not Detected	Not Detected
Toluene	0.10	0.069	1.3	0.87
Tetrachloroethene	0.10	0.087	Not Detected	Not Detected
Chlorobenzene	0.10	0.075	Not Detected	Not Detected
Ethyl Benzene	0.10	0.075	0.16	0.12
m,p-Xylene	0.10	0.073	0.46	0.33
o-Xylene	0.10	0.079	0.15	0.12
Styrene	0.10	0.084	Not Detected	Not Detected
Propylbenzene	0.10	0.090	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected
Naphthalene	0.10	0.20	Not Detected	Not Detected

Temperature = 64.0F , duration time = 20250 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130

eurofins | Air Toxics

Client Sample ID: TB

Lab ID#: 2009650-07A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c092828sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/28/20 09:33 PM**	
		Date of Extraction: 9/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.48	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.076	Not Detected	Not Detected
Hexane	0.10	0.074	Not Detected	Not Detected
Ethyl Acetate	0.40	0.25	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	Not Detected	Not Detected
Chloroform	0.10	0.066	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.079	Not Detected	Not Detected
Cyclohexane	0.10	0.091	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.073	Not Detected	Not Detected
Benzene	0.40	0.24	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.064	Not Detected	Not Detected
Heptane	0.10	0.085	Not Detected	Not Detected
Trichloroethene	0.10	0.071	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.15	Not Detected	Not Detected
Toluene	0.10	0.066	Not Detected	Not Detected
Tetrachloroethene	0.10	0.083	Not Detected	Not Detected
Chlorobenzene	0.10	0.072	Not Detected	Not Detected
Ethyl Benzene	0.10	0.072	Not Detected	Not Detected
m,p-Xylene	0.10	0.070	Not Detected	Not Detected
o-Xylene	0.10	0.076	Not Detected	Not Detected
Styrene	0.10	0.080	Not Detected	Not Detected
Propylbenzene	0.10	0.086	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.096	Not Detected	Not Detected
Naphthalene	0.10	0.20	Not Detected	Not Detected

Temperature = 75.0F , duration time = 20459 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	85	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 2009650-08A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c092808sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/28/20 12:37 PM**	
		Date of Extraction: 9/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.48	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.076	Not Detected	Not Detected
Hexane	0.10	0.074	Not Detected	Not Detected
Ethyl Acetate	0.40	0.25	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	Not Detected	Not Detected
Chloroform	0.10	0.066	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.079	Not Detected	Not Detected
Cyclohexane	0.10	0.091	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.073	Not Detected	Not Detected
Benzene	0.40	0.24	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.064	Not Detected	Not Detected
Heptane	0.10	0.085	Not Detected	Not Detected
Trichloroethene	0.10	0.071	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.15	Not Detected	Not Detected
Toluene	0.10	0.066	Not Detected	Not Detected
Tetrachloroethene	0.10	0.083	Not Detected	Not Detected
Chlorobenzene	0.10	0.072	Not Detected	Not Detected
Ethyl Benzene	0.10	0.072	Not Detected	Not Detected
m,p-Xylene	0.10	0.070	Not Detected	Not Detected
o-Xylene	0.10	0.076	Not Detected	Not Detected
Styrene	0.10	0.080	Not Detected	Not Detected
Propylbenzene	0.10	0.086	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.096	Not Detected	Not Detected
Naphthalene	0.10	0.20	Not Detected	Not Detected

Temperature = 75.0F , duration time = 20459 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 2009650-09A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c092806sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/28/20 11:41 AM**	
		Date of Extraction: 9/28/20	

Compound	%Recovery	Method Limits
Ethanol	52	50-130
Methyl tert-butyl ether	105	70-130
Hexane	99	70-130
Ethyl Acetate	98	70-130
2-Butanone (Methyl Ethyl Ketone)	88	70-130
Chloroform	102	70-130
1,1,1-Trichloroethane	106	70-130
Cyclohexane	96	70-130
Carbon Tetrachloride	103	70-130
Benzene	88	70-130
1,2-Dichloroethane	110	70-130
Heptane	100	70-130
Trichloroethene	90	70-130
4-Methyl-2-pentanone	89	70-130
Toluene	89	70-130
Tetrachloroethene	89	70-130
Chlorobenzene	83	70-130
Ethyl Benzene	89	70-130
m,p-Xylene	87	70-130
o-Xylene	82	70-130
Styrene	56	20-100
Propylbenzene	93	70-130
1,4-Dichlorobenzene	70	50-110
Naphthalene	10	5-80

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	83	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 2009650-09AA

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c092807sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/28/20 12:08 PM**	
		Date of Extraction: 9/28/20	

Compound	%Recovery	Method Limits
Ethanol	60	50-130
Methyl tert-butyl ether	101	70-130
Hexane	96	70-130
Ethyl Acetate	96	70-130
2-Butanone (Methyl Ethyl Ketone)	86	70-130
Chloroform	98	70-130
1,1,1-Trichloroethane	101	70-130
Cyclohexane	94	70-130
Carbon Tetrachloride	100	70-130
Benzene	85	70-130
1,2-Dichloroethane	106	70-130
Heptane	97	70-130
Trichloroethene	88	70-130
4-Methyl-2-pentanone	90	70-130
Toluene	88	70-130
Tetrachloroethene	88	70-130
Chlorobenzene	82	70-130
Ethyl Benzene	88	70-130
m,p-Xylene	86	70-130
o-Xylene	80	70-130
Styrene	55	20-100
Propylbenzene	92	70-130
1,4-Dichlorobenzene	68	50-110
Naphthalene	9.5	5-80

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

Appendix 3

Quarterly Level IV Data Validation Summary Reports

July 16, 2020 Sampling Event

Data Validation Summary Report for the Bridgeton Landfill July 16th, 2020 VOC Air Monitoring Event

Prepared by Jonathan Wilkinson
Residuals Management Team Member
Feezor Engineering, Inc.

October 20th, 2020

1 INTRODUCTION

Five (5) outdoor air samples, one (1) field duplicate sample, and one (1) trip blank sample were collected at the Bridgeton Landfill on July 16th, 2020. The samples were sent to the Eurofins / Air Toxics Laboratory in Folsom, California and analyzed for Volatile Organic Compounds (VOCs) by EPA Compendium Method TO-17 (modified).

The analytical results were validated using laboratory acceptance criteria and the procedures and guidelines contained in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, revised January 2017 and USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, dated October 1999.

Items checked included holding times, instrument performance check results, initial and continuing calibration procedures and results, method and field blank results, deuterated monitoring compound (DMC) recoveries, Matrix Spike/Matrix Spike Duplicate (MS/MSD) and Laboratory Control Sample (LCS) recoveries, internal standard recoveries, field duplicate results, target compound identification, compound quantitation, and transcriptions from raw data.

All data necessary to complete the data review were provided by the laboratory. Based on the guidelines referenced above, results were qualified as:

- "U": The analyte was not detected at a value greater than the associated analyte quantitation limit;
- "J": An estimated analyte result, "J+" or "J-" used to indicate a high or low bias;
- "NJ": The analyte has been tentatively identified, or is presumed to be present at the associated numerical value;
- "UJ": The analyte was not detected. The reported analyte quantitation limit is approximate and may be inaccurate or imprecise; and
- "R": The result is unusable. The result was rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

2 SAMPLE SUMMARY

Sample results were reported in a Contract Laboratory Program (CLP)-like format data package. Review of the Chain of Custody (COC) form indicates that samples collected on July 16th, 2020 were shipped for delivery to the laboratory on July 17th, 2020 and were received by the laboratory in good condition via Federal Express (the courier used to deliver the samples to the laboratory). **Table 2.1** provides general information about the laboratory and data package, **Table 2.2** lists the samples validated and their respective laboratory identification numbers.

Table 2.1 General Information

Contract Laboratory:	Eurofins / Air Toxics, Inc. Folsom, California
Total # of Samples:	7
Sample Matrix:	Radiello™ 130 activated charcoal sorbent bed passive air sampler

Table 2.2 Sample Identification

Field Sample ID	QA Sample ID	Laboratory ID
1		2007423-01A
5		2007423-02A
7		2007423-03A
8		2007423-04A
12		2007423-05A
Dup	Field Duplicate @ 1	2007423-06A
TB	Trip Blank	2007423-07A

3 VOLATILE ORGANIC COMPOUNDS (EPA METHOD TO-17 MODIFIED)

Analysis of VOCs is accomplished by chemical extraction of target analytes using carbon disulfide followed by injection into a Gas Chromatograph / Mass Spectrometer (GC/MS) for identification and quantitation of analytes.

3.1 HOLDING TIMES

No holding times are specified by the method. Per the manufacturer, the shelf life of the Radiello™ 130 unit is six (6) months. Samples were analyzed according to the times shown in **Table 3.1**

Table 3.1 EPA Method TO-17 (Modified) Sample Holding Times

Field Sample ID	Date Collected	Date Extracted	Date Analyzed	# Days from Collection to Extraction	# Days from Extraction to Analysis
1	7/16/2020	7/28/2020	7/28/2020	12	0
5	7/16/2020	7/28/2020	7/28/2020	12	0
7	7/16/2020	7/28/2020	7/28/2020	12	0
8	7/16/2020	7/28/2020	7/28/2020	12	0
12	7/16/2020	7/28/2020	7/28/2020	12	0
Dup	7/16/2020	7/28/2020	7/28/2020	12	0
TB	7/16/2020	7/28/2020	7/28/2020	12	0

No qualifications were required based on holding times.

3.2 GC INSTRUMENT PERFORMANCE CHECKS

GC/MS instrument performance check results were reported for each 12-hour period when samples were analyzed. Ion abundance acceptance criteria for performance check compound Bromofluorobenzene (BFB) used by the laboratory were similar to ion abundance acceptance criteria provided in ion abundance acceptance criteria provided in Table 3 of the Functional Guidelines, as presented in **Table 3.2**. Using raw GC/MS instrument performance check results provided by the laboratory, ion abundance results were verified to be within each set of acceptance criteria provided in **Table 3.2**.

Table 3.2 BFB Ion Abundance Acceptance Criteria

Ion Mass	Laboratory-Provided Criteria	USEPA CLP Criteria
50	8% to 40% of Mass 95	15% to 40% of Mass 95
75	30% to 66% of Mass 95	30% to 80% of Mass 95
95	Base Peak, 100% Relative Abundance	Base Peak, 100% Relative Abundance
96	5% to 9% of Mass 95	5% to 9% of Mass 95
173	Less than 2% of Mass 174	Less than 2% of Mass 174
174	50% to 120% of Mass 95	50% to 120% of Mass 95
175	4% to 9% of Mass 174	5% to 9% of Mass 174
176	93% to 101% of Mass 174	95% to 101% of Mass 174
177	5% to 9% of Mass 176	5% to 9% of Mass 176

No qualifications were required based on GC/MS instrument performance check results.

3.3 INITIAL CALIBRATION PROCEDURES AND RESULTS

Initial calibration was performed for Instrument MSD-C on May 13th, 2020 using eleven (11) standards for one (1) analyte, ten (10) standards for seventeen (17) analytes, nine (9) standards for three (3) analytes, eight (8) standards for two (2) analytes, and seven (7) standards for one (1) analyte. Based upon a review of raw calibration results provided by the laboratory, no errors were detected with the calculation of Percent Relative Standard Deviations (%RSDs), relative response factors (RRFs), or mean relative response factors ($\overline{RRFs}$).

RRFs and $\overline{RRFs}$ for target analytes were verified to be greater than analyte-specific USEPA-recommended minimum values provided in Table 4 of the Functional Guidelines, except as listed in **Table 3.3**. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be greater than laboratory-provided criteria, except as listed in **Table 3.3**. Analytes listed in **Table 3.3** were qualified as estimated high ("J+") for positive results and as unusable ("R") for non-detect results. %RSDs for individual analytes were verified to be less than or equal to analyte-specific USEPA-recommended maximum values provided in Table 4 of the Functional Guidelines and were less than or equal to laboratory-provided criteria for other analytes without an EPA-specified maximum value.

Table 3.3 Initial Calibration Relative Response Factors Outside of Control Limits

Initial Cal. Date and Instrument	Compound, $\overline{RRF}$, and EPA Minimum	Associated Samples
5/13/2020 MSD-C	Ethylbenzene: 0.449, EPA Table 4 Min = 0.500 1,4-Dichlorobenzene: RF200 = 0.611, EPA Table 4 Min = 0.700	All

No other qualifications were required based on initial calibration procedures or results.

3.4 INITIAL CALIBRATION VERIFCIATION

An initial calibration verification (ICV) sample was analyzed after the initial calibration samples on May 13th, 2020. As required by the Functional Guidelines, the ICV sample solution was obtained from another source than the sources used for the initial calibration. Also as required by the Functional Guidelines, the concentration of the ICV was at or near the midpoint value of the calibration standards used for the initial calibration.

The ICV RRFs for target analytes were verified to be greater than analyte-specific USEPA-recommended minimum values provided in Table 4 of the Functional Guidelines, except as listed in **Table 3.4**. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be greater than laboratory-provided criteria, except as listed in **Table 3.4**. Results for analytes listed in **Table 3.4** were qualified as estimated high ("J+") for positive results and as unusable ("R") for non-detect results.

Table 3.4 ICV Relative Response Factors Outside of Control Limits

ICV Date / Time and Instrument	Compound, RRF, and EPA Minimum	Associated Samples
5/13/2020 13:27 MSD-C	Ethylbenzene = 0.425, EPA Table 4 Min = 0.500	All

The ICV Percent Differences (%Ds) for target analytes were verified to be less than analyte-specific USEPA-recommended maximum values provided in Table 4 of the Functional Guidelines. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be less than laboratory-provided criteria for other analytes without an EPA-specified value.

No other qualifications were required based on initial calibration procedures or results.

3.5 CONTINUING CALIBRATION VERIFCIATION

A continuing calibration verification (CCV) sample was analyzed prior to analysis of samples on July 28th, 2020. As required by the Functional Guidelines, the concentration of the CCV was at or near the midpoint value of the calibration standards used for the initial calibration.

The CCV RRFs for target analytes were verified to be greater than analyte-specific USEPA-recommended minimum values provided in Table 4 of the Functional Guidelines, except as listed in **Table 3.5.1**. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be greater than laboratory-provided criteria, except as listed in **Table 3.5.1**. Results for analytes listed in **Table 3.5.1** were qualified as estimated high ("J+") for positive results and as unusable ("R") for non-detect results.

Table 3.5.1 CCV Relative Response Factors Outside of Control Limits

CCV Date / Time and Instrument	Compound, RRF, and EPA Minimum	Associated Samples
7/28/2020 09:17 MSD-C	Ethylbenzene = 0.406, EPA Table 4 Min = 0.500 1,4-Dichlorobenzene = 0.662, EPA Table 4 Min = 0.700	All

The CCV %Ds for target analytes were verified to be less than analyte-specific USEPA-recommended maximum values provided in Table 4 of the Functional Guidelines. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be less than laboratory-provided criteria.

No other qualifications were required based on continuing calibration procedures or results.

3.6 BLANKS

Samples were analyzed within one (1) twelve (12)-hour time period. A method blank was analyzed after the CCV sample and prior to the primary samples as required by the Functional

Guidelines. Method blank results were reported as non-detect by the laboratory and were verified to be non-detect based on a review of raw results provided by the laboratory.

One (1) trip blank sample was submitted to the laboratory and analyzed with the primary samples. No analytes were detected in the trip blank sample.

No qualifications were required based on blank results.

3.7 DEUTERATED MONITORING COMPOUNDS (SURROGATES)

One (1) deuterated monitoring compound (DMC, or surrogate), Toluene-d8, was added to each sample and used for evaluation of analysis efficiency. The laboratory compared recoveries for Toluene-d8 to the same criteria listed in the Functional Guidelines (70% - 130%). Toluene-d8 recoveries for the primary samples, method blank, and Laboratory Control Sample / Laboratory Control Sample Duplicate (LCS/LCSD) pair were verified to be within 70% - 130%.

No qualifications were required based on DMC results.

3.8 MATRIX SPIKE / MATRIX SPIKE DUPLICATE

No Matrix Spike / Matrix Spike Duplicate (MS/MSD) samples were analyzed.

No qualifications were required based on MS/MSD results.

3.9 LABORATORY CONTROL SAMPLE / LABORATORY CONTROL SAMPLE DUPLICATE

One (1) Laboratory Control Sample / Laboratory Control Sample Duplicate (LCS/LCSD) sample pair was analyzed with the primary samples. LCS/LCSD sample results were verified to be within laboratory-provided control limits and the Relative Percent Difference (RPD) between individual analyte results from the LCS and LCSD were verified be less than 20%, except the results listed in **Table 3.9**.

Table 3.9 LCS / LCSD Results Outside of Laboratory Control Limits

Date & time	Compound	% Recovery		RPD	Acceptance Criteria		Associated Samples
		LCS	LCSD		% Rec	RPD	
LCS 7/28/2020 09:44 LCSD 7/28/2020 10:10	Naphthalene	9.2%	6.4%	35.7%	5% - 80%	0% - 20%	All

Analytes listed in **Table 3.9** were qualified as estimated ("J") for positive results and were qualified as estimated non-detect ("UJ") for non-detect results in the associated samples. No other qualifications were required based on LCS/LCSD results.

3.10 INTERNAL STANDARDS

Internal standard area counts and retention times for the samples and blanks were within the Functional Guidelines control limits of 50% to 200% and ±10.0 seconds, respectively, of the corresponding counts and times for the most recent continuing calibration verification sample or midpoint standard from the associated initial calibration. The laboratory-provided internal standard control limit calculations were verified, and the individual sample internal standard results were verified to be within the applicable control limits.

No qualifications were required based on internal standards.

3.11 FIELD DUPLICATES

One (1) field duplicate sample pair (1 / DUP) was collected. Relative Percent Differences (RPDs) between the original and field duplicate samples were calculated to be less than 20% for detected analytes reported above five (5) times the applicable reporting limit (RL) and results were within ±RL for analytes reported at positive values less than five (5) times the RL.

No qualifications were performed based on field duplicate results.

3.12 TARGET ANALYTE IDENTIFICATION

Based on a review of raw sample results provided by the laboratory, no errors were observed with identification of target analytes. Relative intensities of primary and secondary ions for detected analytes were verified to be within ±20% of the laboratory-provided standard relative ion intensities for each analyte. Relative Retention Times (RRTs) were within the EPA-recommended control limits of ±0.06 RRT units of the RRT for the same analyte in the associated opening CCV sample.

No qualifications were performed based on target analyte identification criteria.

3.13 ANALYTE QUANTITATION AND TRANSCRIPTIONS FROM RAW DATA

Compound quantitation was checked for the primary samples, the field duplicate sample, the trip blank sample, and the LCS/LCSD sample pair. No errors were detected in sample quantitation methods or transcriptions from the raw data to the summary forms.

4 PRECISION, ACCURACY, AND COMPLETENESS

Results of the data validation were reviewed to evaluate the precision, accuracy, and completeness of the analyses.

Precision measures the agreement among a set of replicate measurements. Field precision is assessed through the collection and analysis of field duplicates. Analytical precision is estimated by duplicate / replicate analyses, usually on LCS samples, spiked samples, and/or field samples. For this project, precision was assessed by tabulating the results of the relative percent differences (RPDs) of the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) and original sample / field duplicate sample analyses. RPDs that fall within the project or laboratory-specified QA control limits indicate acceptable precision. The precision number given indicates the percentage of RPDs that were within control limits.

Accuracy is the closeness of a measured result to an accepted reference value. Quality Control (QC) analyses used to measure accuracy include internal standard recoveries, LCS samples, spiked samples, and DMC recoveries. For this project, accuracy was assessed by tabulating the results of the percent recoveries for internal standards, LCS/LCSD samples, DMCs, and results for the laboratory method blank sample. The reported accuracy indicates the percentage of recoveries and blank results within the project or QA control limits.

Completeness is a measure of the amount of valid data collected compared to the amount planned. Measurements are considered to be valid if they are unqualified or qualified as estimated during data validation. Rejected results are considered to be invalid. The reported completeness is the number of valid results divided by the total number of results.

4.1 OVERALL PROJECT PRECISION

The overall project precision for the Bridgeton Landfill July 16th, 2020 VOC air monitoring event, based on the percentage of RPD results within control limits, was 97.9% (47 of 48 results in control).

4.2 OVERALL PROJECT ACCURACY

The overall project accuracy for the Bridgeton Landfill July 16th, 2020 VOC air monitoring event, based on the percentage of internal standard recoveries, LCS sample recoveries, and DMC

recoveries within control limits, and laboratory method blank non-detects, was 100% (92 of 92 results in control).

4.3 OVERALL PROJECT COMPLETENESS

The overall project completeness for the Bridgeton Landfill July 16th, 2020 VOC air monitoring event, defined as the percentage of data not rejected, was 95.2% (160 of 168 results not rejected).

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Client Sample ID: 1

Lab ID#: 2007423-01A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c072807sim**	**Date of Collection: 7/16/20 8:23:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/20 11:40 AM**	
		Date of Extraction: 7/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.073	Not Detected	Not Detected
Hexane	0.10	0.072	0.46	0.33
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.22	0.13
Chloroform	0.10	0.063	0.10	0.063
1,1,1-Trichloroethane	0.10	0.076	Not Detected	Not Detected
Cyclohexane	0.10	0.088	0.11	0.097
Carbon Tetrachloride	0.10	0.070	0.53	0.37
Benzene	0.40	0.24	0.42	0.25
1,2-Dichloroethane	0.10	0.061	Not Detected	Not Detected
Heptane	0.10	0.082	0.28	0.23
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.064	0.86	0.55
Tetrachloroethene	0.10	0.080	Not Detected	Not Detected
Chlorobenzene	0.10	0.070	Not Detected	Not Detected
Ethyl Benzene	0.10	0.070	0.12	0.082 J+
m,p-Xylene	0.10	0.068	0.33	0.23
o-Xylene	0.10	0.073	0.10	0.073
Styrene	0.10	0.078	Not Detected	Not Detected
Propylbenzene	0.10	0.083	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.093	Not Detected	Not Detected R
Naphthalene	0.10	0.19	Not Detected	Not Detected UJ

Temperature = 71.0F , duration time = 21471 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	80	70-130

10/20/2020

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Client Sample ID: 5

Lab ID#: 2007423-02A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c072808sim**	**Date of Collection: 7/16/20 9:58:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/20 12:07 PM**	
		Date of Extraction: 7/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.070	0.43	0.30
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.22	0.13
Chloroform	0.10	0.062	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.075	Not Detected	Not Detected
Cyclohexane	0.10	0.086	0.11	0.094
Carbon Tetrachloride	0.10	0.069	0.43	0.30
Benzene	0.40	0.23	0.41	0.24
1,2-Dichloroethane	0.10	0.060	Not Detected	Not Detected
Heptane	0.10	0.080	0.28	0.22
Trichloroethene	0.10	0.067	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	0.95	0.60
Tetrachloroethene	0.10	0.079	Not Detected	Not Detected
Chlorobenzene	0.10	0.068	Not Detected	Not Detected
Ethyl Benzene	0.10	0.068	0.18	0.12 J+
m,p-Xylene	0.10	0.066	0.55	0.36
o-Xylene	0.10	0.072	0.17	0.12
Styrene	0.10	0.076	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.091	Not Detected	Not Detected
Naphthalene	0.10	0.19	Not Detected	Not Detected

Temperature = 75.0F , duration time = 21592 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	79	70-130

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Client Sample ID: 7

Lab ID#: 2007423-03A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c072809sim**	**Date of Collection: 7/16/20 9:49:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/20 12:34 PM**	
		Date of Extraction: 7/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.070	0.45	0.32
Ethyl Acetate	0.40	0.24	0.47	0.28
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.21	0.12
Chloroform	0.10	0.062	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.075	Not Detected	Not Detected
Cyclohexane	0.10	0.086	0.13	0.11
Carbon Tetrachloride	0.10	0.069	0.43	0.30
Benzene	0.40	0.23	0.40	0.23
1,2-Dichloroethane	0.10	0.060	Not Detected	Not Detected
Heptane	0.10	0.080	0.32	0.26
Trichloroethene	0.10	0.067	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	1.0	0.64
Tetrachloroethene	0.10	0.079	Not Detected	Not Detected
Chlorobenzene	0.10	0.068	Not Detected	Not Detected
Ethyl Benzene	0.10	0.068	0.20	0.13 J+
m,p-Xylene	0.10	0.066	0.62	0.41
o-Xylene	0.10	0.072	0.19	0.13
Styrene	0.10	0.076	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.091	Not Detected	Not Detected R
Naphthalene	0.10	0.19	Not Detected	Not Detected UJ

Temperature = 75.0F , duration time = 21590 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	79	70-130

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Client Sample ID: 8

Lab ID#: 2007423-04A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c072810sim**	**Date of Collection: 7/16/20 10:06:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/20 01:01 PM**	
		Date of Extraction: 7/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.070	0.45	0.32
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.25	0.15
Chloroform	0.10	0.062	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.075	Not Detected	Not Detected
Cyclohexane	0.10	0.086	0.10	0.090
Carbon Tetrachloride	0.10	0.069	0.43	0.30
Benzene	0.40	0.23	0.42	0.24
1,2-Dichloroethane	0.10	0.060	Not Detected	Not Detected
Heptane	0.10	0.080	0.32	0.25
Trichloroethene	0.10	0.067	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	0.94	0.59
Tetrachloroethene	0.10	0.079	Not Detected	Not Detected
Chlorobenzene	0.10	0.068	Not Detected	Not Detected
Ethyl Benzene	0.10	0.068	0.16	0.11 J+
m,p-Xylene	0.10	0.066	0.52	0.34
o-Xylene	0.10	0.072	0.16	0.11
Styrene	0.10	0.076	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.091	Not Detected	Not Detected R
Naphthalene	0.10	0.19	Not Detected	Not Detected UJ

Temperature = 76.0F , duration time = 21592 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	79	70-130

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Client Sample ID: 12

Lab ID#: 2007423-05A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c072811sim**	**Date of Collection:**	**7/16/20 9:35:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**7/28/20 01:27 PM**
		Date of Extraction:	**7/28/20**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.071	0.48	0.34
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.27	0.16
Chloroform	0.10	0.062	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.075	Not Detected	Not Detected
Cyclohexane	0.10	0.087	0.14	0.12
Carbon Tetrachloride	0.10	0.070	0.53	0.37
Benzene	0.40	0.23	0.50	0.29
1,2-Dichloroethane	0.10	0.061	Not Detected	Not Detected
Heptane	0.10	0.081	0.56	0.45
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	1.1	0.68
Tetrachloroethene	0.10	0.079	Not Detected	Not Detected
Chlorobenzene	0.10	0.069	Not Detected	Not Detected
Ethyl Benzene	0.10	0.069	0.18	0.12 J+
m,p-Xylene	0.10	0.067	0.52	0.35
o-Xylene	0.10	0.072	0.17	0.12
Styrene	0.10	0.077	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.092	Not Detected	Not Detected R
Naphthalene	0.10	0.19	Not Detected	Not Detected UJ

Temperature = 74.0F , duration time = 21594 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	80	70-130

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Client Sample ID: Dup

Lab ID#: 2007423-06A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c072812sim**	**Date of Collection: 7/16/20 8:23:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/20 01:54 PM**	
		Date of Extraction: 7/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.073	Not Detected	Not Detected
Hexane	0.10	0.072	0.46	0.33
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.25	0.15
Chloroform	0.10	0.063	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.076	Not Detected	Not Detected
Cyclohexane	0.10	0.088	0.12	0.10
Carbon Tetrachloride	0.10	0.070	0.47	0.33
Benzene	0.40	0.24	0.43	0.26
1,2-Dichloroethane	0.10	0.061	Not Detected	Not Detected
Heptane	0.10	0.082	0.30	0.24
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.064	0.98	0.63
Tetrachloroethene	0.10	0.080	Not Detected	Not Detected
Chlorobenzene	0.10	0.070	Not Detected	Not Detected
Ethyl Benzene	0.10	0.070	0.14	0.099 J+
m,p-Xylene	0.10	0.068	0.41	0.28
o-Xylene	0.10	0.073	0.13	0.094
Styrene	0.10	0.078	Not Detected	Not Detected
Propylbenzene	0.10	0.083	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.093	Not Detected	Not Detected R UJ
Naphthalene	0.10	0.19	Not Detected	Not Detected

Temperature = 71.0F , duration time = 21471 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	80	70-130

10/20/2020

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Client Sample ID: TB

Lab ID#: 2007423-07A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c072813sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/28/20 02:21 PM**	
		Date of Extraction: 7/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.070	Not Detected	Not Detected
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	Not Detected	Not Detected
Chloroform	0.10	0.062	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.075	Not Detected	Not Detected
Cyclohexane	0.10	0.086	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.069	Not Detected	Not Detected
Benzene	0.40	0.23	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.060	Not Detected	Not Detected
Heptane	0.10	0.080	Not Detected	Not Detected
Trichloroethene	0.10	0.067	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	Not Detected	Not Detected
Tetrachloroethene	0.10	0.079	Not Detected	Not Detected
Chlorobenzene	0.10	0.068	Not Detected	Not Detected
Ethyl Benzene	0.10	0.068	Not Detected	Not Detected R
m,p-Xylene	0.10	0.066	Not Detected	Not Detected
o-Xylene	0.10	0.072	Not Detected	Not Detected
Styrene	0.10	0.076	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.091	Not Detected	Not Detected R
Naphthalene	0.10	0.19	Not Detected	Not Detected UJ

Temperature = 76.0F , duration time = 21594 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	79	70-130

10/26/2020

July 31, 2020 Sampling Event

Data Validation Summary Report for the Bridgeton Landfill July 31st, 2020 VOC Air Monitoring Event

Prepared by Jonathan Wilkinson
Residuals Management Team Member
Feezor Engineering, Inc.

October 29th, 2020

1 INTRODUCTION

Five (5) outdoor air samples, one (1) field duplicate sample, and one (1) trip blank sample were collected at the Bridgeton Landfill on July 31st, 2020. The samples were sent to the Eurofins / Air Toxics Laboratory in Folsom, California and analyzed for Volatile Organic Compounds (VOCs) by EPA Compendium Method TO-17 (modified).

The analytical results were validated using laboratory acceptance criteria and the procedures and guidelines contained in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, revised January 2017 and USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, dated October 1999.

Items checked included holding times, instrument performance check results, initial and continuing calibration procedures and results, method and field blank results, deuterated monitoring compound (DMC) recoveries, Matrix Spike/Matrix Spike Duplicate (MS/MSD) and Laboratory Control Sample (LCS) recoveries, internal standard recoveries, field duplicate results, target compound identification, compound quantitation, and transcriptions from raw data.

All data necessary to complete the data review were provided by the laboratory. Based on the guidelines referenced above, results were qualified as:

- "U": The analyte was not detected at a value greater than the associated analyte quantitation limit;
- "J": An estimated analyte result, "J+" or "J-" used to indicate a high or low bias;
- "NJ": The analyte has been tentatively identified, or is presumed to be present at the associated numerical value;
- "UJ": The analyte was not detected. The reported analyte quantitation limit is approximate and may be inaccurate or imprecise; and
- "R": The result is unusable. The result was rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

2 SAMPLE SUMMARY

Sample results were reported in a Contract Laboratory Program (CLP)-like format data package. Review of the Chain of Custody (COC) form indicates that samples collected on July 31st, 2020 were shipped for delivery to the laboratory on August 3rd, 2020 and were received by the laboratory in good condition via Federal Express (the courier used to deliver the samples to the laboratory). **Table 2.1** provides general information about the laboratory and data package, **Table 2.2** lists the samples validated and their respective laboratory identification numbers.

Table 2.1 General Information

Contract Laboratory:	Eurofins / Air Toxics, Inc. Folsom, California
Total # of Samples:	7
Sample Matrix:	Radiello™ 130 activated charcoal sorbent bed passive air sampler

Table 2.2 Sample Identification

Field Sample ID	QA Sample ID	Laboratory ID
1		2008009-01A
5		2008009-02A
7		2008009-03A
8		2008009-04A
12		2008009-05A
Dup	Field Duplicate @ 12	2008009-06A
TB	Trip Blank	2008009-07A

3 VOLATILE ORGANIC COMPOUNDS (EPA METHOD TO-17 MODIFIED)

Analysis of VOCs is accomplished by chemical extraction of target analytes using carbon disulfide followed by injection into a Gas Chromatograph / Mass Spectrometer (GC/MS) for identification and quantitation of analytes.

3.1 HOLDING TIMES

No holding times are specified by the method. Per the manufacturer, the shelf life of the Radiello™ 130 unit is six (6) months. Samples were analyzed according to the times shown in **Table 3.1**

Table 3.1 EPA Method TO-17 (Modified) Sample Holding Times

Field Sample ID	Date Collected	Date Extracted	Date Analyzed	# Days from Collection to Extraction	# Days from Extraction to Analysis
1	7/31/2020	8/6/2020	8/6/2020	6	0
5	7/31/2020	8/6/2020	8/6/2020	6	0
7	7/31/2020	8/6/2020	8/6/2020	6	0
8	7/31/2020	8/6/2020	8/6/2020	6	0
12	7/31/2020	8/6/2020	8/6/2020	6	0
Dup	7/31/2020	8/6/2020	8/6/2020	6	0
TB	7/31/2020	8/6/2020	8/6/2020	6	0

No qualifications were required based on holding times.

3.2 GC INSTRUMENT PERFORMANCE CHECKS

GC/MS instrument performance check results were reported for each 12-hour period when samples were analyzed. Ion abundance acceptance criteria for performance check compound Bromofluorobenzene (BFB) used by the laboratory were similar to ion abundance acceptance criteria provided in ion abundance acceptance criteria provided in Table 3 of the Functional Guidelines, as presented in **Table 3.2**. Using raw GC/MS instrument performance check results provided by the laboratory, ion abundance results were verified to be within each set of acceptance criteria provided in **Table 3.2**.

Table 3.2 BFB Ion Abundance Acceptance Criteria

Ion Mass	Laboratory-Provided Criteria	USEPA CLP Criteria
50	8% to 40% of Mass 95	15% to 40% of Mass 95
75	30% to 66% of Mass 95	30% to 80% of Mass 95
95	Base Peak, 100% Relative Abundance	Base Peak, 100% Relative Abundance
96	5% to 9% of Mass 95	5% to 9% of Mass 95
173	Less than 2% of Mass 174	Less than 2% of Mass 174
174	50% to 120% of Mass 95	50% to 120% of Mass 95
175	4% to 9% of Mass 174	5% to 9% of Mass 174
176	93% to 101% of Mass 174	95% to 101% of Mass 174
177	5% to 9% of Mass 176	5% to 9% of Mass 176

No qualifications were required based on GC/MS instrument performance check results.

3.3 INITIAL CALIBRATION PROCEDURES AND RESULTS

Initial calibration was performed for Instrument MSD-18 on August 5th, 2020 using eleven (11) standards for one (1) analyte, ten (10) standards for seventeen (17) analytes, nine (9) standards for three (3) analytes, eight (8) standards for two (2) analytes, and seven (7) standards for one (1) analyte. Based upon a review of raw calibration results provided by the laboratory, no errors were detected with the calculation of Percent Relative Standard Deviations (%RSDs), relative response factors (RRFs), or mean relative response factors ($\overline{RRFs}$).

RRFs and $\overline{RRFs}$ for target analytes were verified to be greater than analyte-specific USEPA-recommended minimum values provided in Table 4 of the Functional Guidelines, except as listed in **Table 3.3.1**. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be greater than laboratory-provided criteria, except as listed in **Table 3.3.1**. Analytes listed in **Table 3.3.1** were qualified as estimated high ("J+") for positive results and as unusable ("R") for non-detect results. %RSDs for individual analytes were verified to be less than or equal to analyte-specific USEPA-recommended maximum values provided in Table 4 of the Functional Guidelines and were less than or equal to laboratory-provided criteria for other analytes without an EPA-specified maximum value, except for the results listed in **Table 3.3.2**. Analytes listed in **Table 3.3.2** were qualified as estimated ("J") for positive results and no qualification was required for non-detect results.

Table 3.3.1 Initial Calibration Relative Response Factors Outside of Control Limits

Initial Cal. Date and Instrument	Compound, $\overline{RRF}$, and EPA Minimum	Associated Samples
8/5/2020 MSD-18	Ethyl Acetate: RF50 = 0.0476, RF100 = 0.0483, RF200 = 0.458, Laboratory-provided Min = 0.05 Ethylbenzene: 0.437, EPA Table 4 Min = 0.500 1,4-Dichlorobenzene: RF0.1 = 0.687, RF0.2 = 0.654, RF0.5 = 0.666, EPA Table 4 Min = 0.700	All

Table 3.3.2 Initial Calibration %RSDs Outside of Control Limits

Initial Cal. Date and Instrument	Compound, %RSD, and EPA Minimum	Associated Samples
8/5/2020 MSD-18	Benzene: %RSD = 21.724%, EPA Max %RSD = 20.0%	All

No other qualifications were required based on initial calibration procedures or results.

3.4 INITIAL CALIBRATION VERIFCIATION

An initial calibration verification (ICV) sample was analyzed after the initial calibration samples on August 5th, 2020. As required by the Functional Guidelines, the ICV sample solution was obtained

from another source than the sources used for the initial calibration. Also as required by the Functional Guidelines, the concentration of the ICV was at or near the midpoint value of the calibration standards used for the initial calibration.

The ICV RRFs for target analytes were verified to be greater than analyte-specific USEPA-recommended minimum values provided in Table 4 of the Functional Guidelines, except as listed in **Table 3.4**. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be greater than laboratory-provided criteria, except as listed in **Table 3.4**. Results for analytes listed in **Table 3.4** were qualified as estimated high ("J+") for positive results and as unusable ("R") for non-detect results.

Table 3.4 ICV Relative Response Factors Outside of Control Limits

ICV Date / Time and Instrument	Compound, RRF, and EPA Minimum	Associated Samples
8/5/2020 12:58 MSD-18	Ethylbenzene = 0.416, EPA Table 4 Min = 0.500 1,4-Dichlorobenzene = 0.681, EPA Table 4 Min = 0.700	All

The ICV Percent Differences (%Ds) for target analytes were verified to be less than analyte-specific USEPA-recommended maximum values provided in Table 4 of the Functional Guidelines. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be less than laboratory-provided criteria for other analytes without an EPA-specified value.

No other qualifications were required based on initial calibration procedures or results.

3.5 CONTINUING CALIBRATION VERIFCIATION

A continuing calibration verification (CCV) sample was analyzed prior to analysis of samples on August 6th, 2020. As required by the Functional Guidelines, the concentration of the CCV was at or near the midpoint value of the calibration standards used for the initial calibration.

The CCV RRFs for target analytes were verified to be greater than analyte-specific USEPA-recommended minimum values provided in Table 4 of the Functional Guidelines, except as listed in **Table 3.5.1**. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be greater than laboratory-provided criteria, except as listed in **Table 3.5.1**. Results for analytes listed in **Table 3.5.1** were qualified as estimated high ("J+") for positive results and as unusable ("R") for non-detect results.

Table 3.5.1 CCV Relative Response Factors Outside of Control Limits

CCV Date / Time and Instrument	Compound, RRF, and EPA Minimum	Associated Samples
8/6/2020 10:19 MSD-18	Ethylbenzene = 0.401, EPA Table 4 Min = 0.500 1,4-Dichlorobenzene = 0.650, EPA Table 4 Min = 0.700	All

The CCV %Ds for target analytes were verified to be less than analyte-specific USEPA-recommended maximum values provided in Table 4 of the Functional Guidelines. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be less than laboratory-provided criteria.

No other qualifications were required based on continuing calibration procedures or results.

3.6 BLANKS

Samples were analyzed within one (1) twelve (12)-hour time period. A method blank was analyzed after the CCV sample and prior to the primary samples as required by the Functional Guidelines. Method blank results were reported as non-detect by the laboratory and were verified to be non-detect based on a review of raw results provided by the laboratory.

One (1) trip blank sample was submitted to the laboratory and analyzed with the primary samples. No analytes were detected in the trip blank sample.

No qualifications were required based on blank results.

3.7 DEUTERATED MONITORING COMPOUNDS (SURROGATES)

One (1) deuterated monitoring compound (DMC, or surrogate), Toluene-d8, was added to each sample and used for evaluation of analysis efficiency. The laboratory compared recoveries for Toluene-d8 to the same criteria listed in the Functional Guidelines (70% - 130%). Toluene-d8 recoveries for the primary samples, method blank, and Laboratory Control Sample / Laboratory Control Sample Duplicate (LCS/LCSD) pair were verified to be within 70% - 130%.

No qualifications were required based on DMC results.

3.8 MATRIX SPIKE / MATRIX SPIKE DUPLICATE

No Matrix Spike / Matrix Spike Duplicate (MS/MSD) samples were analyzed.

No qualifications were required based on MS/MSD results.

3.9 LABORATORY CONTROL SAMPLE / LABORATORY CONTROL SAMPLE DUPLICATE

One (1) Laboratory Control Sample / Laboratory Control Sample Duplicate (LCS/LCSD) sample pair was analyzed with the primary samples. LCS/LCSD sample results were verified to be within laboratory-provided control limits and the Relative Percent Difference (RPD) between individual analyte results from the LCS and LCSD were verified be less than 20%, except the results listed in **Table 3.9**.

Table 3.9 LCS / LCSD Results Outside of Laboratory Control Limits

Date & time	Compound	% Recovery		RPD	Acceptance Criteria		Associated Samples
		LCS	LCSD		% Rec	RPD	
LCS 8/6/2020 10:44 LCSD 8/6/2020 11:10	Naphthalene	9.1%	7.1%	25.3%	5% - 80%	0% - 20%	All

Analytes listed in **Table 3.9** were qualified as estimated ("J") for positive results and were qualified as estimated non-detect ("UJ") for non-detect results in the associated samples. No other qualifications were required based on LCS/LCSD results.

3.10 INTERNAL STANDARDS

Internal standard area counts and retention times for the samples and blanks were within the Functional Guidelines control limits of 50% to 200% and ±10.0 seconds, respectively, of the corresponding counts and times for the most recent continuing calibration verification sample or midpoint standard from the associated initial calibration. The laboratory-provided internal standard control limit calculations were verified, and the individual sample internal standard results were verified to be within the applicable control limits.

No qualifications were required based on internal standards.

3.11 FIELD DUPLICATES

One (1) field duplicate sample pair (12 / DUP) was collected. Relative Percent Differences (RPDs) between the original and field duplicate samples were calculated to be less than 20% for detected analytes reported above five (5) times the applicable reporting limit (RL) and results were within ±RL for analytes reported at positive values less than five (5) times the RL.

No qualifications were performed based on field duplicate results.

3.12 TARGET ANALYTE IDENTIFICATION

Based on a review of raw sample results provided by the laboratory, no errors were observed with identification of target analytes. Relative intensities of primary and secondary ions for detected analytes were verified to be within ±20% of the laboratory-provided standard relative ion intensities for each analyte. Relative Retention Times (RRTs) were within the EPA-recommended control limits of ±0.06 RRT units of the RRT for the same analyte in the associated opening CCV sample.

No qualifications were performed based on target analyte identification criteria.

3.13 ANALYTE QUANTITATION AND TRANSCRIPTIONS FROM RAW DATA

Compound quantitation was checked for the primary samples, the field duplicate sample, the trip blank sample, and the LCS/LCSD sample pair. No errors were detected in sample quantitation methods or transcriptions from the raw data to the summary forms.

4 PRECISION, ACCURACY, AND COMPLETENESS

Results of the data validation were reviewed to evaluate the precision, accuracy, and completeness of the analyses.

Precision measures the agreement among a set of replicate measurements. Field precision is assessed through the collection and analysis of field duplicates. Analytical precision is estimated by duplicate / replicate analyses, usually on LCS samples, spiked samples, and/or field samples. For this project, precision was assessed by tabulating the results of the relative percent differences (RPDs) of the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) and original sample / field duplicate sample analyses. RPDs that fall within the project or laboratory-specified QA control limits indicate acceptable precision. The precision number given indicates the percentage of RPDs that were within control limits.

Accuracy is the closeness of a measured result to an accepted reference value. Quality Control (QC) analyses used to measure accuracy include internal standard recoveries, LCS samples, spiked samples, and DMC recoveries. For this project, accuracy was assessed by tabulating the results of the percent recoveries for internal standards, LCS/LCSD samples, DMCs, and results for the laboratory method blank sample. The reported accuracy indicates the percentage of recoveries and blank results within the project or QA control limits.

Completeness is a measure of the amount of valid data collected compared to the amount planned. Measurements are considered to be valid if they are unqualified or qualified as estimated during data validation. Rejected results are considered to be invalid. The reported completeness is the number of valid results divided by the total number of results.

4.1 OVERALL PROJECT PRECISION

The overall project precision for the Bridgeton Landfill July 31st, 2020 VOC air monitoring event, based on the percentage of RPD results within control limits, was 97.9% (47 of 48 results in control).

4.2 OVERALL PROJECT ACCURACY

The overall project accuracy for the Bridgeton Landfill July 31st, 2020 VOC air monitoring event, based on the percentage of internal standard recoveries, LCS sample recoveries, and DMC

recoveries within control limits, and laboratory method blank non-detects, was 100% (92 of 92 results in control).

4.3 OVERALL PROJECT COMPLETENESS

The overall project completeness for the Bridgeton Landfill July 31st, 2020 VOC air monitoring event, defined as the percentage of data not rejected, was 91.1% (153 of 168 results not rejected).

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Client Sample ID: 1

Lab ID#: 2008009-01A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18080621sim**	**Date of Collection: 7/31/20 9:35:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/6/20 03:30 PM**	
		Date of Extraction: 8/6/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.071	0.36	0.25
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected R
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	Not Detected	Not Detected
Chloroform	0.10	0.063	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.076	Not Detected	Not Detected
Cyclohexane	0.10	0.087	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.070	0.36	0.25
Benzene	0.40	0.24	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.061	Not Detected	Not Detected
Heptane	0.10	0.081	0.31	0.25
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.064	1.1	0.73
Tetrachloroethene	0.10	0.080	Not Detected	Not Detected
Chlorobenzene	0.10	0.069	Not Detected	Not Detected
Ethyl Benzene	0.10	0.069	0.11	0.078 J+
m,p-Xylene	0.10	0.067	0.31	0.21
o-Xylene	0.10	0.072	0.10	0.073
Styrene	0.10	0.077	Not Detected	Not Detected
Propylbenzene	0.10	0.083	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.092	Not Detected	Not Detected R
Naphthalene	0.10	0.19	Not Detected	Not Detected UJ

Temperature = 70.0F , duration time = 21671 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	81	70-130

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Client Sample ID: 5

Lab ID#: 2008009-02A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18080622sim**	**Date of Collection: 7/31/20 10:15:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/6/20 03:56 PM**	
		Date of Extraction: 8/6/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.071	0.45	0.32
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected R
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.23	0.14
Chloroform	0.10	0.063	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.076	Not Detected	Not Detected
Cyclohexane	0.10	0.087	0.10	0.090
Carbon Tetrachloride	0.10	0.070	0.36	0.25
Benzene	0.40	0.23	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.061	Not Detected	Not Detected
Heptane	0.10	0.081	0.28	0.23
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	1.1	0.69
Tetrachloroethene	0.10	0.080	Not Detected	Not Detected
Chlorobenzene	0.10	0.069	Not Detected	Not Detected
Ethyl Benzene	0.10	0.069	0.16	0.11 J+
m,p-Xylene	0.10	0.067	0.47	0.31
o-Xylene	0.10	0.072	0.16	0.11
Styrene	0.10	0.077	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.092	Not Detected	Not Detected R
Naphthalene	0.10	0.19	Not Detected	Not Detected UJ

Temperature = 72.0F , duration time = 21616 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	81	70-130

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Client Sample ID: 7

Lab ID#: 2008009-03A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18080623sim**	**Date of Collection: 7/31/20 10:20:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/6/20 04:22 PM**	
		Date of Extraction: 8/6/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.071	0.36	0.26
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected R
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.20	0.12
Chloroform	0.10	0.062	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.076	Not Detected	Not Detected
Cyclohexane	0.10	0.087	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.070	0.32	0.22
Benzene	0.40	0.23	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.061	Not Detected	Not Detected
Heptane	0.10	0.081	0.22	0.18
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	0.89	0.56
Tetrachloroethene	0.10	0.080	Not Detected	Not Detected
Chlorobenzene	0.10	0.069	Not Detected	Not Detected
Ethyl Benzene	0.10	0.069	0.13	0.091 J+
m,p-Xylene	0.10	0.067	0.38	0.25
o-Xylene	0.10	0.072	0.12	0.091
Styrene	0.10	0.077	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.092	Not Detected	Not Detected R
Naphthalene	0.10	0.19	Not Detected	Not Detected UJ

Temperature = 72.0F , duration time = 21628 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

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Client Sample ID: 8

Lab ID#: 2008009-04A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18080624sim**	**Date of Collection: 7/31/20 10:30:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/6/20 04:48 PM**	
		Date of Extraction: 8/6/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.071	0.36	0.25
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected R
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.22	0.13
Chloroform	0.10	0.062	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.075	Not Detected	Not Detected
Cyclohexane	0.10	0.086	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.070	0.36	0.25
Benzene	0.40	0.23	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.061	Not Detected	Not Detected
Heptane	0.10	0.080	0.24	0.19
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	0.84	0.53
Tetrachloroethene	0.10	0.079	Not Detected	Not Detected
Chlorobenzene	0.10	0.069	Not Detected	Not Detected
Ethyl Benzene	0.10	0.069	0.12	0.085 J+
m,p-Xylene	0.10	0.067	0.35	0.23
o-Xylene	0.10	0.072	0.12	0.084
Styrene	0.10	0.076	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.092	Not Detected	Not Detected R
Naphthalene	0.10	0.19	Not Detected	Not Detected UJ

Temperature = 74.0F , duration time = 21623 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

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Client Sample ID: 12

Lab ID#: 2008009-05A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18080625sim**	**Date of Collection: 7/31/20 10:00:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/6/20 05:13 PM**	
		Date of Extraction: 8/6/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.071	0.35	0.25
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected R
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.24	0.14
Chloroform	0.10	0.063	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.076	Not Detected	Not Detected
Cyclohexane	0.10	0.087	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.070	0.37	0.26
Benzene	0.40	0.23	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.061	Not Detected	Not Detected
Heptane	0.10	0.081	0.36	0.29
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	0.82	0.52
Tetrachloroethene	0.10	0.080	Not Detected	Not Detected
Chlorobenzene	0.10	0.069	Not Detected	Not Detected
Ethyl Benzene	0.10	0.069	0.12	0.081 J+
m,p-Xylene	0.10	0.067	0.34	0.23
o-Xylene	0.10	0.072	0.11	0.078
Styrene	0.10	0.077	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.092	Not Detected	Not Detected R
Naphthalene	0.10	0.19	Not Detected	Not Detected UJ

Temperature = 72.0F , duration time = 21620 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	81	70-130

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Client Sample ID: Dup

Lab ID#: 2008009-06A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18080626sim**	**Date of Collection: 7/31/20 10:00:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/6/20 05:40 PM**	
		Date of Extraction: 8/6/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.071	0.38	0.27
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected R
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.28	0.16
Chloroform	0.10	0.063	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.076	Not Detected	Not Detected
Cyclohexane	0.10	0.087	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.070	0.39	0.27
Benzene	0.40	0.23	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.061	Not Detected	Not Detected
Heptane	0.10	0.081	0.36	0.29
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	0.85	0.54
Tetrachloroethene	0.10	0.080	Not Detected	Not Detected
Chlorobenzene	0.10	0.069	Not Detected	Not Detected
Ethyl Benzene	0.10	0.069	0.12	0.083 J+
m,p-Xylene	0.10	0.067	0.35	0.23
o-Xylene	0.10	0.072	0.11	0.081
Styrene	0.10	0.077	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.092	Not Detected	Not Detected R
Naphthalene	0.10	0.19	Not Detected	Not Detected UJ

Temperature = 72.0F , duration time = 21620 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

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Client Sample ID: TB

Lab ID#: 2008009-07A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18080627sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/6/20 06:06 PM**	
		Date of Extraction: 8/6/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.46	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.072	Not Detected	Not Detected
Hexane	0.10	0.071	Not Detected	Not Detected
Ethyl Acetate	0.40	0.24	Not Detected	Not Detected R
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	Not Detected	Not Detected
Chloroform	0.10	0.062	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.075	Not Detected	Not Detected
Cyclohexane	0.10	0.086	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.070	Not Detected	Not Detected
Benzene	0.40	0.23	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.060	Not Detected	Not Detected
Heptane	0.10	0.080	Not Detected	Not Detected
Trichloroethene	0.10	0.068	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.063	Not Detected	Not Detected
Tetrachloroethene	0.10	0.079	Not Detected	Not Detected
Chlorobenzene	0.10	0.068	Not Detected	Not Detected
Ethyl Benzene	0.10	0.068	Not Detected	Not Detected R
m,p-Xylene	0.10	0.066	Not Detected	Not Detected
o-Xylene	0.10	0.072	Not Detected	Not Detected
Styrene	0.10	0.076	Not Detected	Not Detected
Propylbenzene	0.10	0.082	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.091	Not Detected	Not Detected R
Naphthalene	0.10	0.19	Not Detected	Not Detected UJ

Temperature = 74.0F , duration time = 21671 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

10/29/2020

August 13, 2020 Sampling Event

Data Validation Summary Report for the Bridgeton Landfill August 13th, 2020 VOC Air Monitoring Event

Prepared by Jonathan Wilkinson
Residuals Management Team Member
Feezor Engineering, Inc.

November 8th, 2020

1 INTRODUCTION

Five (5) outdoor air samples, one (1) field duplicate sample, and one (1) trip blank sample were collected at the Bridgeton Landfill on August 13th, 2020. The samples were sent to the Eurofins / Air Toxics Laboratory in Folsom, California and analyzed for Volatile Organic Compounds (VOCs) by EPA Compendium Method TO-17 (modified).

The analytical results were validated using laboratory acceptance criteria and the procedures and guidelines contained in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, revised January 2017 and USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, dated October 1999.

Items checked included holding times, instrument performance check results, initial and continuing calibration procedures and results, method and field blank results, deuterated monitoring compound (DMC) recoveries, Matrix Spike/Matrix Spike Duplicate (MS/MSD) and Laboratory Control Sample (LCS) recoveries, internal standard recoveries, field duplicate results, target compound identification, compound quantitation, and transcriptions from raw data.

All data necessary to complete the data review were provided by the laboratory. Based on the guidelines referenced above, results were qualified as:

- "U": The analyte was not detected at a value greater than the associated analyte quantitation limit;
- "J": An estimated analyte result, "J+" or "J-" used to indicate a high or low bias;
- "NJ": The analyte has been tentatively identified, or is presumed to be present at the associated numerical value;
- "UJ": The analyte was not detected. The reported analyte quantitation limit is approximate and may be inaccurate or imprecise; and
- "R": The result is unusable. The result was rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

2 SAMPLE SUMMARY

Sample results were reported in a Contract Laboratory Program (CLP)-like format data package. Review of the Chain of Custody (COC) form indicates that samples collected on August 13th, 2020 were shipped for delivery to the laboratory on August 14th, 2020 and were received by the laboratory in good condition via Federal Express (the courier used to deliver the samples to the laboratory). **Table 2.1** provides general information about the laboratory and data package, **Table 2.2** lists the samples validated and their respective laboratory identification numbers.

Table 2.1 General Information

Contract Laboratory:	Eurofins / Air Toxics, Inc. Folsom, California
Total # of Samples:	7
Sample Matrix:	Radiello™ 130 activated charcoal sorbent bed passive air sampler

Table 2.2 Sample Identification

Field Sample ID	QA Sample ID	Laboratory ID
1		2008357-01A
5		2008357-02A
7		2008357-03A
8		2008357-04A
12		2008357-05A
Dup	Field Duplicate @ 12	2008357-06A
TB	Trip Blank	2008357-07A

3 VOLATILE ORGANIC COMPOUNDS (EPA METHOD TO-17 MODIFIED)

Analysis of VOCs is accomplished by chemical extraction of target analytes using carbon disulfide followed by injection into a Gas Chromatograph / Mass Spectrometer (GC/MS) for identification and quantitation of analytes.

3.1 HOLDING TIMES

No holding times are specified by the method. Per the manufacturer, the shelf life of the Radiello™ 130 unit is six (6) months. Samples were analyzed according to the times shown in **Table 3.1**

Table 3.1 EPA Method TO-17 (Modified) Sample Holding Times

Field Sample ID	Date Collected	Date Extracted	Date Analyzed	# Days from Collection to Extraction	# Days from Extraction to Analysis
1	8/13/2020	8/19/2020	8/19/2020	6	0
5	8/13/2020	8/19/2020	8/19/2020	6	0
7	8/13/2020	8/19/2020	8/19/2020	6	0
8	8/13/2020	8/19/2020	8/19/2020	6	0
12	8/13/2020	8/19/2020	8/19/2020	6	0
Dup	8/13/2020	8/19/2020	8/19/2020	6	0
TB	8/13/2020	8/19/2020	8/19/2020	6	0

No qualifications were required based on holding times.

3.2 GC INSTRUMENT PERFORMANCE CHECKS

GC/MS instrument performance check results were reported for each 12-hour period when samples were analyzed. Ion abundance acceptance criteria for performance check compound Bromofluorobenzene (BFB) used by the laboratory were similar to ion abundance acceptance criteria provided in ion abundance acceptance criteria provided in Table 3 of the Functional Guidelines, as presented in **Table 3.2**. Using raw GC/MS instrument performance check results provided by the laboratory, ion abundance results were verified to be within each set of acceptance criteria provided in **Table 3.2**.

Table 3.2 BFB Ion Abundance Acceptance Criteria

Ion Mass	Laboratory-Provided Criteria	USEPA CLP Criteria
50	8% to 40% of Mass 95	15% to 40% of Mass 95
75	30% to 66% of Mass 95	30% to 80% of Mass 95
95	Base Peak, 100% Relative Abundance	Base Peak, 100% Relative Abundance
96	5% to 9% of Mass 95	5% to 9% of Mass 95
173	Less than 2% of Mass 174	Less than 2% of Mass 174
174	50% to 120% of Mass 95	50% to 120% of Mass 95
175	4% to 9% of Mass 174	5% to 9% of Mass 174
176	93% to 101% of Mass 174	95% to 101% of Mass 174
177	5% to 9% of Mass 176	5% to 9% of Mass 176

No qualifications were required based on GC/MS instrument performance check results.

3.3 INITIAL CALIBRATION PROCEDURES AND RESULTS

Initial calibration was performed for Instrument MSD-18 on August 5th, 2020 using eleven (11) standards for one (1) analyte, ten (10) standards for seventeen (17) analytes, nine (9) standards for three (3) analytes, eight (8) standards for two (2) analytes, and seven (7) standards for one (1) analyte. Based upon a review of raw calibration results provided by the laboratory, no errors were detected with the calculation of Percent Relative Standard Deviations (%RSDs), relative response factors (RRFs), or mean relative response factors ($\overline{RRFs}$).

RRFs and $\overline{RRFs}$ for target analytes were verified to be greater than analyte-specific USEPA-recommended minimum values provided in Table 4 of the Functional Guidelines, except as listed in **Table 3.3.1**. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be greater than laboratory-provided criteria, except as listed in **Table 3.3.1**. Analytes listed in **Table 3.3.1** were qualified as estimated high ("J+") for positive results and as unusable ("R") for non-detect results. %RSDs for individual analytes were verified to be less than or equal to analyte-specific USEPA-recommended maximum values provided in Table 4 of the Functional Guidelines and were less than or equal to laboratory-provided criteria for other analytes without an EPA-specified maximum value, except for the results listed in **Table 3.3.2**. Analytes listed in **Table 3.3.2** were qualified as estimated ("J") for positive results and no qualification was required for non-detect results.

Table 3.3.1 Initial Calibration Relative Response Factors Outside of Control Limits

Initial Cal. Date and Instrument	Compound, $\overline{RRF}$, and EPA Minimum	Associated Samples
8/5/2020 MSD-18	Ethyl Acetate: RF50 = 0.0476, RF100 = 0.0483, RF200 = 0.458, Laboratory-provided Min = 0.05 Ethylbenzene: 0.437, EPA Table 4 Min = 0.500 1,4-Dichlorobenzene: RF0.1 = 0.687, RF0.2 = 0.654, RF0.5 = 0.666, EPA Table 4 Min = 0.700	All

Table 3.3.2 Initial Calibration %RSDs Outside of Control Limits

Initial Cal. Date and Instrument	Compound, %RSD, and EPA Minimum	Associated Samples
8/5/2020 MSD-18	Benzene: %RSD = 21.724%, EPA Max %RSD = 20.0%	All

No other qualifications were required based on initial calibration procedures or results.

3.4 INITIAL CALIBRATION VERIFCIATION

An initial calibration verification (ICV) sample was analyzed after the initial calibration samples on August 5th, 2020. As required by the Functional Guidelines, the ICV sample solution was obtained

from another source than the sources used for the initial calibration. Also as required by the Functional Guidelines, the concentration of the ICV was at or near the midpoint value of the calibration standards used for the initial calibration.

The ICV RRFs for target analytes were verified to be greater than analyte-specific USEPA-recommended minimum values provided in Table 4 of the Functional Guidelines, except as listed in **Table 3.4**. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be greater than laboratory-provided criteria, except as listed in **Table 3.4**. Results for analytes listed in **Table 3.4** were qualified as estimated high ("J+") for positive results and as unusable ("R") for non-detect results.

Table 3.4 ICV Relative Response Factors Outside of Control Limits

ICV Date / Time and Instrument	Compound, RRF, and EPA Minimum	Associated Samples
8/5/2020 12:58 MSD-18	Ethylbenzene = 0.416, EPA Table 4 Min = 0.500 1,4-Dichlorobenzene = 0.681, EPA Table 4 Min = 0.700	All

The ICV Percent Differences (%Ds) for target analytes were verified to be less than analyte-specific USEPA-recommended maximum values provided in Table 4 of the Functional Guidelines. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be less than laboratory-provided criteria for other analytes without an EPA-specified value.

No other qualifications were required based on initial calibration procedures or results.

3.5 CONTINUING CALIBRATION VERIFCIATION

A continuing calibration verification (CCV) sample was analyzed prior to analysis of samples on August 19th, 2020. As required by the Functional Guidelines, the concentration of the CCV was at or near the midpoint value of the calibration standards used for the initial calibration.

The CCV RRFs for target analytes were verified to be greater than analyte-specific USEPA-recommended minimum values provided in Table 4 of the Functional Guidelines, except as listed in **Table 3.5.1**. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be greater than laboratory-provided criteria, except as listed in **Table 3.5.1**. Results for analytes listed in **Table 3.5.1** were qualified as estimated high ("J+") for positive results and as unusable ("R") for non-detect results.

Table 3.5.1 CCV Relative Response Factors Outside of Control Limits

CCV Date / Time and Instrument	Compound, RRF, and EPA Minimum	Associated Samples
8/19/2020 11:58 MSD-18	Ethylbenzene = 0.413, EPA Table 4 Min = 0.500 1,4-Dichlorobenzene = 0.670, EPA Table 4 Min = 0.700	All

The CCV %Ds for target analytes were verified to be less than analyte-specific USEPA-recommended maximum values provided in Table 4 of the Functional Guidelines. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be less than laboratory-provided criteria.

No other qualifications were required based on continuing calibration procedures or results.

3.6 BLANKS

Samples were analyzed within one (1) twelve (12)-hour time period. A method blank was analyzed after the CCV sample and prior to the primary samples as required by the Functional Guidelines. Method blank results were reported as non-detect by the laboratory and were verified to be non-detect based on a review of raw results provided by the laboratory.

One (1) trip blank sample was submitted to the laboratory and analyzed with the primary samples. No analytes were detected in the trip blank sample.

No qualifications were required based on blank results.

3.7 DEUTERATED MONITORING COMPOUNDS (SURROGATES)

One (1) deuterated monitoring compound (DMC, or surrogate), Toluene-d8, was added to each sample and used for evaluation of analysis efficiency. The laboratory compared recoveries for Toluene-d8 to the same criteria listed in the Functional Guidelines (70% - 130%). Toluene-d8 recoveries for the primary samples, method blank, and Laboratory Control Sample / Laboratory Control Sample Duplicate (LCS/LCSD) pair were verified to be within 70% - 130%.

No qualifications were required based on DMC results.

3.8 MATRIX SPIKE / MATRIX SPIKE DUPLICATE

No Matrix Spike / Matrix Spike Duplicate (MS/MSD) samples were analyzed.

No qualifications were required based on MS/MSD results.

3.9 LABORATORY CONTROL SAMPLE / LABORATORY CONTROL SAMPLE DUPLICATE

One (1) Laboratory Control Sample / Laboratory Control Sample Duplicate (LCS/LCSD) sample pair was analyzed with the primary samples. LCS/LCSD sample results were verified to be within laboratory-provided control limits and the Relative Percent Difference (RPD) between individual analyte results from the LCS and LCSD were verified be less than 20%. No other qualifications were required based on LCS/LCSD results.

3.10 INTERNAL STANDARDS

Internal standard area counts and retention times for the samples and blanks were within the Functional Guidelines control limits of 50% to 200% and ±10.0 seconds, respectively, of the corresponding counts and times for the most recent continuing calibration verification sample or midpoint standard from the associated initial calibration. The laboratory-provided internal standard control limit calculations were verified, and the individual sample internal standard results were verified to be within the applicable control limits.

No qualifications were required based on internal standards.

3.11 FIELD DUPLICATES

One (1) field duplicate sample pair (12 / DUP) was collected. Relative Percent Differences (RPDs) between the original and field duplicate samples were calculated to be less than 20% for detected analytes reported above five (5) times the applicable reporting limit (RL) and results were within ±RL for analytes reported at positive values less than five (5) times the RL.

No qualifications were performed based on field duplicate results.

3.12 TARGET ANALYTE IDENTIFICATION

Based on a review of raw sample results provided by the laboratory, no errors were observed with identification of target analytes. Relative intensities of primary and secondary ions for detected analytes were verified to be within ±20% of the laboratory-provided standard relative ion intensities for each analyte. Relative Retention Times (RRTs) were within the EPA-recommended control limits of ±0.06 RRT units of the RRT for the same analyte in the associated opening CCV sample.

No qualifications were performed based on target analyte identification criteria.

3.13 ANALYTE QUANTITATION AND TRANSCRIPTIONS FROM RAW DATA

Compound quantitation was checked for the primary samples, the field duplicate sample, the trip blank sample, and the LCS/LCSD sample pair. No errors were detected in sample quantitation methods or transcriptions from the raw data to the summary forms.

4 PRECISION, ACCURACY, AND COMPLETENESS

Results of the data validation were reviewed to evaluate the precision, accuracy, and completeness of the analyses.

Precision measures the agreement among a set of replicate measurements. Field precision is assessed through the collection and analysis of field duplicates. Analytical precision is estimated by duplicate / replicate analyses, usually on LCS samples, spiked samples, and/or field samples. For this project, precision was assessed by tabulating the results of the relative percent differences (RPDs) of the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) and original sample / field duplicate sample analyses. RPDs that fall within the project or laboratory-specified QA control limits indicate acceptable precision. The precision number given indicates the percentage of RPDs that were within control limits.

Accuracy is the closeness of a measured result to an accepted reference value. Quality Control (QC) analyses used to measure accuracy include internal standard recoveries, LCS samples, spiked samples, and DMC recoveries. For this project, accuracy was assessed by tabulating the results of the percent recoveries for internal standards, LCS/LCSD samples, DMCs, and results for the laboratory method blank sample. The reported accuracy indicates the percentage of recoveries and blank results within the project or QA control limits.

Completeness is a measure of the amount of valid data collected compared to the amount planned. Measurements are considered to be valid if they are unqualified or qualified as estimated during data validation. Rejected results are considered to be invalid. The reported completeness is the number of valid results divided by the total number of results.

4.1 OVERALL PROJECT PRECISION

The overall project precision for the Bridgeton Landfill August 13th, 2020 VOC air monitoring event, based on the percentage of RPD results within control limits, was 100% (48 of 48 results in control).

4.2 OVERALL PROJECT ACCURACY

The overall project accuracy for the Bridgeton Landfill August 13th, 2020 VOC air monitoring event, based on the percentage of internal standard recoveries, LCS sample recoveries, and DMC recoveries within control limits, and laboratory method blank non-detects, was 100% (92 of 92 results in control).

4.3 OVERALL PROJECT COMPLETENESS

The overall project completeness for the Bridgeton Landfill August 13th, 2020 VOC air monitoring event, defined as the percentage of data not rejected, was 91.1% (153 of 168 results not rejected).

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Client Sample ID: 1

Lab ID#: 2008357-01A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18081906sim**	**Date of Collection:**	**8/13/20 9:25:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**8/19/20 02:11 PM**
		Date of Extraction:	**8/19/20**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.53	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.083	Not Detected	Not Detected
Hexane	0.10	0.082	0.42	0.34
Ethyl Acetate	0.40	0.28	Not Detected	Not Detected R
2-Butanone (Methyl Ethyl Ketone)	0.20	0.14	Not Detected	Not Detected
Chloroform	0.10	0.072	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.087	Not Detected	Not Detected
Cyclohexane	0.10	0.10	0.13	0.13
Carbon Tetrachloride	0.10	0.080	0.41	0.33
Benzene	0.40	0.27	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.070	Not Detected	Not Detected
Heptane	0.10	0.093	0.35	0.33
Trichloroethene	0.10	0.078	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.073	1.2	0.91
Tetrachloroethene	0.10	0.092	0.10	0.092
Chlorobenzene	0.10	0.079	Not Detected	Not Detected
Ethyl Benzene	0.10	0.079	0.15	0.12 J+
m,p-Xylene	0.10	0.077	0.45	0.34
o-Xylene	0.10	0.083	0.14	0.12
Styrene	0.10	0.088	Not Detected	Not Detected
Propylbenzene	0.10	0.095	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected R
Naphthalene	0.10	0.22	Not Detected	Not Detected

Temperature = 74.0F , duration time = 18710 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	80	70-130

11/8/2020

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Client Sample ID: 5

Lab ID#: 2008357-02A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18081907sim**	**Date of Collection: 8/13/20 12:45:00 PM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/19/20 02:37 PM**	
		Date of Extraction: 8/19/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.51	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.081	Not Detected	Not Detected
Hexane	0.10	0.080	0.32	0.26
Ethyl Acetate	0.40	0.27	Not Detected	Not Detected R
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.22	0.15
Chloroform	0.10	0.070	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.085	Not Detected	Not Detected
Cyclohexane	0.10	0.097	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.078	0.29	0.23
Benzene	0.40	0.26	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.068	Not Detected	Not Detected
Heptane	0.10	0.090	0.18	0.17
Trichloroethene	0.10	0.076	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.071	0.84	0.59
Tetrachloroethene	0.10	0.089	Not Detected	Not Detected
Chlorobenzene	0.10	0.077	Not Detected	Not Detected
Ethyl Benzene	0.10	0.077	0.11	0.084 J+
m,p-Xylene	0.10	0.075	0.32	0.24
o-Xylene	0.10	0.081	0.10	0.084
Styrene	0.10	0.086	Not Detected	Not Detected
Propylbenzene	0.10	0.092	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected R
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 80.0F , duration time = 18866 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	80	70-130

11/8/2020

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Client Sample ID: 7

Lab ID#: 2008357-03A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18081908sim**	**Date of Collection: 8/13/20 12:34:00 PM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/19/20 03:03 PM**	
		Date of Extraction: 8/19/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.51	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.081	Not Detected	Not Detected
Hexane	0.10	0.080	0.46	0.36
Ethyl Acetate	0.40	0.27	Not Detected	Not Detected R
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.33	0.22
Chloroform	0.10	0.070	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.085	Not Detected	Not Detected
Cyclohexane	0.10	0.097	0.14	0.14
Carbon Tetrachloride	0.10	0.078	0.40	0.31
Benzene	0.40	0.26	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.068	Not Detected	Not Detected
Heptane	0.10	0.090	0.31	0.28
Trichloroethene	0.10	0.076	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.071	1.2	0.86
Tetrachloroethene	0.10	0.089	Not Detected	Not Detected
Chlorobenzene	0.10	0.077	Not Detected	Not Detected
Ethyl Benzene	0.10	0.077	0.17	0.13 J+
m,p-Xylene	0.10	0.075	0.50	0.38
o-Xylene	0.10	0.081	0.16	0.13
Styrene	0.10	0.086	Not Detected	Not Detected
Propylbenzene	0.10	0.092	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected R
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 80.0F , duration time = 18849 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

11/8/2020

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Client Sample ID: 8

Lab ID#: 2008357-04A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18081909sim**	**Date of Collection: 8/13/20 12:55:00 PM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/19/20 03:29 PM**	
		Date of Extraction: 8/19/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.51	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.081	Not Detected	Not Detected
Hexane	0.10	0.080	0.35	0.28
Ethyl Acetate	0.40	0.27	Not Detected	Not Detected R
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.27	0.18
Chloroform	0.10	0.070	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.085	Not Detected	Not Detected
Cyclohexane	0.10	0.097	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.078	0.35	0.27
Benzene	0.40	0.26	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.068	Not Detected	Not Detected
Heptane	0.10	0.090	0.23	0.21
Trichloroethene	0.10	0.076	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.071	0.93	0.66
Tetrachloroethene	0.10	0.089	Not Detected	Not Detected
Chlorobenzene	0.10	0.077	Not Detected	Not Detected
Ethyl Benzene	0.10	0.077	0.13	0.098 J+
m,p-Xylene	0.10	0.075	0.36	0.27
o-Xylene	0.10	0.081	0.12	0.098
Styrene	0.10	0.086	Not Detected	Not Detected
Propylbenzene	0.10	0.092	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected R
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 81.0F , duration time = 18860 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	80	70-130

11/9/2020

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Client Sample ID: 12

Lab ID#: 2008357-05A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18081910sim**	**Date of Collection:**	**8/13/20 9:05:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**8/19/20 03:55 PM**
		Date of Extraction:	**8/19/20**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.53	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.083	Not Detected	Not Detected
Hexane	0.10	0.082	0.40	0.33
Ethyl Acetate	0.40	0.28	Not Detected	Not Detected R
2-Butanone (Methyl Ethyl Ketone)	0.20	0.14	0.32	0.22
Chloroform	0.10	0.072	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.087	Not Detected	Not Detected
Cyclohexane	0.10	0.10	0.12	0.12
Carbon Tetrachloride	0.10	0.081	0.40	0.33
Benzene	0.40	0.27	0.40	0.27 J
1,2-Dichloroethane	0.10	0.070	Not Detected	Not Detected
Heptane	0.10	0.093	0.62	0.58
Trichloroethene	0.10	0.078	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.073	1.0	0.74
Tetrachloroethene	0.10	0.092	Not Detected	Not Detected
Chlorobenzene	0.10	0.080	Not Detected	Not Detected
Ethyl Benzene	0.10	0.080	0.15	0.12 J+
m,p-Xylene	0.10	0.077	0.46	0.35
o-Xylene	0.10	0.083	0.14	0.12
Styrene	0.10	0.089	Not Detected	Not Detected
Propylbenzene	0.10	0.095	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.11	Not Detected	Not Detected R
Naphthalene	0.10	0.22	Not Detected	Not Detected

Temperature = 73.0F , duration time = 18660 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	81	70-130

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Client Sample ID: DUP

Lab ID#: 2008357-06A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18081911sim**	**Date of Collection: 8/13/20 9:08:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/19/20 04:21 PM**	
		Date of Extraction: 8/19/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.53	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.083	Not Detected	Not Detected
Hexane	0.10	0.082	0.34	0.28
Ethyl Acetate	0.40	0.28	Not Detected	Not Detected R
2-Butanone (Methyl Ethyl Ketone)	0.20	0.14	0.29	0.20
Chloroform	0.10	0.072	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.087	Not Detected	Not Detected
Cyclohexane	0.10	0.10	0.10	0.10
Carbon Tetrachloride	0.10	0.081	0.34	0.27
Benzene	0.40	0.27	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.070	Not Detected	Not Detected
Heptane	0.10	0.093	0.52	0.48
Trichloroethene	0.10	0.078	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.073	0.88	0.64
Tetrachloroethene	0.10	0.092	Not Detected	Not Detected
Chlorobenzene	0.10	0.080	Not Detected	Not Detected
Ethyl Benzene	0.10	0.080	0.13	0.10 J+
m,p-Xylene	0.10	0.077	0.38	0.29
o-Xylene	0.10	0.083	0.13	0.11
Styrene	0.10	0.089	Not Detected	Not Detected
Propylbenzene	0.10	0.095	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.11	Not Detected	Not Detected R
Naphthalene	0.10	0.22	Not Detected	Not Detected

Temperature = 73.0F , duration time = 18660 minutes.
Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	81	70-130

8/8/2020

eurofins | Air Toxics

Client Sample ID: TB

Lab ID#: 2008357-07A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18081912sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/19/20 04:47 PM**	
		Date of Extraction: 8/19/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.51	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.081	Not Detected	Not Detected
Hexane	0.10	0.080	Not Detected	Not Detected
Ethyl Acetate	0.40	0.27	Not Detected	Not Detected R
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	Not Detected	Not Detected
Chloroform	0.10	0.070	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.085	Not Detected	Not Detected
Cyclohexane	0.10	0.097	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.078	Not Detected	Not Detected
Benzene	0.40	0.26	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.068	Not Detected	Not Detected
Heptane	0.10	0.090	Not Detected	Not Detected
Trichloroethene	0.10	0.076	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.071	Not Detected	Not Detected
Tetrachloroethene	0.10	0.089	Not Detected	Not Detected
Chlorobenzene	0.10	0.077	Not Detected	Not Detected
Ethyl Benzene	0.10	0.077	Not Detected	Not Detected R
m,p-Xylene	0.10	0.075	Not Detected	Not Detected
o-Xylene	0.10	0.081	Not Detected	Not Detected
Styrene	0.10	0.086	Not Detected	Not Detected
Propylbenzene	0.10	0.092	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected R
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 81.0F , duration time = 18866 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	80	70-130

8/19/2020

August 28, 2020 Sampling Event

Data Validation Summary Report for the Bridgeton Landfill August 28th, 2020 VOC Air Monitoring Event

Prepared by Jonathan Wilkinson
Residuals Management Team Member
Feezor Engineering, Inc.

November 10th, 2020

1 INTRODUCTION

Five (5) outdoor air samples, one (1) field duplicate sample, and one (1) trip blank sample were collected at the Bridgeton Landfill on August 28th, 2020. The samples were sent to the Eurofins / Air Toxics Laboratory in Folsom, California and analyzed for Volatile Organic Compounds (VOCs) by EPA Compendium Method TO-17 (modified).

The analytical results were validated using laboratory acceptance criteria and the procedures and guidelines contained in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, revised January 2017 and USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, dated October 1999.

Items checked included holding times, instrument performance check results, initial and continuing calibration procedures and results, method and field blank results, deuterated monitoring compound (DMC) recoveries, Matrix Spike/Matrix Spike Duplicate (MS/MSD) and Laboratory Control Sample (LCS) recoveries, internal standard recoveries, field duplicate results, target compound identification, compound quantitation, and transcriptions from raw data.

All data necessary to complete the data review were provided by the laboratory. Based on the guidelines referenced above, results were qualified as:

- "U": The analyte was not detected at a value greater than the associated analyte quantitation limit;
- "J": An estimated analyte result, "J+" or "J-" used to indicate a high or low bias;
- "NJ": The analyte has been tentatively identified, or is presumed to be present at the associated numerical value;
- "UJ": The analyte was not detected. The reported analyte quantitation limit is approximate and may be inaccurate or imprecise; and
- "R": The result is unusable. The result was rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

2 SAMPLE SUMMARY

Sample results were reported in a Contract Laboratory Program (CLP)-like format data package. Review of the Chain of Custody (COC) form indicates that samples collected on August 28th, 2020 were shipped for delivery to the laboratory on September 2nd, 2020 and were received by the laboratory in good condition via Federal Express (the courier used to deliver the samples to the laboratory). **Table 2.1** provides general information about the laboratory and data package, **Table 2.2** lists the samples validated and their respective laboratory identification numbers.

Table 2.1 General Information

Contract Laboratory:	Eurofins / Air Toxics, Inc. Folsom, California
Total # of Samples:	7
Sample Matrix:	Radiello™ 130 activated charcoal sorbent bed passive air sampler

Table 2.2 Sample Identification

Field Sample ID	QA Sample ID	Laboratory ID
1		2009037-01A
5		2009037-02A
7		2009037-03A
8		2009037-04A
12		2009037-05A
Dup	Field Duplicate @ 12	2009037-06A
TB	Trip Blank	2009037-07A

3 VOLATILE ORGANIC COMPOUNDS (EPA METHOD TO-17 MODIFIED)

Analysis of VOCs is accomplished by chemical extraction of target analytes using carbon disulfide followed by injection into a Gas Chromatograph / Mass Spectrometer (GC/MS) for identification and quantitation of analytes.

3.1 HOLDING TIMES

No holding times are specified by the method. Per the manufacturer, the shelf life of the Radiello™ 130 unit is six (6) months. Samples were analyzed according to the times shown in **Table 3.1**

Table 3.1 EPA Method TO-17 (Modified) Sample Holding Times

Field Sample ID	Date Collected	Date Extracted	Date Analyzed	# Days from Collection to Extraction	# Days from Extraction to Analysis
1	8/28/2020	9/15/2020	9/15/2020	18	0
5	8/28/2020	9/15/2020	9/15/2020	18	0
7	8/28/2020	9/15/2020	9/15/2020	18	0
8	8/28/2020	9/15/2020	9/15/2020	18	0
12	8/28/2020	9/15/2020	9/15/2020	18	0
Dup	8/28/2020	9/15/2020	9/15/2020	18	0
TB	8/28/2020	9/15/2020	9/15/2020	18	0

No qualifications were required based on holding times.

3.2 GC INSTRUMENT PERFORMANCE CHECKS

GC/MS instrument performance check results were reported for each 12-hour period when samples were analyzed. Ion abundance acceptance criteria for performance check compound Bromofluorobenzene (BFB) used by the laboratory were similar to ion abundance acceptance criteria provided in ion abundance acceptance criteria provided in Table 3 of the Functional Guidelines, as presented in **Table 3.2**. Using raw GC/MS instrument performance check results provided by the laboratory, ion abundance results were verified to be within each set of acceptance criteria provided in **Table 3.2**.

Table 3.2 BFB Ion Abundance Acceptance Criteria

Ion Mass	Laboratory-Provided Criteria	USEPA CLP Criteria
50	8% to 40% of Mass 95	15% to 40% of Mass 95
75	30% to 66% of Mass 95	30% to 80% of Mass 95
95	Base Peak, 100% Relative Abundance	Base Peak, 100% Relative Abundance
96	5% to 9% of Mass 95	5% to 9% of Mass 95
173	Less than 2% of Mass 174	Less than 2% of Mass 174
174	50% to 120% of Mass 95	50% to 120% of Mass 95
175	4% to 9% of Mass 174	5% to 9% of Mass 174
176	93% to 101% of Mass 174	95% to 101% of Mass 174
177	5% to 9% of Mass 176	5% to 9% of Mass 176

No qualifications were required based on GC/MS instrument performance check results.

3.3 INITIAL CALIBRATION PROCEDURES AND RESULTS

Initial calibration was performed for Instrument MSD-C on August 24th, 2020 using eleven (11) standards for one (1) analyte, ten (10) standards for seventeen (17) analytes, nine (9) standards for three (3) analytes, eight (8) standards for two (2) analytes, and seven (7) standards for one (1) analyte. Based upon a review of raw calibration results provided by the laboratory, no errors were detected with the calculation of Percent Relative Standard Deviations (%RSDs), relative response factors (RRFs), or mean relative response factors ($\overline{RRFs}$).

Relative response factors and mean relative response factors for target analytes were verified to be greater than analyte-specific USEPA-recommended minimum values provided in Table 4 of the Functional Guidelines, except as listed in **Table 3.3.1**. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be greater than laboratory-provided criteria, except as listed in **Table 3.3.1**. Analytes listed in **Table 3.3.1** were qualified as estimated high ("J+") for positive results and as unusable ("R") for non-detect results. %RSDs for individual analytes were verified to be less than or equal to analyte-specific USEPA-recommended maximum values provided in Table 4 of the Functional Guidelines and were less than or equal to laboratory-provided criteria for other analytes without an EPA-specified maximum value.

Table 3.3.1 Initial Calibration Relative Response Factors Outside of Control Limits

Initial Cal. Date and Instrument	Compound, $\overline{RRF}$, and EPA Minimum	Associated Samples
8/24/2020 MSD-C	Ethylbenzene: 0.418, EPA Table 4 Min = 0.500 1,4-Dichlorobenzene: 0.670, EPA Table 4 Min = 0.700	All

No other qualifications were required based on initial calibration procedures or results.

3.4 INITIAL CALIBRATION VERIFCIATION

An initial calibration verification (ICV) sample was analyzed after the initial calibration samples on August 24th, 2020. As required by the Functional Guidelines, the ICV sample solution was obtained from another source than the sources used for the initial calibration. Also as required by the Functional Guidelines, the concentration of the ICV was at or near the midpoint value of the calibration standards used for the initial calibration.

The ICV RRFs for target analytes were verified to be greater than analyte-specific USEPA-recommended minimum values provided in Table 4 of the Functional Guidelines, except as listed in **Table 3.4**. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be greater than laboratory-provided criteria, except as listed in **Table 3.4**. Results for analytes listed in **Table 3.4** were qualified as estimated high ("J+") for positive results and as unusable ("R") for non-detect results.

Table 3.4 ICV Relative Response Factors Outside of Control Limits

ICV Date / Time and Instrument	Compound, RRF, and EPA Minimum	Associated Samples
8/24/2020 12:59 MSD-C	Ethylbenzene = 0.402, EPA Table 4 Min = 0.500 1,4-Dichlorobenzene = 0.654, EPA Table 4 Min = 0.700	All

The ICV Percent Differences (%Ds) for target analytes were verified to be less than analyte-specific USEPA-recommended maximum values provided in Table 4 of the Functional Guidelines. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be less than laboratory-provided criteria for other analytes without an EPA-specified value.

No other qualifications were required based on initial calibration procedures or results.

3.5 CONTINUING CALIBRATION VERIFCIATION

A continuing calibration verification (CCV) sample was analyzed prior to analysis of samples on September 15th, 2020. As required by the Functional Guidelines, the concentration of the CCV was at or near the midpoint value of the calibration standards used for the initial calibration.

The CCV RRFs for target analytes were verified to be greater than analyte-specific USEPA-recommended minimum values provided in Table 4 of the Functional Guidelines, except as listed in **Table 3.5.1**. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be greater than laboratory-provided criteria, except as listed in **Table 3.5.1**. Results for analytes listed in **Table 3.5.1** were qualified as estimated high ("J+") for positive results and as unusable ("R") for non-detect results.

Table 3.5.1 CCV Relative Response Factors Outside of Control Limits

CCV Date / Time and Instrument	Compound, RRF, and EPA Minimum	Associated Samples
9/15/2020 07:27 MSD-C	Ethylbenzene = 0.370, EPA Table 4 Min = 0.500 1,4-Dichlorobenzene = 0.586, EPA Table 4 Min = 0.700	All

The CCV %Ds for target analytes were verified to be less than analyte-specific USEPA-recommended maximum values provided in Table 4 of the Functional Guidelines. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be less than laboratory-provided criteria.

No other qualifications were required based on continuing calibration procedures or results.

3.6 BLANKS

Samples were analyzed within one (1) twelve (12)-hour time period. A method blank was analyzed after the CCV sample and prior to the primary samples as required by the Functional

Guidelines. Method blank results were reported as non-detect by the laboratory and were verified to be non-detect based on a review of raw results provided by the laboratory.

One (1) trip blank sample was submitted to the laboratory and analyzed with the primary samples. No analytes were detected in the trip blank sample.

No qualifications were required based on blank results.

3.7 DEUTERATED MONITORING COMPOUNDS (SURROGATES)

One (1) deuterated monitoring compound (DMC, or surrogate), Toluene-d8, was added to each sample and used for evaluation of analysis efficiency. The laboratory compared recoveries for Toluene-d8 to the same criteria listed in the Functional Guidelines (70% - 130%). Toluene-d8 recoveries for the primary samples, method blank, and Laboratory Control Sample / Laboratory Control Sample Duplicate (LCS/LCSD) pair were verified to be within 70% - 130%.

No qualifications were required based on DMC results.

3.8 MATRIX SPIKE / MATRIX SPIKE DUPLICATE

No Matrix Spike / Matrix Spike Duplicate (MS/MSD) samples were analyzed.

No qualifications were required based on MS/MSD results.

3.9 LABORATORY CONTROL SAMPLE / LABORATORY CONTROL SAMPLE DUPLICATE

One (1) Laboratory Control Sample / Laboratory Control Sample Duplicate (LCS/LCSD) sample pair was analyzed with the primary samples. LCS/LCSD sample results were verified to be within laboratory-provided control limits and the Relative Percent Difference (RPD) between individual analyte results from the LCS and LCSD were verified be less than 20%, except the results listed in **Table 3.9**.

Table 3.9 LCS / LCSD Results Outside of Laboratory Control Limits

Date & time	Compound	% Recovery		RPD	Acceptance Criteria		Associated Samples
		LCS	LCSD		% Rec	RPD	
LCS 9/15/2020 08:50 LCSD 9/15/2020 08:23	Ethanol	43.0%	50.9%	16.7%	50% - 130%	0% - 20%	All

Analytes listed in **Table 3.9** were qualified as estimated ("J") for positive results and were qualified as estimated non-detect ("UJ") for non-detect results in the associated samples. No other qualifications were required based on LCS/LCSD results.

3.10 INTERNAL STANDARDS

Internal standard area counts and retention times for the samples and blanks were within the Functional Guidelines control limits of 50% to 200% and ±10.0 seconds, respectively, of the corresponding counts and times for the most recent continuing calibration verification sample or midpoint standard from the associated initial calibration. The laboratory-provided internal standard control limit calculations were verified, and the individual sample internal standard results were verified to be within the applicable control limits.

No qualifications were required based on internal standards.

3.11 FIELD DUPLICATES

One (1) field duplicate sample pair (12 / DUP) was collected. Relative Percent Differences (RPDs) between the original and field duplicate samples were calculated to be less than 20% for detected analytes reported above five (5) times the applicable reporting limit (RL) and results were within ±RL for analytes reported at positive values less than five (5) times the RL.

No qualifications were performed based on field duplicate results.

3.12 TARGET ANALYTE IDENTIFICATION

Based on a review of raw sample results provided by the laboratory, no errors were observed with identification of target analytes. Relative intensities of primary and secondary ions for detected analytes were verified to be within ±20% of the laboratory-provided standard relative ion intensities for each analyte. Relative Retention Times (RRTs) were within the EPA-recommended control limits of ±0.06 RRT units of the RRT for the same analyte in the associated opening CCV sample.

No qualifications were performed based on target analyte identification criteria.

3.13 ANALYTE QUANTITATION AND TRANSCRIPTIONS FROM RAW DATA

Compound quantitation was checked for the primary samples, the field duplicate sample, the trip blank sample, and the LCS/LCSD sample pair. No errors were detected in sample quantitation methods or transcriptions from the raw data to the summary forms.

4 PRECISION, ACCURACY, AND COMPLETENESS

Results of the data validation were reviewed to evaluate the precision, accuracy, and completeness of the analyses.

Precision measures the agreement among a set of replicate measurements. Field precision is assessed through the collection and analysis of field duplicates. Analytical precision is estimated by duplicate / replicate analyses, usually on LCS samples, spiked samples, and/or field samples. For this project, precision was assessed by tabulating the results of the relative percent differences (RPDs) of the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) and original sample / field duplicate sample analyses. RPDs that fall within the project or laboratory-specified QA control limits indicate acceptable precision. The precision number given indicates the percentage of RPDs that were within control limits.

Accuracy is the closeness of a measured result to an accepted reference value. Quality Control (QC) analyses used to measure accuracy include internal standard recoveries, LCS samples, spiked samples, and DMC recoveries. For this project, accuracy was assessed by tabulating the results of the percent recoveries for internal standards, LCS/LCSD samples, DMCs, and results for the laboratory method blank sample. The reported accuracy indicates the percentage of recoveries and blank results within the project or QA control limits.

Completeness is a measure of the amount of valid data collected compared to the amount planned. Measurements are considered to be valid if they are unqualified or qualified as estimated during data validation. Rejected results are considered to be invalid. The reported completeness is the number of valid results divided by the total number of results.

4.1 OVERALL PROJECT PRECISION

The overall project precision for the Bridgeton Landfill August 28th, 2020 VOC air monitoring event, based on the percentage of RPD results within control limits, was 100% (48 of 48 results in control).

4.2 OVERALL PROJECT ACCURACY

The overall project accuracy for the Bridgeton Landfill August 28th, 2020 VOC air monitoring event, based on the percentage of internal standard recoveries, LCS sample recoveries, and DMC recoveries within control limits, and laboratory method blank non-detects, was 98.9% (91 of 92 results in control).

4.3 OVERALL PROJECT COMPLETENESS

The overall project completeness for the Bridgeton Landfill August 28th, 2020 VOC air monitoring event, defined as the percentage of data not rejected, was 95.2% (160 of 168 results not rejected).

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Client Sample ID: 1

Lab ID#: 2009037-01A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091520sim**	**Date of Collection:**	**8/28/20 11:54:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**9/15/20 03:31 PM**
		Date of Extraction:	**9/15/20**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.45	Not Detected	Not Detected UJ
Methyl tert-butyl ether	0.10	0.070	Not Detected	Not Detected
Hexane	0.10	0.069	0.62	0.43
Ethyl Acetate	0.40	0.23	0.41	0.24
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	Not Detected	Not Detected
Chloroform	0.10	0.061	0.11	0.068
1,1,1-Trichloroethane	0.10	0.073	Not Detected	Not Detected
Cyclohexane	0.10	0.084	0.18	0.15
Carbon Tetrachloride	0.10	0.068	0.73	0.49
Benzene	0.40	0.23	0.53	0.30
1,2-Dichloroethane	0.10	0.059	Not Detected	Not Detected
Heptane	0.10	0.078	0.47	0.37
Trichloroethene	0.10	0.066	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.062	1.7	1.1
Tetrachloroethene	0.10	0.077	0.11	0.084
Chlorobenzene	0.10	0.067	Not Detected	Not Detected
Ethyl Benzene	0.10	0.067	0.21	0.14 J+
m,p-Xylene	0.10	0.065	0.64	0.41
o-Xylene	0.10	0.070	0.20	0.14
Styrene	0.10	0.075	Not Detected	Not Detected
Propylbenzene	0.10	0.080	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.089	Not Detected	Not Detected R
Naphthalene	0.10	0.18	Not Detected	Not Detected

Temperature = 81.0F , duration time = 21745 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

11/10/2020

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Client Sample ID: 5

Lab ID#: 2009037-02A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091521sim**	**Date of Collection: 8/28/20 1:55:00 PM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/20 03:58 PM**	
		Date of Extraction: 9/15/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.45	Not Detected	Not Detected UJ
Methyl tert-butyl ether	0.10	0.070	Not Detected	Not Detected
Hexane	0.10	0.069	0.56	0.38
Ethyl Acetate	0.40	0.23	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.31	0.18
Chloroform	0.10	0.061	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.074	Not Detected	Not Detected
Cyclohexane	0.10	0.085	0.15	0.12
Carbon Tetrachloride	0.10	0.068	0.48	0.33
Benzene	0.40	0.23	0.50	0.28
1,2-Dichloroethane	0.10	0.059	Not Detected	Not Detected
Heptane	0.10	0.079	0.36	0.28
Trichloroethene	0.10	0.066	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.062	1.4	0.90
Tetrachloroethene	0.10	0.077	0.11	0.082
Chlorobenzene	0.10	0.067	Not Detected	Not Detected
Ethyl Benzene	0.10	0.067	0.22	0.15 J+
m,p-Xylene	0.10	0.065	0.69	0.45
o-Xylene	0.10	0.070	0.21	0.15
Styrene	0.10	0.075	Not Detected	Not Detected
Propylbenzene	0.10	0.080	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.090	Not Detected	Not Detected R
Naphthalene	0.10	0.18	Not Detected	Not Detected

Temperature = 81.0F , duration time = 21669 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	83	70-130

11/10/2020

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Client Sample ID: 7

Lab ID#: 2009037-03A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091522sim**	**Date of Collection: 8/28/20 1:50:00 PM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/20 04:25 PM**	
		Date of Extraction: 9/15/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.44	Not Detected	Not Detected UJ
Methyl tert-butyl ether	0.10	0.070	Not Detected	Not Detected
Hexane	0.10	0.069	0.66	0.45
Ethyl Acetate	0.40	0.23	0.76	0.44
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.35	0.20
Chloroform	0.10	0.060	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.073	Not Detected	Not Detected
Cyclohexane	0.10	0.084	0.17	0.14
Carbon Tetrachloride	0.10	0.068	0.48	0.32
Benzene	0.40	0.23	0.48	0.27
1,2-Dichloroethane	0.10	0.059	Not Detected	Not Detected
Heptane	0.10	0.078	0.37	0.29
Trichloroethene	0.10	0.066	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.061	1.8	1.1
Tetrachloroethene	0.10	0.077	0.14	0.11
Chlorobenzene	0.10	0.067	Not Detected	Not Detected
Ethyl Benzene	0.10	0.067	0.26	0.17 J+
m,p-Xylene	0.10	0.065	0.80	0.52
o-Xylene	0.10	0.070	0.25	0.18
Styrene	0.10	0.074	Not Detected	Not Detected
Propylbenzene	0.10	0.080	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.089	Not Detected	Not Detected R
Naphthalene	0.10	0.18	Not Detected	Not Detected

Temperature = 82.0F , duration time = 21675 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	83	70-130

11/10/2020

eurofins | Air Toxics

Client Sample ID: 8

Lab ID#: 2009037-04A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091523sim**	**Date of Collection: 8/28/20 2:00:00 PM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/20 04:51 PM**	
		Date of Extraction: 9/15/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.44	Not Detected	Not Detected UJ
Methyl tert-butyl ether	0.10	0.070	Not Detected	Not Detected
Hexane	0.10	0.069	0.54	0.37
Ethyl Acetate	0.40	0.23	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.33	0.19
Chloroform	0.10	0.061	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.073	Not Detected	Not Detected
Cyclohexane	0.10	0.084	0.12	0.10
Carbon Tetrachloride	0.10	0.068	0.49	0.33
Benzene	0.40	0.23	0.48	0.27
1,2-Dichloroethane	0.10	0.059	Not Detected	Not Detected
Heptane	0.10	0.078	0.31	0.24
Trichloroethene	0.10	0.066	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.061	1.2	0.73
Tetrachloroethene	0.10	0.077	Not Detected	Not Detected
Chlorobenzene	0.10	0.067	Not Detected	Not Detected
Ethyl Benzene	0.10	0.067	0.19	0.13 J+
m,p-Xylene	0.10	0.065	0.59	0.38
o-Xylene	0.10	0.070	0.18	0.12
Styrene	0.10	0.074	Not Detected	Not Detected
Propylbenzene	0.10	0.080	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.089	Not Detected	Not Detected R
Naphthalene	0.10	0.18	Not Detected	Not Detected

Temperature = 82.0F , duration time = 21664 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

11/10/2020

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Client Sample ID: 12

Lab ID#: 2009037-05A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091524sim**	**Date of Collection:**	**8/28/20 11:40:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**9/15/20 05:18 PM**
		Date of Extraction:	**9/15/20**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.45	Not Detected	Not Detected UJ
Methyl tert-butyl ether	0.10	0.070	Not Detected	Not Detected
Hexane	0.10	0.069	0.55	0.38
Ethyl Acetate	0.40	0.23	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.32	0.19
Chloroform	0.10	0.061	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.073	Not Detected	Not Detected
Cyclohexane	0.10	0.084	0.13	0.11
Carbon Tetrachloride	0.10	0.068	0.51	0.35
Benzene	0.40	0.23	0.50	0.28
1,2-Dichloroethane	0.10	0.059	Not Detected	Not Detected
Heptane	0.10	0.078	0.38	0.30
Trichloroethene	0.10	0.066	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.061	1.2	0.73
Tetrachloroethene	0.10	0.077	Not Detected	Not Detected
Chlorobenzene	0.10	0.067	Not Detected	Not Detected
Ethyl Benzene	0.10	0.067	0.17	0.12 J+
m,p-Xylene	0.10	0.065	0.52	0.34
o-Xylene	0.10	0.070	0.16	0.12
Styrene	0.10	0.075	Not Detected	Not Detected
Propylbenzene	0.10	0.080	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.089	Not Detected	Not Detected R
Naphthalene	0.10	0.18	Not Detected	Not Detected

Temperature = 80.0F , duration time = 21754 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

11/10/2020

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Client Sample ID: Dup

Lab ID#: 2009037-06A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091525sim**	**Date of Collection:**	**8/28/20 11:40:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**9/15/20 05:45 PM**
		Date of Extraction:	**9/15/20**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.45	Not Detected	Not Detected UJ
Methyl tert-butyl ether	0.10	0.070	Not Detected	Not Detected
Hexane	0.10	0.069	0.50	0.35
Ethyl Acetate	0.40	0.23	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	0.29	0.17
Chloroform	0.10	0.061	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.073	Not Detected	Not Detected
Cyclohexane	0.10	0.084	0.12	0.10
Carbon Tetrachloride	0.10	0.068	0.48	0.33
Benzene	0.40	0.23	0.47	0.27
1,2-Dichloroethane	0.10	0.059	Not Detected	Not Detected
Heptane	0.10	0.078	0.37	0.29
Trichloroethene	0.10	0.066	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected
Toluene	0.10	0.062	1.1	0.68
Tetrachloroethene	0.10	0.077	Not Detected	Not Detected
Chlorobenzene	0.10	0.067	Not Detected	Not Detected
Ethyl Benzene	0.10	0.067	0.17	0.11 J+
m,p-Xylene	0.10	0.065	0.50	0.33
o-Xylene	0.10	0.070	0.16	0.11
Styrene	0.10	0.075	Not Detected	Not Detected
Propylbenzene	0.10	0.080	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.089	Not Detected	Not Detected R
Naphthalene	0.10	0.18	Not Detected	Not Detected

Temperature = 80.0F , duration time = 21751 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	83	70-130

11/19/2020

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Client Sample ID: TB

Lab ID#: 2009037-07A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091526sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/20 06:11 PM**	
		Date of Extraction: 9/15/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)	
Ethanol	1.0	0.44	Not Detected	Not Detected	UJ
Methyl tert-butyl ether	0.10	0.070	Not Detected	Not Detected	
Hexane	0.10	0.069	Not Detected	Not Detected	
Ethyl Acetate	0.40	0.23	Not Detected	Not Detected	
2-Butanone (Methyl Ethyl Ketone)	0.20	0.11	Not Detected	Not Detected	
Chloroform	0.10	0.060	Not Detected	Not Detected	
1,1,1-Trichloroethane	0.10	0.073	Not Detected	Not Detected	
Cyclohexane	0.10	0.084	Not Detected	Not Detected	
Carbon Tetrachloride	0.10	0.068	Not Detected	Not Detected	
Benzene	0.40	0.23	Not Detected	Not Detected	
1,2-Dichloroethane	0.10	0.059	Not Detected	Not Detected	
Heptane	0.10	0.078	Not Detected	Not Detected	
Trichloroethene	0.10	0.066	Not Detected	Not Detected	
4-Methyl-2-pentanone	0.20	0.14	Not Detected	Not Detected	
Toluene	0.10	0.061	Not Detected	Not Detected	
Tetrachloroethene	0.10	0.077	Not Detected	Not Detected	
Chlorobenzene	0.10	0.066	Not Detected	Not Detected	
Ethyl Benzene	0.10	0.066	Not Detected	Not Detected	R
m,p-Xylene	0.10	0.065	Not Detected	Not Detected	
o-Xylene	0.10	0.070	Not Detected	Not Detected	
Styrene	0.10	0.074	Not Detected	Not Detected	
Propylbenzene	0.10	0.079	Not Detected	Not Detected	
1,4-Dichlorobenzene	0.10	0.089	Not Detected	Not Detected	R
Naphthalene	0.10	0.18	Not Detected	Not Detected	

Temperature = 82.0F , duration time = 21754 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130

11/12/2020

September 10, 2020 Sampling Event

Data Validation Summary Report for the Bridgeton Landfill September 10th, 2020 VOC Air Monitoring Event

Prepared by Jonathan Wilkinson
Residuals Management Team Member
Feezor Engineering, Inc.

November 10th, 2020

1 INTRODUCTION

Five (5) outdoor air samples, one (1) field duplicate sample, and one (1) trip blank sample were collected at the Bridgeton Landfill on September 10th, 2020. The samples were sent to the Eurofins / Air Toxics Laboratory in Folsom, California and analyzed for Volatile Organic Compounds (VOCs) by EPA Compendium Method TO-17 (modified).

The analytical results were validated using laboratory acceptance criteria and the procedures and guidelines contained in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, revised January 2017 and USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, dated October 1999.

Items checked included holding times, instrument performance check results, initial and continuing calibration procedures and results, method and field blank results, deuterated monitoring compound (DMC) recoveries, Matrix Spike/Matrix Spike Duplicate (MS/MSD) and Laboratory Control Sample (LCS) recoveries, internal standard recoveries, field duplicate results, target compound identification, compound quantitation, and transcriptions from raw data.

All data necessary to complete the data review were provided by the laboratory. Based on the guidelines referenced above, results were qualified as:

- "U": The analyte was not detected at a value greater than the associated analyte quantitation limit;
- "J": An estimated analyte result, "J+" or "J-" used to indicate a high or low bias;
- "NJ": The analyte has been tentatively identified, or is presumed to be present at the associated numerical value;
- "UJ": The analyte was not detected. The reported analyte quantitation limit is approximate and may be inaccurate or imprecise; and
- "R": The result is unusable. The result was rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

2 SAMPLE SUMMARY

Sample results were reported in a Contract Laboratory Program (CLP)-like format data package. Review of the Chain of Custody (COC) form indicates that samples collected on September 10th, 2020 were shipped for delivery to the laboratory on September 11th, 2020 and were received by the laboratory in good condition via Federal Express (the courier used to deliver the samples to the laboratory). **Table 2.1** provides general information about the laboratory and data package, **Table 2.2** lists the samples validated and their respective laboratory identification numbers.

Table 2.1 General Information

Contract Laboratory:	Eurofins / Air Toxics, Inc. Folsom, California
Total # of Samples:	7
Sample Matrix:	Radiello™ 130 activated charcoal sorbent bed passive air sampler

Table 2.2 Sample Identification

Field Sample ID	QA Sample ID	Laboratory ID
1		2009266-01A
5		2009266-02A
7		2009266-03A
8		2009266-04A
12		2009266-05A
Dup	Field Duplicate @ 12	2009266-06A
TB	Trip Blank	2009266-07A

3 VOLATILE ORGANIC COMPOUNDS (EPA METHOD TO-17 MODIFIED)

Analysis of VOCs is accomplished by chemical extraction of target analytes using carbon disulfide followed by injection into a Gas Chromatograph / Mass Spectrometer (GC/MS) for identification and quantitation of analytes.

3.1 HOLDING TIMES

No holding times are specified by the method. Per the manufacturer, the shelf life of the Radiello™ 130 unit is six (6) months. Samples were analyzed according to the times shown in **Table 3.1**

Table 3.1 EPA Method TO-17 (Modified) Sample Holding Times

Field Sample ID	Date Collected	Date Extracted	Date Analyzed	# Days from Collection to Extraction	# Days from Extraction to Analysis
1	9/10/2020	9/16/2020	9/16/2020	6	0
5	9/10/2020	9/16/2020	9/16/2020	6	0
7	9/10/2020	9/16/2020	9/16/2020	6	0
8	9/10/2020	9/16/2020	9/16/2020	6	0
12	9/10/2020	9/16/2020	9/16/2020	6	0
Dup	9/10/2020	9/16/2020	9/16/2020	6	0
TB	9/10/2020	9/16/2020	9/16/2020	6	0

No qualifications were required based on holding times.

3.2 GC INSTRUMENT PERFORMANCE CHECKS

GC/MS instrument performance check results were reported for each 12-hour period when samples were analyzed. Ion abundance acceptance criteria for performance check compound Bromofluorobenzene (BFB) used by the laboratory were similar to ion abundance acceptance criteria provided in ion abundance acceptance criteria provided in Table 3 of the Functional Guidelines, as presented in **Table 3.2**. Using raw GC/MS instrument performance check results provided by the laboratory, ion abundance results were verified to be within each set of acceptance criteria provided in **Table 3.2**.

Table 3.2 BFB Ion Abundance Acceptance Criteria

Ion Mass	Laboratory-Provided Criteria	USEPA CLP Criteria
50	8% to 40% of Mass 95	15% to 40% of Mass 95
75	30% to 66% of Mass 95	30% to 80% of Mass 95
95	Base Peak, 100% Relative Abundance	Base Peak, 100% Relative Abundance
96	5% to 9% of Mass 95	5% to 9% of Mass 95
173	Less than 2% of Mass 174	Less than 2% of Mass 174
174	50% to 120% of Mass 95	50% to 120% of Mass 95
175	4% to 9% of Mass 174	5% to 9% of Mass 174
176	93% to 101% of Mass 174	95% to 101% of Mass 174
177	5% to 9% of Mass 176	5% to 9% of Mass 176

No qualifications were required based on GC/MS instrument performance check results.

3.3 INITIAL CALIBRATION PROCEDURES AND RESULTS

Initial calibration was performed for Instrument MSD-C on August 24th, 2020 using eleven (11) standards for one (1) analyte, ten (10) standards for seventeen (17) analytes, nine (9) standards for three (3) analytes, eight (8) standards for two (2) analytes, and seven (7) standards for one (1) analyte. Based upon a review of raw calibration results provided by the laboratory, no errors were detected with the calculation of Percent Relative Standard Deviations (%RSDs), relative response factors (RRFs), or mean relative response factors ($\overline{RRFs}$).

Relative response factors and mean relative response factors for target analytes were verified to be greater than analyte-specific USEPA-recommended minimum values provided in Table 4 of the Functional Guidelines, except as listed in **Table 3.3.1**. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be greater than laboratory-provided criteria, except as listed in **Table 3.3.1**. Analytes listed in **Table 3.3.1** were qualified as estimated high ("J+") for positive results and as unusable ("R") for non-detect results. %RSDs for individual analytes were verified to be less than or equal to analyte-specific USEPA-recommended maximum values provided in Table 4 of the Functional Guidelines and were less than or equal to laboratory-provided criteria for other analytes without an EPA-specified maximum value.

Table 3.3.1 Initial Calibration Relative Response Factors Outside of Control Limits

Initial Cal. Date and Instrument	Compound, $\overline{RRF}$, and EPA Minimum	Associated Samples
8/24/2020 MSD-C	Ethylbenzene: 0.418, EPA Table 4 Min = 0.500 1,4-Dichlorobenzene: 0.670, EPA Table 4 Min = 0.700	All

No other qualifications were required based on initial calibration procedures or results.

3.4 INITIAL CALIBRATION VERIFCIATION

An initial calibration verification (ICV) sample was analyzed after the initial calibration samples on August 24th, 2020. As required by the Functional Guidelines, the ICV sample solution was obtained from another source than the sources used for the initial calibration. Also as required by the Functional Guidelines, the concentration of the ICV was at or near the midpoint value of the calibration standards used for the initial calibration.

The ICV RRFs for target analytes were verified to be greater than analyte-specific USEPA-recommended minimum values provided in Table 4 of the Functional Guidelines, except as listed in **Table 3.4**. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be greater than laboratory-provided criteria, except as listed in **Table 3.4**. Results for analytes listed in **Table 3.4** were qualified as estimated high ("J+") for positive results and as unusable ("R") for non-detect results.

Table 3.4 ICV Relative Response Factors Outside of Control Limits

ICV Date / Time and Instrument	Compound, RRF, and EPA Minimum	Associated Samples
8/24/2020 12:59 MSD-C	Ethylbenzene = 0.402, EPA Table 4 Min = 0.500 1,4-Dichlorobenzene = 0.654, EPA Table 4 Min = 0.700	All

The ICV Percent Differences (%Ds) for target analytes were verified to be less than analyte-specific USEPA-recommended maximum values provided in Table 4 of the Functional Guidelines. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be less than laboratory-provided criteria for other analytes without an EPA-specified value.

No other qualifications were required based on initial calibration procedures or results.

3.5 CONTINUING CALIBRATION VERIFCIATION

A continuing calibration verification (CCV) sample was analyzed prior to analysis of samples on September 16th, 2020. As required by the Functional Guidelines, the concentration of the CCV was at or near the midpoint value of the calibration standards used for the initial calibration.

The CCV RRFs for target analytes were verified to be greater than analyte-specific USEPA-recommended minimum values provided in Table 4 of the Functional Guidelines, except as listed in **Table 3.5.1**. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be greater than laboratory-provided criteria, except as listed in **Table 3.5.1**. Results for analytes listed in **Table 3.5.1** were qualified as estimated high ("J+") for positive results and as unusable ("R") for non-detect results.

Table 3.5.1 CCV Relative Response Factors Outside of Control Limits

CCV Date / Time and Instrument	Compound, RRF, and EPA Minimum	Associated Samples
9/16/2020 07:23 MSD-C	Ethylbenzene = 0.370, EPA Table 4 Min = 0.500 1,4-Dichlorobenzene = 0.600, EPA Table 4 Min = 0.700	All

The CCV %Ds for target analytes were verified to be less than analyte-specific USEPA-recommended maximum values provided in Table 4 of the Functional Guidelines. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be less than laboratory-provided criteria.

No other qualifications were required based on continuing calibration procedures or results.

3.6 BLANKS

Samples were analyzed within one (1) twelve (12)-hour time period. A method blank was analyzed after the CCV sample and prior to the primary samples as required by the Functional

Guidelines. Method blank results were reported as non-detect by the laboratory and were verified to be non-detect based on a review of raw results provided by the laboratory.

One (1) trip blank sample was submitted to the laboratory and analyzed with the primary samples. No analytes were detected in the trip blank sample.

No qualifications were required based on blank results.

3.7 DEUTERATED MONITORING COMPOUNDS (SURROGATES)

One (1) deuterated monitoring compound (DMC, or surrogate), Toluene-d8, was added to each sample and used for evaluation of analysis efficiency. The laboratory compared recoveries for Toluene-d8 to the same criteria listed in the Functional Guidelines (70% - 130%). Toluene-d8 recoveries for the primary samples, method blank, and Laboratory Control Sample / Laboratory Control Sample Duplicate (LCS/LCSD) pair were verified to be within 70% - 130%.

No qualifications were required based on DMC results.

3.8 MATRIX SPIKE / MATRIX SPIKE DUPLICATE

No Matrix Spike / Matrix Spike Duplicate (MS/MSD) samples were analyzed.

No qualifications were required based on MS/MSD results.

3.9 LABORATORY CONTROL SAMPLE / LABORATORY CONTROL SAMPLE DUPLICATE

One (1) Laboratory Control Sample / Laboratory Control Sample Duplicate (LCS/LCSD) sample pair was analyzed with the primary samples. LCS/LCSD sample results were verified to be within laboratory-provided control limits and the Relative Percent Difference (RPD) between individual analyte results from the LCS and LCSD were verified be less than 20%, except the results listed in **Table 3.9**.

Table 3.9 LCS / LCSD Results Outside of Laboratory Control Limits

Date & time	Compound	% Recovery		RPD	Acceptance Criteria		Associated Samples
		LCS	LCSD		% Rec	RPD	
LCS 9/16/2020 07:53	Ethanol	43.7%	34.0%	25.1%	50% - 130%	0% - 20%	All
	Naphthalene	14.6%	10.5%	32.8%	5% - 80%	0% - 20%	
LCSD 9/16/2020 08:46							

Analytes listed in **Table 3.9** were qualified as estimated ("J") for positive results and were qualified as estimated non-detect ("UJ") for non-detect results in the associated samples. No other qualifications were required based on LCS/LCSD results.

3.10 INTERNAL STANDARDS

Internal standard area counts and retention times for the samples and blanks were within the Functional Guidelines control limits of 50% to 200% and ±10.0 seconds, respectively, of the corresponding counts and times for the most recent continuing calibration verification sample or midpoint standard from the associated initial calibration. The laboratory-provided internal standard control limit calculations were verified, and the individual sample internal standard results were verified to be within the applicable control limits.

No qualifications were required based on internal standards.

3.11 FIELD DUPLICATES

One (1) field duplicate sample pair (12 / DUP) was collected. Relative Percent Differences (RPDs) between the original and field duplicate samples were calculated to be less than 20% for detected analytes reported above five (5) times the applicable reporting limit (RL) and results were within ±RL for analytes reported at positive values less than five (5) times the RL.

No qualifications were performed based on field duplicate results.

3.12 TARGET ANALYTE IDENTIFICATION

Based on a review of raw sample results provided by the laboratory, no errors were observed with identification of target analytes. Relative intensities of primary and secondary ions for detected analytes were verified to be within ±20% of the laboratory-provided standard relative ion intensities for each analyte. Relative Retention Times (RRTs) were within the EPA-recommended control limits of ±0.06 RRT units of the RRT for the same analyte in the associated opening CCV sample.

No qualifications were performed based on target analyte identification criteria.

3.13 ANALYTE QUANTITATION AND TRANSCRIPTIONS FROM RAW DATA

Compound quantitation was checked for the primary samples, the field duplicate sample, the trip blank sample, and the LCS/LCSD sample pair. No errors were detected in sample quantitation methods or transcriptions from the raw data to the summary forms.

4 PRECISION, ACCURACY, AND COMPLETENESS

Results of the data validation were reviewed to evaluate the precision, accuracy, and completeness of the analyses.

Precision measures the agreement among a set of replicate measurements. Field precision is assessed through the collection and analysis of field duplicates. Analytical precision is estimated by duplicate / replicate analyses, usually on LCS samples, spiked samples, and/or field samples. For this project, precision was assessed by tabulating the results of the relative percent differences (RPDs) of the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) and original sample / field duplicate sample analyses. RPDs that fall within the project or laboratory-specified QA control limits indicate acceptable precision. The precision number given indicates the percentage of RPDs that were within control limits.

Accuracy is the closeness of a measured result to an accepted reference value. Quality Control (QC) analyses used to measure accuracy include internal standard recoveries, LCS samples, spiked samples, and DMC recoveries. For this project, accuracy was assessed by tabulating the results of the percent recoveries for internal standards, LCS/LCSD samples, DMCs, and results for the laboratory method blank sample. The reported accuracy indicates the percentage of recoveries and blank results within the project or QA control limits.

Completeness is a measure of the amount of valid data collected compared to the amount planned. Measurements are considered to be valid if they are unqualified or qualified as estimated during data validation. Rejected results are considered to be invalid. The reported completeness is the number of valid results divided by the total number of results.

4.1 OVERALL PROJECT PRECISION

The overall project precision for the Bridgeton Landfill September 10th, 2020 VOC air monitoring event, based on the percentage of RPD results within control limits, was 95.8% (46 of 48 results in control).

4.2 OVERALL PROJECT ACCURACY

The overall project accuracy for the Bridgeton Landfill September 10th, 2020 VOC air monitoring event, based on the percentage of internal standard recoveries, LCS sample recoveries, and DMC recoveries within control limits, and laboratory method blank non-detects, was 97.8% (90 of 92 results in control).

4.3 OVERALL PROJECT COMPLETENESS

The overall project completeness for the Bridgeton Landfill September 10th, 2020 VOC air monitoring event, defined as the percentage of data not rejected, was 94.6% (159 of 168 results not rejected).

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Client Sample ID: 1

Lab ID#: 2009266-01A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091620sim**	**Date of Collection: 9/10/20 9:50:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/20 03:26 PM**	
		Date of Extraction: 9/16/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)	
Ethanol	1.0	0.52	Not Detected	Not Detected	UJ
Methyl tert-butyl ether	0.10	0.082	Not Detected	Not Detected	
Hexane	0.10	0.081	0.22	0.18	
Ethyl Acetate	0.40	0.27	Not Detected	Not Detected	
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	Not Detected	Not Detected	
Chloroform	0.10	0.071	Not Detected	Not Detected	
1,1,1-Trichloroethane	0.10	0.086	Not Detected	Not Detected	
Cyclohexane	0.10	0.098	Not Detected	Not Detected	
Carbon Tetrachloride	0.10	0.079	0.34	0.27	
Benzene	0.40	0.27	Not Detected	Not Detected	
1,2-Dichloroethane	0.10	0.069	Not Detected	Not Detected	
Heptane	0.10	0.092	0.18	0.17	
Trichloroethene	0.10	0.077	Not Detected	Not Detected	
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected	
Toluene	0.10	0.072	0.68	0.49	
Tetrachloroethene	0.10	0.090	Not Detected	Not Detected	
Chlorobenzene	0.10	0.078	Not Detected	Not Detected	
Ethyl Benzene	0.10	0.078	Not Detected	Not Detected	R
m,p-Xylene	0.10	0.076	0.27	0.21	
o-Xylene	0.10	0.082	Not Detected	Not Detected	
Styrene	0.10	0.087	Not Detected	Not Detected	
Propylbenzene	0.10	0.093	Not Detected	Not Detected	
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected	R
Naphthalene	0.10	0.21	Not Detected	Not Detected	UJ

Temperature = 81.0F , duration time = 18595 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	83	70-130

11/10/2020

eurofins | Air Toxics

Client Sample ID: 5

Lab ID#: 2009266-02A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091621sim**	**Date of Collection:**	**9/10/20 9:35:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**9/16/20 03:53 PM**
		Date of Extraction:	**9/16/20**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.52	Not Detected	Not Detected UJ
Methyl tert-butyl ether	0.10	0.082	Not Detected	Not Detected
Hexane	0.10	0.081	0.23	0.19
Ethyl Acetate	0.40	0.28	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.14	0.22	0.15
Chloroform	0.10	0.072	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.086	Not Detected	Not Detected
Cyclohexane	0.10	0.099	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.080	0.27	0.22
Benzene	0.40	0.27	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.070	Not Detected	Not Detected
Heptane	0.10	0.092	0.13	0.12
Trichloroethene	0.10	0.078	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.072	0.85	0.61
Tetrachloroethene	0.10	0.091	Not Detected	Not Detected
Chlorobenzene	0.10	0.079	Not Detected	Not Detected
Ethyl Benzene	0.10	0.079	2.1	1.6 J+
m,p-Xylene	0.10	0.077	8.8	6.8
o-Xylene	0.10	0.082	2.5	2.0
Styrene	0.10	0.088	Not Detected	Not Detected
Propylbenzene	0.10	0.094	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected R UJ
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 81.0F , duration time = 18459 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130

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Client Sample ID: 7

Lab ID#: 2009266-03A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091622sim**	**Date of Collection:**	**9/10/20 9:30:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**9/16/20 04:20 PM**
		Date of Extraction:	**9/16/20**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)	
Ethanol	1.0	0.52	Not Detected	Not Detected	UJ
Methyl tert-butyl ether	0.10	0.082	Not Detected	Not Detected	
Hexane	0.10	0.081	0.25	0.20	
Ethyl Acetate	0.40	0.28	Not Detected	Not Detected	
2-Butanone (Methyl Ethyl Ketone)	0.20	0.14	0.26	0.17	
Chloroform	0.10	0.072	Not Detected	Not Detected	
1,1,1-Trichloroethane	0.10	0.086	Not Detected	Not Detected	
Cyclohexane	0.10	0.099	Not Detected	Not Detected	
Carbon Tetrachloride	0.10	0.080	0.26	0.20	
Benzene	0.40	0.27	Not Detected	Not Detected	
1,2-Dichloroethane	0.10	0.070	Not Detected	Not Detected	
Heptane	0.10	0.092	0.15	0.14	
Trichloroethene	0.10	0.078	Not Detected	Not Detected	
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected	
Toluene	0.10	0.072	0.87	0.63	
Tetrachloroethene	0.10	0.091	Not Detected	Not Detected	
Chlorobenzene	0.10	0.079	Not Detected	Not Detected	
Ethyl Benzene	0.10	0.079	2.0	1.6	J+
m,p-Xylene	0.10	0.077	8.5	6.5	
o-Xylene	0.10	0.082	2.4	2.0	
Styrene	0.10	0.088	Not Detected	Not Detected	
Propylbenzene	0.10	0.094	Not Detected	Not Detected	
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected	R
Naphthalene	0.10	0.21	Not Detected	Not Detected	UJ

Temperature = 81.0F , duration time = 18459 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	83	70-130

11/10/2020

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Client Sample ID: 8

Lab ID#: 2009266-04A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091623sim**	**Date of Collection: 9/10/20 9:12:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/20 04:46 PM**	
		Date of Extraction: 9/16/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.53	Not Detected	Not Detected UJ
Methyl tert-butyl ether	0.10	0.083	Not Detected	Not Detected
Hexane	0.10	0.081	0.23	0.18
Ethyl Acetate	0.40	0.28	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.14	0.26	0.18
Chloroform	0.10	0.072	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.087	Not Detected	Not Detected
Cyclohexane	0.10	0.099	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.080	0.29	0.23
Benzene	0.40	0.27	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.070	Not Detected	Not Detected
Heptane	0.10	0.093	0.13	0.12
Trichloroethene	0.10	0.078	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.072	0.53	0.39
Tetrachloroethene	0.10	0.091	Not Detected	Not Detected
Chlorobenzene	0.10	0.079	Not Detected	Not Detected
Ethyl Benzene	0.10	0.079	0.20	0.16 J+
m,p-Xylene	0.10	0.077	0.76	0.58
o-Xylene	0.10	0.083	0.21	0.18
Styrene	0.10	0.088	Not Detected	Not Detected
Propylbenzene	0.10	0.094	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected R UJ
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 81.0F , duration time = 18431 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	82	70-130

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Client Sample ID: 12

Lab ID#: 2009266-05A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091624sim**	**Date of Collection:**	**9/10/20 9:21:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**9/16/20 05:13 PM**
		Date of Extraction:	**9/16/20**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.52	Not Detected	Not Detected UJ
Methyl tert-butyl ether	0.10	0.082	Not Detected	Not Detected
Hexane	0.10	0.081	0.23	0.18
Ethyl Acetate	0.40	0.27	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.25	0.17
Chloroform	0.10	0.071	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.086	Not Detected	Not Detected
Cyclohexane	0.10	0.099	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.080	0.27	0.22
Benzene	0.40	0.27	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.069	Not Detected	Not Detected
Heptane	0.10	0.092	0.15	0.14
Trichloroethene	0.10	0.077	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.072	0.50	0.36
Tetrachloroethene	0.10	0.090	Not Detected	Not Detected
Chlorobenzene	0.10	0.078	Not Detected	Not Detected
Ethyl Benzene	0.10	0.078	0.10	0.082 J+
m,p-Xylene	0.10	0.076	0.35	0.27
o-Xylene	0.10	0.082	0.10	0.086
Styrene	0.10	0.087	Not Detected	Not Detected
Propylbenzene	0.10	0.093	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected R
Naphthalene	0.10	0.21	Not Detected	Not Detected UJ

Temperature = 81.0F , duration time = 18580 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	83	70-130

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Client Sample ID: Dup

Lab ID#: 2009266-06A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091625sim**	**Date of Collection: 9/10/20 9:22:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/20 05:40 PM**	
		Date of Extraction: 9/16/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.52	Not Detected	Not Detected UJ
Methyl tert-butyl ether	0.10	0.082	Not Detected	Not Detected
Hexane	0.10	0.081	0.22	0.18
Ethyl Acetate	0.40	0.27	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.23	0.16
Chloroform	0.10	0.071	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.086	Not Detected	Not Detected
Cyclohexane	0.10	0.099	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.080	0.28	0.22
Benzene	0.40	0.27	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.069	Not Detected	Not Detected
Heptane	0.10	0.092	0.16	0.15
Trichloroethene	0.10	0.077	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected
Toluene	0.10	0.072	0.52	0.37
Tetrachloroethene	0.10	0.090	Not Detected	Not Detected
Chlorobenzene	0.10	0.078	Not Detected	Not Detected
Ethyl Benzene	0.10	0.078	0.11	0.084 J+
m,p-Xylene	0.10	0.076	0.35	0.27
o-Xylene	0.10	0.082	0.10	0.083
Styrene	0.10	0.087	Not Detected	Not Detected
Propylbenzene	0.10	0.093	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected B UJ
Naphthalene	0.10	0.21	Not Detected	Not Detected

Temperature = 81.0F , duration time = 18578 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130

10/6/2020

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Client Sample ID: TB

Lab ID#: 2009266-07A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c091626sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/20 06:07 PM**	
		Date of Extraction: 9/16/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)	
Ethanol	1.0	0.52	Not Detected	Not Detected	UJ
Methyl tert-butyl ether	0.10	0.082	Not Detected	Not Detected	
Hexane	0.10	0.081	Not Detected	Not Detected	
Ethyl Acetate	0.40	0.27	Not Detected	Not Detected	
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	Not Detected	Not Detected	
Chloroform	0.10	0.071	Not Detected	Not Detected	
1,1,1-Trichloroethane	0.10	0.086	Not Detected	Not Detected	
Cyclohexane	0.10	0.098	Not Detected	Not Detected	
Carbon Tetrachloride	0.10	0.079	Not Detected	Not Detected	
Benzene	0.40	0.27	Not Detected	Not Detected	
1,2-Dichloroethane	0.10	0.069	Not Detected	Not Detected	
Heptane	0.10	0.092	Not Detected	Not Detected	
Trichloroethene	0.10	0.077	Not Detected	Not Detected	
4-Methyl-2-pentanone	0.20	0.16	Not Detected	Not Detected	
Toluene	0.10	0.072	Not Detected	Not Detected	
Tetrachloroethene	0.10	0.090	Not Detected	Not Detected	
Chlorobenzene	0.10	0.078	Not Detected	Not Detected	
Ethyl Benzene	0.10	0.078	Not Detected	Not Detected	R
m,p-Xylene	0.10	0.076	Not Detected	Not Detected	
o-Xylene	0.10	0.082	Not Detected	Not Detected	
Styrene	0.10	0.087	Not Detected	Not Detected	
Propylbenzene	0.10	0.093	Not Detected	Not Detected	
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected	R
Naphthalene	0.10	0.21	Not Detected	Not Detected	UJ

Temperature = 81.0F , duration time = 18595 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130

11/10/2020

September 24, 2020 Sampling Event

Data Validation Summary Report for the Bridgeton Landfill September 24th, 2020 VOC Air Monitoring Event

Prepared by Jonathan Wilkinson
Residuals Management Team Member
Feezor Engineering, Inc.

November 12th, 2020

1 INTRODUCTION

Five (5) outdoor air samples, one (1) field duplicate sample, and one (1) trip blank sample were collected at the Bridgeton Landfill on September 24th, 2020. The samples were sent to the Eurofins / Air Toxics Laboratory in Folsom, California and analyzed for Volatile Organic Compounds (VOCs) by EPA Compendium Method TO-17 (modified).

The analytical results were validated using laboratory acceptance criteria and the procedures and guidelines contained in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, revised January 2017 and USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, dated October 1999.

Items checked included holding times, instrument performance check results, initial and continuing calibration procedures and results, method and field blank results, deuterated monitoring compound (DMC) recoveries, Matrix Spike/Matrix Spike Duplicate (MS/MSD) and Laboratory Control Sample (LCS) recoveries, internal standard recoveries, field duplicate results, target compound identification, compound quantitation, and transcriptions from raw data.

All data necessary to complete the data review were provided by the laboratory. Based on the guidelines referenced above, results were qualified as:

- "U": The analyte was not detected at a value greater than the associated analyte quantitation limit;
- "J": An estimated analyte result, "J+" or "J-" used to indicate a high or low bias;
- "NJ": The analyte has been tentatively identified, or is presumed to be present at the associated numerical value;
- "UJ": The analyte was not detected. The reported analyte quantitation limit is approximate and may be inaccurate or imprecise; and
- "R": The result is unusable. The result was rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

2 SAMPLE SUMMARY

Sample results were reported in a Contract Laboratory Program (CLP)-like format data package. Review of the Chain of Custody (COC) form indicates that samples collected on September 24th, 2020 were shipped for delivery to the laboratory on September 25th, 2020 and were received by the laboratory in good condition via Federal Express (the courier used to deliver the samples to the laboratory). **Table 2.1** provides general information about the laboratory and data package, **Table 2.2** lists the samples validated and their respective laboratory identification numbers.

Table 2.1 General Information

Contract Laboratory:	Eurofins / Air Toxics, Inc. Folsom, California
Total # of Samples:	7
Sample Matrix:	Radiello™ 130 activated charcoal sorbent bed passive air sampler

Table 2.2 Sample Identification

Field Sample ID	QA Sample ID	Laboratory ID
1		2009650-01A
5		2009650-02A
7		2009650-03A
8		2009650-04A
12		2009650-05A
Dup	Field Duplicate @ 12	2009650-06A
TB	Trip Blank	2009650-07A

3 VOLATILE ORGANIC COMPOUNDS (EPA METHOD TO-17 MODIFIED)

Analysis of VOCs is accomplished by chemical extraction of target analytes using carbon disulfide followed by injection into a Gas Chromatograph / Mass Spectrometer (GC/MS) for identification and quantitation of analytes.

3.1 HOLDING TIMES

No holding times are specified by the method. Per the manufacturer, the shelf life of the Radiello™ 130 unit is six (6) months. Samples were analyzed according to the times shown in **Table 3.1**

Table 3.1 EPA Method TO-17 (Modified) Sample Holding Times

Field Sample ID	Date Collected	Date Extracted	Date Analyzed	# Days from Collection to Extraction	# Days from Extraction to Analysis
1	9/24/2020	9/28/2020	9/28/2020	4	0
5	9/24/2020	9/28/2020	9/28/2020	4	0
7	9/24/2020	9/28/2020	9/28/2020	4	0
8	9/24/2020	9/28/2020	9/28/2020	4	0
12	9/24/2020	9/28/2020	9/28/2020	4	0
Dup	9/24/2020	9/28/2020	9/28/2020	4	0
TB	9/24/2020	9/28/2020	9/28/2020	4	0

No qualifications were required based on holding times.

3.2 GC INSTRUMENT PERFORMANCE CHECKS

GC/MS instrument performance check results were reported for each 12-hour period when samples were analyzed. Ion abundance acceptance criteria for performance check compound Bromofluorobenzene (BFB) used by the laboratory were similar to ion abundance acceptance criteria provided in ion abundance acceptance criteria provided in Table 3 of the Functional Guidelines, as presented in **Table 3.2**. Using raw GC/MS instrument performance check results provided by the laboratory, ion abundance results were verified to be within each set of acceptance criteria provided in **Table 3.2**.

Table 3.2 BFB Ion Abundance Acceptance Criteria

Ion Mass	Laboratory-Provided Criteria	USEPA CLP Criteria
50	8% to 40% of Mass 95	15% to 40% of Mass 95
75	30% to 66% of Mass 95	30% to 80% of Mass 95
95	Base Peak, 100% Relative Abundance	Base Peak, 100% Relative Abundance
96	5% to 9% of Mass 95	5% to 9% of Mass 95
173	Less than 2% of Mass 174	Less than 2% of Mass 174
174	50% to 120% of Mass 95	50% to 120% of Mass 95
175	4% to 9% of Mass 174	5% to 9% of Mass 174
176	93% to 101% of Mass 174	95% to 101% of Mass 174
177	5% to 9% of Mass 176	5% to 9% of Mass 176

No qualifications were required based on GC/MS instrument performance check results.

3.3 INITIAL CALIBRATION PROCEDURES AND RESULTS

Initial calibration was performed for Instrument MSD-C on August 24th, 2020 using eleven (11) standards for one (1) analyte, ten (10) standards for seventeen (17) analytes, nine (9) standards for three (3) analytes, eight (8) standards for two (2) analytes, and seven (7) standards for one (1) analyte. Based upon a review of raw calibration results provided by the laboratory, no errors were detected with the calculation of Percent Relative Standard Deviations (%RSDs), relative response factors (RRFs), or mean relative response factors ($\overline{RRFs}$).

Relative response factors and mean relative response factors for target analytes were verified to be greater than analyte-specific USEPA-recommended minimum values provided in Table 4 of the Functional Guidelines, except as listed in **Table 3.3.1**. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be greater than laboratory-provided criteria, except as listed in **Table 3.3.1**. Analytes listed in **Table 3.3.1** were qualified as estimated high ("J+") for positive results and as unusable ("R") for non-detect results. %RSDs for individual analytes were verified to be less than or equal to analyte-specific USEPA-recommended maximum values provided in Table 4 of the Functional Guidelines and were less than or equal to laboratory-provided criteria for other analytes without an EPA-specified maximum value.

Table 3.3.1 Initial Calibration Relative Response Factors Outside of Control Limits

Initial Cal. Date and Instrument	Compound, $\overline{RRF}$, and EPA Minimum	Associated Samples
8/24/2020 MSD-C	Ethylbenzene: 0.418, EPA Table 4 Min = 0.500 1,4-Dichlorobenzene: 0.670, EPA Table 4 Min = 0.700	All

No other qualifications were required based on initial calibration procedures or results.

3.4 INITIAL CALIBRATION VERIFCIATION

An initial calibration verification (ICV) sample was analyzed after the initial calibration samples on August 24th, 2020. As required by the Functional Guidelines, the ICV sample solution was obtained from another source than the sources used for the initial calibration. Also as required by the Functional Guidelines, the concentration of the ICV was at or near the midpoint value of the calibration standards used for the initial calibration.

The ICV RRFs for target analytes were verified to be greater than analyte-specific USEPA-recommended minimum values provided in Table 4 of the Functional Guidelines, except as listed in **Table 3.4**. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be greater than laboratory-provided criteria, except as listed in **Table 3.4**. Results for analytes listed in **Table 3.4** were qualified as estimated high ("J+") for positive results and as unusable ("R") for non-detect results.

Table 3.4 ICV Relative Response Factors Outside of Control Limits

ICV Date / Time and Instrument	Compound, RRF, and EPA Minimum	Associated Samples
8/24/2020 12:59 MSD-C	Ethylbenzene = 0.402, EPA Table 4 Min = 0.500 1,4-Dichlorobenzene = 0.654, EPA Table 4 Min = 0.700	All

The ICV Percent Differences (%Ds) for target analytes were verified to be less than analyte-specific USEPA-recommended maximum values provided in Table 4 of the Functional Guidelines. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be less than laboratory-provided criteria for other analytes without an EPA-specified value.

No other qualifications were required based on initial calibration procedures or results.

3.5 CONTINUING CALIBRATION VERIFCIATION

A continuing calibration verification (CCV) sample was analyzed prior to analysis of samples on September 28th, 2020. As required by the Functional Guidelines, the concentration of the CCV was at or near the midpoint value of the calibration standards used for the initial calibration.

The CCV RRFs for target analytes were verified to be greater than analyte-specific USEPA-recommended minimum values provided in Table 4 of the Functional Guidelines, except as listed in **Table 3.5.1**. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be greater than laboratory-provided criteria, except as listed in **Table 3.5.1**. Results for analytes listed in **Table 3.5.1** were qualified as estimated high ("J+") for positive results and as unusable ("R") for non-detect results.

Table 3.5.1 CCV Relative Response Factors Outside of Control Limits

CCV Date / Time and Instrument	Compound, RRF, and EPA Minimum	Associated Samples
9/28/2020 09:55 MSD-C	Ethylbenzene = 0.382, EPA Table 4 Min = 0.500 1,4-Dichlorobenzene = 0.598, EPA Table 4 Min = 0.700	All

The CCV %Ds for target analytes were verified to be less than analyte-specific USEPA-recommended maximum values provided in Table 4 of the Functional Guidelines. Other analytes for which no Functional Guidelines Table 4 values were available were verified to be less than laboratory-provided criteria.

No other qualifications were required based on continuing calibration procedures or results.

3.6 BLANKS

Samples were analyzed within one (1) twelve (12)-hour time period. A method blank was analyzed after the CCV sample and prior to the primary samples as required by the Functional

Guidelines. Method blank results were reported as non-detect by the laboratory and were verified to be non-detect based on a review of raw results provided by the laboratory.

One (1) trip blank sample was submitted to the laboratory and analyzed with the primary samples. No analytes were detected in the trip blank sample.

No qualifications were required based on blank results.

3.7 DEUTERATED MONITORING COMPOUNDS (SURROGATES)

One (1) deuterated monitoring compound (DMC, or surrogate), Toluene-d8, was added to each sample and used for evaluation of analysis efficiency. The laboratory compared recoveries for Toluene-d8 to the same criteria listed in the Functional Guidelines (70% - 130%). Toluene-d8 recoveries for the primary samples, method blank, and Laboratory Control Sample / Laboratory Control Sample Duplicate (LCS/LCSD) pair were verified to be within 70% - 130%.

No qualifications were required based on DMC results.

3.8 MATRIX SPIKE / MATRIX SPIKE DUPLICATE

No Matrix Spike / Matrix Spike Duplicate (MS/MSD) samples were analyzed.

No qualifications were required based on MS/MSD results.

3.9 LABORATORY CONTROL SAMPLE / LABORATORY CONTROL SAMPLE DUPLICATE

One (1) Laboratory Control Sample / Laboratory Control Sample Duplicate (LCS/LCSD) sample pair was analyzed with the primary samples. LCS/LCSD sample results were verified to be within laboratory-provided control limits and the Relative Percent Difference (RPD) between individual analyte results from the LCS and LCSD were verified be less than 20%. No qualifications were required based on LCS/LCSD results.

3.10 INTERNAL STANDARDS

Internal standard area counts and retention times for the samples and blanks were within the Functional Guidelines control limits of 50% to 200% and ±10.0 seconds, respectively, of the corresponding counts and times for the most recent continuing calibration verification sample or midpoint standard from the associated initial calibration. The laboratory-provided internal standard control limit calculations were verified, and the individual sample internal standard results were verified to be within the applicable control limits.

No qualifications were required based on internal standards.

3.11 FIELD DUPLICATES

One (1) field duplicate sample pair (12 / DUP) was collected. Relative Percent Differences (RPDs) between the original and field duplicate samples were calculated to be less than 20% for detected analytes reported above five (5) times the applicable reporting limit (RL) and results were within ±RL for analytes reported at positive values less than five (5) times the RL.

No qualifications were performed based on field duplicate results.

3.12 TARGET ANALYTE IDENTIFICATION

Based on a review of raw sample results provided by the laboratory, no errors were observed with identification of target analytes. Relative intensities of primary and secondary ions for detected analytes were verified to be within ±20% of the laboratory-provided standard relative ion intensities for each analyte. Relative Retention Times (RRTs) were within the EPA-recommended control limits of ±0.06 RRT units of the RRT for the same analyte in the associated opening CCV sample.

No qualifications were performed based on target analyte identification criteria.

3.13 ANALYTE QUANTITATION AND TRANSCRIPTIONS FROM RAW DATA

Compound quantitation was checked for the primary samples, the field duplicate sample, the trip blank sample, and the LCS/LCSD sample pair. No errors were detected in sample quantitation methods or transcriptions from the raw data to the summary forms.

4 PRECISION, ACCURACY, AND COMPLETENESS

Results of the data validation were reviewed to evaluate the precision, accuracy, and completeness of the analyses.

Precision measures the agreement among a set of replicate measurements. Field precision is assessed through the collection and analysis of field duplicates. Analytical precision is estimated by duplicate / replicate analyses, usually on LCS samples, spiked samples, and/or field samples. For this project, precision was assessed by tabulating the results of the relative percent differences (RPDs) of the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) and original sample / field duplicate sample analyses. RPDs that fall within the project or laboratory-specified QA control limits indicate acceptable precision. The precision number given indicates the percentage of RPDs that were within control limits.

Accuracy is the closeness of a measured result to an accepted reference value. Quality Control (QC) analyses used to measure accuracy include internal standard recoveries, LCS samples, spiked samples, and DMC recoveries. For this project, accuracy was assessed by tabulating the results

of the percent recoveries for internal standards, LCS/LCSD samples, DMCs, and results for the laboratory method blank sample. The reported accuracy indicates the percentage of recoveries and blank results within the project or QA control limits.

Completeness is a measure of the amount of valid data collected compared to the amount planned. Measurements are considered to be valid if they are unqualified or qualified as estimated during data validation. Rejected results are considered to be invalid. The reported completeness is the number of valid results divided by the total number of results.

4.1 OVERALL PROJECT PRECISION

The overall project precision for the Bridgeton Landfill September 28th, 2020 VOC air monitoring event, based on the percentage of RPD results within control limits, was 100% (48 of 48 results in control).

4.2 OVERALL PROJECT ACCURACY

The overall project accuracy for the Bridgeton Landfill September 24th, 2020 VOC air monitoring event, based on the percentage of internal standard recoveries, LCS sample recoveries, and DMC recoveries within control limits, and laboratory method blank non-detects, was 100% (92 of 92 results in control).

4.3 OVERALL PROJECT COMPLETENESS

The overall project completeness for the Bridgeton Landfill September 28th, 2020 VOC air monitoring event, defined as the percentage of data not rejected, was 95.2% (160 of 168 results not rejected).

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Client Sample ID: 1

Lab ID#: 2009650-01A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c092822sim**	**Date of Collection: 9/24/20 2:50:00 PM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/28/20 06:53 PM**	
		Date of Extraction: 9/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.48	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.076	Not Detected	Not Detected
Hexane	0.10	0.074	0.53	0.40
Ethyl Acetate	0.40	0.25	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	Not Detected	Not Detected
Chloroform	0.10	0.066	0.11	0.075
1,1,1-Trichloroethane	0.10	0.079	Not Detected	Not Detected
Cyclohexane	0.10	0.091	0.19	0.17
Carbon Tetrachloride	0.10	0.073	0.57	0.42
Benzene	0.40	0.24	0.55	0.34
1,2-Dichloroethane	0.10	0.064	Not Detected	Not Detected
Heptane	0.10	0.085	0.34	0.28
Trichloroethene	0.10	0.071	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.15	Not Detected	Not Detected
Toluene	0.10	0.066	1.7	1.2
Tetrachloroethene	0.10	0.083	0.11	0.095
Chlorobenzene	0.10	0.072	Not Detected	Not Detected
Ethyl Benzene	0.10	0.072	0.17	0.12 J+
m,p-Xylene	0.10	0.070	0.48	0.33
o-Xylene	0.10	0.076	0.15	0.12
Styrene	0.10	0.080	Not Detected	Not Detected
Propylbenzene	0.10	0.086	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.096	Not Detected	Not Detected R
Naphthalene	0.10	0.20	Not Detected	Not Detected

Temperature = 75.0F , duration time = 20459 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130

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Client Sample ID: 5

Lab ID#: 2009650-02A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c092823sim**	**Date of Collection:**	**9/24/20 11:20:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**9/28/20 07:20 PM**
		Date of Extraction:	**9/28/20**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.50	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.079	Not Detected	Not Detected
Hexane	0.10	0.077	0.52	0.41
Ethyl Acetate	0.40	0.26	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.30	0.20
Chloroform	0.10	0.068	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.082	Not Detected	Not Detected
Cyclohexane	0.10	0.095	0.20	0.19
Carbon Tetrachloride	0.10	0.076	0.47	0.36
Benzene	0.40	0.26	0.52	0.33
1,2-Dichloroethane	0.10	0.066	Not Detected	Not Detected
Heptane	0.10	0.088	0.32	0.29
Trichloroethene	0.10	0.074	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.15	Not Detected	Not Detected
Toluene	0.10	0.069	1.4	0.99
Tetrachloroethene	0.10	0.087	Not Detected	Not Detected
Chlorobenzene	0.10	0.075	Not Detected	Not Detected
Ethyl Benzene	0.10	0.075	0.18	0.14 J+
m,p-Xylene	0.10	0.073	0.54	0.40
o-Xylene	0.10	0.079	0.19	0.15
Styrene	0.10	0.084	Not Detected	Not Detected
Propylbenzene	0.10	0.090	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected R
Naphthalene	0.10	0.20	Not Detected	Not Detected

Temperature = 64.0F , duration time = 20263 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	85	70-130

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Client Sample ID: 7

Lab ID#: 2009650-03A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c092824sim**	**Date of Collection:**	**9/24/20 11:10:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**9/28/20 07:46 PM**
		Date of Extraction:	**9/28/20**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.50	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.079	Not Detected	Not Detected
Hexane	0.10	0.078	0.68	0.53
Ethyl Acetate	0.40	0.26	0.59	0.39
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.37	0.24
Chloroform	0.10	0.068	0.10	0.071
1,1,1-Trichloroethane	0.10	0.082	Not Detected	Not Detected
Cyclohexane	0.10	0.095	0.26	0.25
Carbon Tetrachloride	0.10	0.076	0.54	0.41
Benzene	0.40	0.26	0.60	0.38
1,2-Dichloroethane	0.10	0.066	Not Detected	Not Detected
Heptane	0.10	0.088	0.34	0.30
Trichloroethene	0.10	0.074	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.15	Not Detected	Not Detected
Toluene	0.10	0.069	1.7	1.2
Tetrachloroethene	0.10	0.087	Not Detected	Not Detected
Chlorobenzene	0.10	0.075	Not Detected	Not Detected
Ethyl Benzene	0.10	0.075	0.23	0.17 J+
m,p-Xylene	0.10	0.073	0.76	0.56
o-Xylene	0.10	0.079	0.27	0.22
Styrene	0.10	0.084	Not Detected	Not Detected
Propylbenzene	0.10	0.090	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected R
Naphthalene	0.10	0.20	Not Detected	Not Detected

Temperature = 64.0F , duration time = 20259 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130

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Client Sample ID: 8

Lab ID#: 2009650-04A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c092825sim**	**Date of Collection:**	**9/24/20 11:35:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**9/28/20 08:13 PM**
		Date of Extraction:	**9/28/20**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.50	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.078	Not Detected	Not Detected
Hexane	0.10	0.077	0.41	0.31
Ethyl Acetate	0.40	0.26	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.30	0.20
Chloroform	0.10	0.068	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.082	Not Detected	Not Detected
Cyclohexane	0.10	0.094	0.23	0.21
Carbon Tetrachloride	0.10	0.076	0.32	0.24
Benzene	0.40	0.26	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.066	Not Detected	Not Detected
Heptane	0.10	0.088	0.26	0.23
Trichloroethene	0.10	0.074	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.15	Not Detected	Not Detected
Toluene	0.10	0.069	0.88	0.61
Tetrachloroethene	0.10	0.086	Not Detected	Not Detected
Chlorobenzene	0.10	0.075	Not Detected	Not Detected
Ethyl Benzene	0.10	0.075	0.10	0.078 J+
m,p-Xylene	0.10	0.073	0.31	0.22
o-Xylene	0.10	0.078	0.10	0.082
Styrene	0.10	0.084	Not Detected	Not Detected
Propylbenzene	0.10	0.090	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected R
Naphthalene	0.10	0.20	Not Detected	Not Detected

Temperature = 64.0F , duration time = 20301 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130

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Client Sample ID: 12

Lab ID#: 2009650-05A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c092826sim**	**Date of Collection:**	**9/24/20 10:52:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**9/28/20 08:40 PM**
		Date of Extraction:	**9/28/20**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.50	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.079	Not Detected	Not Detected
Hexane	0.10	0.078	0.58	0.45
Ethyl Acetate	0.40	0.26	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.34	0.22
Chloroform	0.10	0.068	0.11	0.074
1,1,1-Trichloroethane	0.10	0.082	Not Detected	Not Detected
Cyclohexane	0.10	0.095	0.19	0.18
Carbon Tetrachloride	0.10	0.076	0.56	0.43
Benzene	0.40	0.26	0.60	0.38
1,2-Dichloroethane	0.10	0.066	Not Detected	Not Detected
Heptane	0.10	0.088	0.49	0.43
Trichloroethene	0.10	0.074	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.15	Not Detected	Not Detected
Toluene	0.10	0.069	1.4	0.96
Tetrachloroethene	0.10	0.087	Not Detected	Not Detected
Chlorobenzene	0.10	0.075	Not Detected	Not Detected
Ethyl Benzene	0.10	0.075	0.18	0.13 J+
m,p-Xylene	0.10	0.073	0.51	0.37
o-Xylene	0.10	0.079	0.16	0.13
Styrene	0.10	0.084	Not Detected	Not Detected
Propylbenzene	0.10	0.090	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected R
Naphthalene	0.10	0.20	Not Detected	Not Detected

Temperature = 64.0F , duration time = 20251 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130

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Client Sample ID: Dup

Lab ID#: 2009650-06A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c092827sim**	**Date of Collection: 9/24/20 10:52:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/28/20 09:06 PM**	
		Date of Extraction: 9/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.50	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.079	Not Detected	Not Detected
Hexane	0.10	0.078	0.51	0.40
Ethyl Acetate	0.40	0.26	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.13	0.28	0.18
Chloroform	0.10	0.068	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.082	Not Detected	Not Detected
Cyclohexane	0.10	0.095	0.18	0.17
Carbon Tetrachloride	0.10	0.076	0.48	0.37
Benzene	0.40	0.26	0.54	0.34
1,2-Dichloroethane	0.10	0.066	Not Detected	Not Detected
Heptane	0.10	0.088	0.44	0.39
Trichloroethene	0.10	0.074	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.15	Not Detected	Not Detected
Toluene	0.10	0.069	1.3	0.87
Tetrachloroethene	0.10	0.087	Not Detected	Not Detected
Chlorobenzene	0.10	0.075	Not Detected	Not Detected
Ethyl Benzene	0.10	0.075	0.16	0.12 J+
m,p-Xylene	0.10	0.073	0.46	0.33
o-Xylene	0.10	0.079	0.15	0.12
Styrene	0.10	0.084	Not Detected	Not Detected
Propylbenzene	0.10	0.090	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.10	Not Detected	Not Detected R
Naphthalene	0.10	0.20	Not Detected	Not Detected

Temperature = 64.0F , duration time = 20250 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130

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Client Sample ID: TB

Lab ID#: 2009650-07A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**c092828sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/28/20 09:33 PM**	
		Date of Extraction: 9/28/20	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)	
Ethanol	1.0	0.48	Not Detected	Not Detected	
Methyl tert-butyl ether	0.10	0.076	Not Detected	Not Detected	
Hexane	0.10	0.074	Not Detected	Not Detected	
Ethyl Acetate	0.40	0.25	Not Detected	Not Detected	
2-Butanone (Methyl Ethyl Ketone)	0.20	0.12	Not Detected	Not Detected	
Chloroform	0.10	0.066	Not Detected	Not Detected	
1,1,1-Trichloroethane	0.10	0.079	Not Detected	Not Detected	
Cyclohexane	0.10	0.091	Not Detected	Not Detected	
Carbon Tetrachloride	0.10	0.073	Not Detected	Not Detected	
Benzene	0.40	0.24	Not Detected	Not Detected	
1,2-Dichloroethane	0.10	0.064	Not Detected	Not Detected	
Heptane	0.10	0.085	Not Detected	Not Detected	
Trichloroethene	0.10	0.071	Not Detected	Not Detected	
4-Methyl-2-pentanone	0.20	0.15	Not Detected	Not Detected	
Toluene	0.10	0.066	Not Detected	Not Detected	
Tetrachloroethene	0.10	0.083	Not Detected	Not Detected	
Chlorobenzene	0.10	0.072	Not Detected	Not Detected	
Ethyl Benzene	0.10	0.072	Not Detected	Not Detected	R
m,p-Xylene	0.10	0.070	Not Detected	Not Detected	
o-Xylene	0.10	0.076	Not Detected	Not Detected	
Styrene	0.10	0.080	Not Detected	Not Detected	
Propylbenzene	0.10	0.086	Not Detected	Not Detected	
1,4-Dichlorobenzene	0.10	0.096	Not Detected	Not Detected	R
Naphthalene	0.10	0.20	Not Detected	Not Detected	

Temperature = 75.0F , duration time = 20459 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	85	70-130

11/12/2020