

From: Mafizul Islam, P.E. <mislam@thesigmagroup.com>
Sent: Monday, April 3, 2023 3:24 PM
To: Martinez, Joseph J - DNR
Cc: Edlebeck, John (J.Edlebeck@wfbvillage.org)
Subject: RE: Whitefish Bay Landfill - Green Tree Prep. Academy Vapor Sampling
Attachments: Green Tree School IAQ & SSV Lab Report - March 30, 2023.pdf; Figure 2 - IA & SSV Sample Locations - March 2023.pdf

Follow Up Flag: Follow up
Flag Status: Completed

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Hi Joe,

We completed the indoor air and sub-slab vapor sampling using 7-day passive samplers (Waterloo Membrane Sampler) at the MPS: Green Tree school early March 2023.

We were able to collect three indoor air samples – two samples from two rooms with bare ground (no concrete) and one from a book storage room near the middle of the building. All three samples were reported non-detect for chlorinated VOCs (see attached lab report).

Also, four of the five sub-slab vapor samples collected from below the building slab were reported non-detect for chlorinated VOCs. The only sub-slab vapor sample detected with two chlorinated compounds (Cis-1,2-Dichloroethene, and Trans-1,2-Dichloroethene) were detected at concentrations significantly below their VRSL value of 1,400 ug/m³.

For your reference attached please find **Figure 2** which depicts the locations of the indoor air samples and sub-slab vapor samples.

Let me know if you would like to discuss the results.

Thank you

Mafizul Islam, P.E.
Senior Engineer
The Sigma Group, Inc.
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414-588-7936 (mobile)
[1300 W. Canal Street, Milwaukee, WI 53233](https://www.thesigmagroup.com)
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From: Martinez, Joseph J - DNR <Joseph.Martinez@wisconsin.gov>
Sent: Wednesday, February 15, 2023 3:30 PM
To: Mafizul Islam, P.E. <mislam@thesigmagroup.com>
Subject: RE: Whitefish Bay Landfill - Green Tree Prep. Academy Vapor Sampling

Thank you for the update Mafizul.

We are committed to service excellence.

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Joseph J. Martinez

Hydrogeologist – Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
1027 W. St. Paul Avenue
Milwaukee, WI 53233
Phone: (414)218-6042
Email: joseph.martinez@wisconsin.gov



From: Mafizul Islam, P.E. <mislam@thesigmagroup.com>
Sent: Wednesday, February 15, 2023 2:37 PM
To: Martinez, Joseph J - DNR <Joseph.Martinez@wisconsin.gov>
Cc: Edlebeck, John <J.Edlebeck@wfbvillage.gov>
Subject: Whitefish Bay Landfill - Green Tree Prep. Academy Vapor Sampling

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Thank you, Joe, for your feedback and guidance for the vapor sampling at the school. We were able to switch the sampling methods from high purge volume sampling method to passive sampling method using Waterloo Membrane Samplers.

Eurofins Air Toxics lab evaluated the samplers using their absorption model to ensure that the samples will be effective in collecting the sub-slab sample over 7-day period and meet the VRSL limits.

We also received approval from the school administrator to install a fifth sub-slab vapor sampling point near the center of the building.

We plan to install the sub-slab samplers this week and retrieve them next week. Based upon the results of the sub-slab sampling we will determine if there are potential for vapor intrusion risks for the building and the need for indoor air evaluation.

Thanks again for your help.

Thank you

Mafizul Islam, P.E.

Senior Engineer

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From: Martinez, Joseph J - DNR <Joseph.Martinez@wisconsin.gov>

Sent: Friday, February 10, 2023 1:29 PM

To: Mafizul Islam, P.E. <mislam@thesigmagroup.com>

Subject: RE: Whitefish Bay Landfill

Thank you for sending this information over. As we discussed over the phone I have a few recommendations and notes related to the vapor sampling at the school which are provided below.

- During previous sampling events a VAL/VRSL for cis 1,2 dichloroethene did not exist. There is now a VAL/VRSL for cis 1,2 dichloroethene. These values can be found on the most recent DNR vapor quick look up table. After a quick review it appears that there were consistent detections for this compound during previous indoor air sampling events and one location, in the area of the building which does not have a slab, exceeded the residential VAL for this compound. This compound is also present in groundwater near the school building and is a contaminant of concern for the vapor investigation.

- Due to the previous TCE and cis 1,2 dichloroethene VAL exceedances, I recommend including indoor air sampling in the upcoming scope of work for vapor sampling at the school. In order to account for variability of concentrations of contaminants in indoor air and collect samples that are more representative of conditions over time, I recommend utilizing passive samplers capable of collecting samples over a longer duration (7-14 days). Work with the lab to ensure that they are capable of achieving a reporting limit below the VALs for the contaminants of concern based on the chosen sampling device and sample duration.
- Due to data quality concerns of high-purge volume sub-slab samples, I recommend utilizing longer term passive samplers for the sub-slab sampling as well. Use of this type of sampler will also increase confidence that the results are representative of conditions over time. Again, work with the lab to ensure you are using an appropriate device for sub-slab sampling as this will likely be different than the device used for the indoor air sampling. The appropriate device for the sub-slab sampling will likely be a membrane sampler with a lower uptake rate due to the potential for higher concentrations and moist conditions beneath the slab.
- I understand that conditions in the field restrict where you are able to collect samples, but I recommend additional sub-slab locations near the center of the building and/or near where the groundwater plume is expected to be present beneath the building if possible.

Let me know if you have any questions or concerns.

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Joseph J. Martinez

Hydrogeologist – Remediation and Redevelopment Program

Wisconsin Department of Natural Resources

1027 W. St. Paul Avenue

Milwaukee, WI 53233

Phone: (414)218-6042

Email: joseph.martinez@wisconsin.gov



From: Mafizul Islam, P.E. <mislam@thesigmagroup.com>

Sent: Friday, February 10, 2023 11:53 AM

To: Martinez, Joseph J - DNR <Joseph.Martinez@wisconsin.gov>

Subject: Whitefish Bay Landfill

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Joe,

Per our discussions this morning attached please find two indoor air sampling reports (2001 and 2000) and one data plot for the sub-slab sampling performed at the school building in 2018. We plan to re-sample the sub-slab vapor per WDNR letter dated February 24, 2021, with one minor adjustment. The sample location SSV-1 at room 006 needs to be moved 40 feet east to room 006A to avoid damaging the floor of a newly build gym room. Room 006A also has a concrete floor but it is a storage room, and we can safely drill there. The sample location is near the western partition wall between the two rooms.

Let me know if you need any additional information.

Thank you

Mafizul Islam, P.E.

Senior Engineer

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From: Mafizul Islam, P.E.

Sent: Thursday, February 9, 2023 4:37 PM

To: Martinez, Joseph J - DNR <Joseph.Martinez@wisconsin.gov>

Subject: Re: [EXT] Whitefish Bay Landfill

Thank you, Joe.

No problem tomorrow is fine.

Mafizul Islam, P.E.

Senior Engineer

The Sigma Group, Inc.

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Sent from my iPhone

On Feb 9, 2023, at 4:09 PM, Martinez, Joseph J - DNR
<Joseph.Martinez@wisconsin.gov> wrote:

Mafizul,

Sorry for the delay in responding to your voicemail. I will give you a call back tomorrow.

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Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Joseph J. Martinez

Hydrogeologist – Remediation and Redevelopment Program

Wisconsin Department of Natural Resources

1027 W. St. Paul Avenue

Milwaukee, WI 53233

Phone: (414)218-6042

Email: joseph.martinez@wisconsin.gov

<image001.png>

dnr.wi.gov

<image002.png>

<image003.png>

<image004.png>

<image005.png>

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**SUB-SLAB VAPOR (SSV) AND INDOOR AIR (IA)
PASSIVE SAMPLE LOCATIONS**
MPS: GREEN TREE PREPARATORY ACADEMY
MARCH 2 THRU 9, 2023
PERFORMED BY THE SIGMA GROUP, INC.

Milwaukee Public Schools
Division of Facilities and Maintenance Services
1124 North 11th Street
P.O. BOX 0259
Milwaukee, Wisconsin 53205-0259
Phone : 414.283.4900
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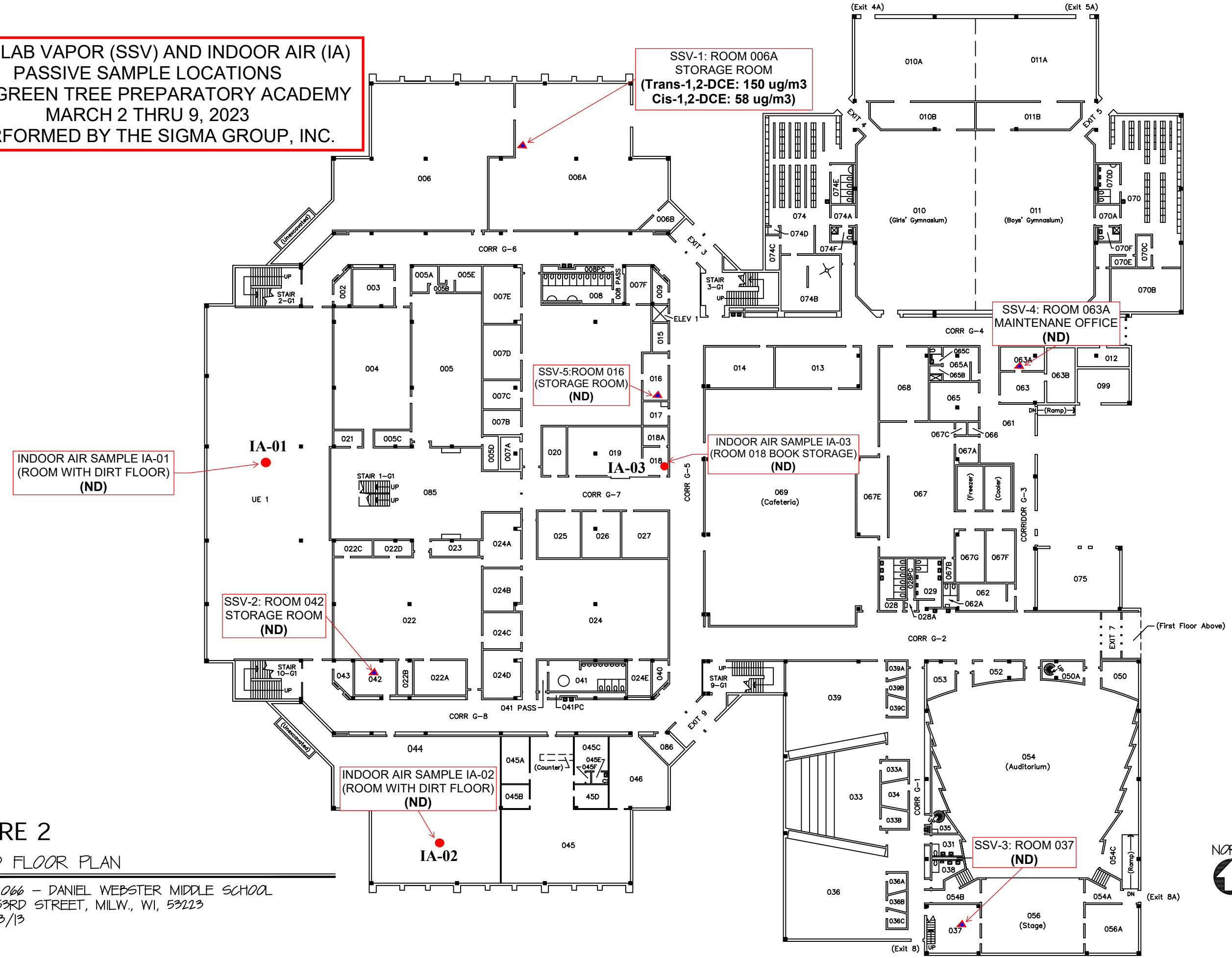


FIGURE 2
GROUND FLOOR PLAN

SITE NO: 066 - DANIEL WEBSTER MIDDLE SCHOOL
6850 N. 53RD STREET, MILW., WI, 53223
DATE: 5/13/13

Analytical Report

3/30/2023

Mr. Mafizul Islam

The Sigma Group

1300 West Canal Street

Milwaukee WI 53233

Project Name: Good Hope Road Landfill

Project #: 14411

Workorder #: 2303356R1

Dear Mr. Mafizul Islam

The following report includes the data for the above referenced project for sample(s) received on 3/14/2023 at Eurofins Air Toxics LLC.

The data and associated QC analyzed by Passive S.E. WMS 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 LLC. 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: Jade White at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Jade White

Project Manager

WORK ORDER #: 2303356R1

Work Order Summary

CLIENT:	Mr. Mafizul Islam The Sigma Group 1300 West Canal Street Milwaukee, WI 53233	BILL TO:	Mr. Mafizul Islam The Sigma Group 1300 West Canal Street Milwaukee, WI 53233
PHONE:	414-768-7144	P.O. #	14411
FAX:	414-768-7158	PROJECT #	14411 Good Hope Road Landfill
DATE RECEIVED:	03/14/2023	CONTACT:	Jade White
DATE COMPLETED:	03/27/2023		
DATE REISSUED:	03/30/2023		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>
01A	SSV-1	Passive S.E. WMS
02A	SSV-2	Passive S.E. WMS
03A	SSV-3	Passive S.E. WMS
04A	SSV-4	Passive S.E. WMS
05A	SSV-5	Passive S.E. WMS
06A	IA-1	Passive S.E. WMS
07A	IA-2	Passive S.E. WMS
08A	IA-3	Passive S.E. WMS
09A	Blank	Passive S.E. WMS
10A	Lab Blank	Passive S.E. WMS
11A	CCV	Passive S.E. WMS
12A	LCS	Passive S.E. WMS
12AA	LCSD	Passive S.E. WMS

CERTIFIED BY: 

 Technical Director

DATE: 03/30/23

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP – 209222, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP – T104704434-22-18, UT NELAP – CA009332022-14, VA NELAP - 12240, WA ELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) CA300005-017
 Eurofins Environment Testing Northern California, LLC certifies that the test results contained in this report meet all requirements of the 2016 TNI Standard.

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
WMS Passive SE by Mod EPA TO-17
The Sigma Group
Workorder# 2303356R1

Five WMS-LU and four WMS-SE samples were received on March 14, 2023. 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.

Please note that 1,1,2,2-Tetrachloroethane (1,1,2,2-PCA) can degrade into Trichloroethene (TCE) during storage on the charcoal-based sorbent used in the WMS device. Samples containing 1,1,2,2-PCA may yield reduced concentrations of 1,1,2,2-PCA and elevated concentrations of TCE.

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:

<i>Requirement</i>	<i>TO-17</i>	<i>ATL Modifications</i>
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 (COC) information for samples IA-1, IA-2 and IA-3 did not match the entries

on the sample tags with regard to sample identification. Therefore the information on the COC was used to process and report the samples.

Analytical Notes

To calculate ug/m³ concentrations in the Lab Blank and in sample Blank, a sampling duration of 10123 minutes was applied.

The workorder was reissued on 3/30/2023 to amend the target compound list due to laboratory error at the time of sample login.

Additionally, a narrative reported previously regarding Quality Control Limit exceedances was removed as it is no longer applicable.

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

**Summary of Detected Compounds
VOC BY PASSIVE SAMPLER - GC/MS**

Client Sample ID: SSV-1

Lab ID#: 2303356R1-01A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
trans-1,2-Dichloroethene	0.10	18	0.81	150
cis-1,2-Dichloroethene	0.050	7.7	0.38	58

Client Sample ID: SSV-2

Lab ID#: 2303356R1-02A

No Detections Were Found.

Client Sample ID: SSV-3

Lab ID#: 2303356R1-03A

No Detections Were Found.

Client Sample ID: SSV-4

Lab ID#: 2303356R1-04A

No Detections Were Found.

Client Sample ID: SSV-5

Lab ID#: 2303356R1-05A

No Detections Were Found.

Client Sample ID: IA-1

Lab ID#: 2303356R1-06A

No Detections Were Found.

Client Sample ID: IA-2

Lab ID#: 2303356R1-07A

No Detections Were Found.

Client Sample ID: IA-3

Lab ID#: 2303356R1-08A

No Detections Were Found.



Air Toxics

**Summary of Detected Compounds
VOC BY PASSIVE SAMPLER - GC/MS**

Client Sample ID: Blank

Lab ID#: 2303356R1-09A

No Detections Were Found.



Air Toxics

Client Sample ID: SSV-1

Lab ID#: 2303356R1-01A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	18032207sim	Date of Collection: 3/9/23 2:23:00 PM
Dil. Factor:	1.00	Date of Analysis: 3/22/23 08:54 AM
		Date of Extraction: 3/22/23

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Vinyl Chloride	0.20	48	Not Detected	Not Detected
trans-1,2-Dichloroethene	0.10	18	0.81	150
cis-1,2-Dichloroethene	0.050	7.7	0.38	58
Trichloroethene	0.050	5.6	Not Detected	Not Detected
Tetrachloroethene	0.050	3.8	Not Detected	Not Detected

Temperature = 77.0F , duration time = 10123 minutes.

Container Type: WMS-LU

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130



Air Toxics

Client Sample ID: SSV-2

Lab ID#: 2303356R1-02A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	18032209sim	Date of Collection:	3/9/23 2:43:00 PM
Dil. Factor:	1.00	Date of Analysis:	3/22/23 09:48 AM
		Date of Extraction:	3/22/23

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Vinyl Chloride	0.20	48	Not Detected	Not Detected
trans-1,2-Dichloroethene	0.10	18	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.050	7.7	Not Detected	Not Detected
Trichloroethene	0.050	5.6	Not Detected	Not Detected
Tetrachloroethene	0.050	3.8	Not Detected	Not Detected

Temperature = 77.0F , duration time = 10121 minutes.

Container Type: WMS-LU

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130



Air Toxics

Client Sample ID: SSV-3

Lab ID#: 2303356R1-03A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	18032210sim	Date of Collection:	3/9/23 3:20:00 PM
Dil. Factor:	1.00	Date of Analysis:	3/22/23 10:15 AM
		Date of Extraction:	3/22/23

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Vinyl Chloride	0.20	48	Not Detected	Not Detected
trans-1,2-Dichloroethene	0.10	18	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.050	7.7	Not Detected	Not Detected
Trichloroethene	0.050	5.6	Not Detected	Not Detected
Tetrachloroethene	0.050	3.8	Not Detected	Not Detected

Temperature = 77.0F , duration time = 10110 minutes.

Container Type: WMS-LU

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130



Air Toxics

Client Sample ID: SSV-4

Lab ID#: 2303356R1-04A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	18032211sim	Date of Collection:	3/9/23 3:43:00 PM
Dil. Factor:	1.00	Date of Analysis:	3/22/23 10:42 AM
		Date of Extraction:	3/22/23

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Vinyl Chloride	0.20	16	Not Detected	Not Detected
trans-1,2-Dichloroethene	0.10	6.2	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.050	2.6	Not Detected	Not Detected
Trichloroethene	0.050	1.9	Not Detected	Not Detected
Tetrachloroethene	0.050	1.3	Not Detected	Not Detected

Temperature = 77.0F , duration time = 10116 minutes.

Container Type: WMS-SE

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130



Air Toxics

Client Sample ID: SSV-5

Lab ID#: 2303356R1-05A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	18032212sim	Date of Collection:	3/9/23 3:58:00 PM
Dil. Factor:	1.00	Date of Analysis:	3/22/23 11:09 AM
		Date of Extraction:	3/22/23

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Vinyl Chloride	0.20	16	Not Detected	Not Detected
trans-1,2-Dichloroethene	0.10	6.2	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.050	2.6	Not Detected	Not Detected
Trichloroethene	0.050	1.9	Not Detected	Not Detected
Tetrachloroethene	0.050	1.3	Not Detected	Not Detected

Temperature = 77.0F , duration time = 10068 minutes.

Container Type: WMS-SE

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130



Air Toxics

Client Sample ID: IA-1

Lab ID#: 2303356R1-06A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	18032213sim	Date of Collection:	3/9/23 2:57:00 PM
Dil. Factor:	1.00	Date of Analysis:	3/22/23 11:36 AM
		Date of Extraction:	3/22/23

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Vinyl Chloride	0.20	48	Not Detected	Not Detected
trans-1,2-Dichloroethene	0.10	18	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.050	7.7	Not Detected	Not Detected
Trichloroethene	0.050	5.6	Not Detected	Not Detected
Tetrachloroethene	0.050	3.8	Not Detected	Not Detected

Temperature = 77.0F , duration time = 10122 minutes.

Container Type: WMS-LU

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130

Client Sample ID: IA-2

Lab ID#: 2303356R1-07A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	18032214sim	Date of Collection:	3/9/23 3:04:00 PM
Dil. Factor:	1.00	Date of Analysis:	3/22/23 12:02 PM
		Date of Extraction:	3/22/23

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Vinyl Chloride	0.20	16	Not Detected	Not Detected
trans-1,2-Dichloroethene	0.10	6.2	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.050	2.6	Not Detected	Not Detected
Trichloroethene	0.050	1.9	Not Detected	Not Detected
Tetrachloroethene	0.050	1.3	Not Detected	Not Detected

Temperature = 77.0F , duration time = 10109 minutes.

Container Type: WMS-SE

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130



Air Toxics

Client Sample ID: IA-3

Lab ID#: 2303356R1-08A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	18032215sim	Date of Collection: 3/9/23 3:46:00 PM
Dil. Factor:	1.00	Date of Analysis: 3/22/23 12:29 PM
		Date of Extraction: 3/22/23

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Vinyl Chloride	0.20	48	Not Detected	Not Detected
trans-1,2-Dichloroethene	0.10	18	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.050	7.7	Not Detected	Not Detected
Trichloroethene	0.050	5.6	Not Detected	Not Detected
Tetrachloroethene	0.050	3.8	Not Detected	Not Detected

Temperature = 77.0F , duration time = 10090 minutes.

Container Type: WMS-LU

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130



Air Toxics

Client Sample ID: Blank

Lab ID#: 2303356R1-09A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	18032216sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/22/23 12:56 PM
		Date of Extraction: 3/22/23

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Vinyl Chloride	0.20	16	Not Detected	Not Detected
trans-1,2-Dichloroethene	0.10	6.2	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.050	2.6	Not Detected	Not Detected
Trichloroethene	0.050	1.9	Not Detected	Not Detected
Tetrachloroethene	0.050	1.3	Not Detected	Not Detected

Temperature = 77.0F , duration time = 10123 minutes.

Container Type: WMS-SE

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 2303356R1-10A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	18032205sim	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/22/23 08:00 AM
		Date of Extraction:	3/22/23

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Vinyl Chloride	0.20	16	Not Detected	Not Detected
trans-1,2-Dichloroethene	0.10	6.2	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.050	2.6	Not Detected	Not Detected
Trichloroethene	0.050	1.9	Not Detected	Not Detected
Tetrachloroethene	0.050	1.3	Not Detected	Not Detected

Temperature = 77.0F , duration time = 10123 minutes.

Container Type: WMS-SE

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130

Client Sample ID: CCV

Lab ID#: 2303356R1-11A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	18032202sim	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/22/23 06:39 AM
		Date of Extraction:	NA

Compound	%Recovery
Vinyl Chloride	119
trans-1,2-Dichloroethene	100
cis-1,2-Dichloroethene	101
Trichloroethene	96
Tetrachloroethene	92

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130

Client Sample ID: LCS

Lab ID#: 2303356R1-12A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	18032203sim	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/22/23 07:07 AM
		Date of Extraction:	3/22/23

Compound	%Recovery	Method Limits
Vinyl Chloride	114	50-140
trans-1,2-Dichloroethene	106	70-130
cis-1,2-Dichloroethene	109	70-130
Trichloroethene	96	70-130
Tetrachloroethene	85	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130

Client Sample ID: LCSD

Lab ID#: 2303356R1-12AA

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	18032204sim	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/22/23 07:34 AM
		Date of Extraction:	3/22/23

Compound	%Recovery	Method Limits
Vinyl Chloride	127	50-140
trans-1,2-Dichloroethene	104	70-130
cis-1,2-Dichloroethene	106	70-130
Trichloroethene	97	70-130
Tetrachloroethene	86	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130

SORBENT SAMPLE COLLECTION

2303356



Air Toxics

CHAIN-OF-CUSTODY RECORD

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

180 BLUE PAVINE ROAD, SUITE B
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Page 1 of 1

Project Manager Mafizul Islam
 Collected by: (Print and Sign) Nickolas Marent
 Company The Sigma Group Email Nickolas.Marent@thesigmagroup.com
 Address 1300 W Canal St City Milwaukee State WI Zip 53233
 Phone 414-643-4200 Fax _____

Project Info:
 P.O. # 14411
 Project # 14411
 Project Name Good Hope Road Landfill

Turn Around Time: Normal Rush
 specify _____

Circle Reporting Units: ug/m³ ppbv ppmv mg/m³

Lab I.D.	Field Sample I.D. (Location)	Tube # / Cartridge #	Date of Collection	Start Time	End Time	Duration	Final Volume	Analysis Requested
01A	SSV-1	AN-LV-22-581	3/9/2023	13:40	14:23			TCE, PCE, CIS-1,2-DCE, trans-1,2-DCE, vinyl chloride
02A	SSV-2	AN-LV-22-580		14:02	14:43			
03A	SSV-3	AN-LV-22-579		14:50	15:20			
04A	SSV-4	AN-R-21-159		15:07	15:43			
05A	SSV-5	AN-R-21-110		16:10	15:58			
06A	IA-1	AN-LV-22-578		14:15	14:57			
07A	IA-2	AN-R-21-158		14:35	15:07			
08A	IA-3	AN-LV-22-582		15:36	15:46			
09A	Blank	AN-R-21-157						

Relinquished by: (signature) [Signature] Date/Time 3/10/23 4:50 Received by: (signature) [Signature] Date/Time 3-14-23 12:42

Relinquished by: (signature) _____ Date/Time _____ Received by: (signature) _____ Date/Time _____

Relinquished by: (signature) _____ Date/Time _____ Received by: (signature) _____ Date/Time _____

Average Flow Rate: _____

Post-test Flow Rate: _____

Notes: _____

Pump Calibration Information
 Pre-test Flow Rate: _____
 Post-test Flow Rate: _____

Lab Use Only

Shipper Name FEDEX Air Bill # _____ Temp (°C) 1/1 Condition Good Custody Seals Intact? None Work Order # _____