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February 12, 2025
File No. 20.0151683.51

Mr. Mark Drews
Wisconsin Department of Natural Resources
141 NW Barstow Street, Suite 180
Waukesha, Wisconsin 53188-3789

Re: Sanitary Sewer Gas Results Letter
North Weil Street and East Concordia Avenue
Former Johnson Controls Battery Group - Badger Site
3238 Bremen Street, Milwaukee, Wisconsin
BRRTS #02-41-150484 / FID #241233740

Dear Mr. Drews:

GZA GeoEnvironmental, Inc. (GZA) is providing the results of sanitary sewer gas sampling from manholes in the sanitary sewer beneath North Weil Street between East Auer Avenue and East Concordia Avenue, and beneath East Concordia Avenue between Bremen Street and North Weil Street. GZA conducted the sanitary sewer sampling under Public Way Occupancy Permit PWOP-24-01306.

The sampling was conducted to assess whether chlorinated volatile organic compounds (cVOCs) from the former Johnson Controls Battery Group Badger property, located at 3238 North Bremen Street in the River West neighborhood of Milwaukee, Wisconsin ("Site"), is affecting sewer gas quality in sanitary sewers adjacent to the Site. Note that this letter is subject to the Limitations provided in **Attachment 1**.

SEWER SAMPLING SCOPE AND METHODS

According to City of Milwaukee sanitary sewer drawings, a 12-inch-diameter combined sewer is buried approximately 12 to 13 feet beneath the centerline of North Weil Street east of the Site with flow to the north and a 30-inch-diameter combined sewer is buried approximately 12 to 13 feet beneath the centerline of East Concordia Avenue north of the Site with flow to the east. Based on these depths, and our estimated depth to groundwater on the Site, there is the potential for these sewers to receive groundwater.

Prior to placing passive sewer gas sampling media, GZA opened the manholes for inspection and prepared a sewer manhole inspection form to document the approximate pipe connections sizes and orientations in each manhole, and each pipe connection invert depths from grade in each manhole. The manhole inspection forms are provided in **Attachment 2**.

From the inspections, GZA confirmed the sewer pipe invert elevations to be in the range of 12 to 13.5 feet deep in North Weil Street and 14 to 15 feet deep in East Concordia Avenue. For the collection of passive sewer gas samples beginning on January 8, 2025, GZA removed the SiREM Waterloo Membrane Sampler™ (WMS™) passive sampling media from sealed glass containers received from the laboratory and placed the passive sampling media with the hydrophobic polydimethylsiloxane (PDMS) membrane facing downward in the hanger assembly also provided by the laboratory. GZA placed the bottom of the hanger assembly and PDMS membrane to within approximately 2 feet of the bottom and near the center of each sewer manhole. Each hanger assembly was connected to a tether attached to the manhole rim by two 90-pound capacity magnets.

GZA retrieved the passive sampling media on January 17, 2025, nine days after their placement in the manholes. The passive sampling media were returned to their glass containers and the glass containers sealed with tape provided by the laboratory. GZA shipped the WMS™ samplers to Eurofins | Air Toxics of Folsom, California for analysis of tetrachloroethene (PCE), trichloroethene (TCE), cis- and trans-1,2-dichloroethene (cis- and trans-1,2-DCE), and vinyl chloride in accordance with United States Environmental Protection Agency (USEPA) Method TO-17. The laboratory analytical report and chain-of-custody form are provided in **Attachment 3**.

The sampled manholes in North Weil Street and sample IDs are shown in the image below in relation to monitoring wells on the Site.

The sampled manholes in East Concordia Avenue and sample IDs are shown in the image below in relation to monitoring wells on the Site.

SEWER GAS SAMPLE RESULTS

Analytical results are summarized on the attached **Table 1**. PCE and TCE were detected in each of the six manholes, except for the N. Weil Manhole South. The Sanitary Sewer Gas Screening Level (SSGSL) for TCE was exceeded by a factor of two in N. Weil Manhole Central with TCE reported at 140 micrograms per cubic meter (µg/m^3) and by approximately 20% in N. Weil manhole North with TCE reported 83 µg/m^3.

The sanitary sewer beneath North Bremen Street was sampled in April 2020, including from the manhole in North Bremen Street sewer just upstream from the point it discharges into the East Concordia Avenue sewer. The analytical results for

the sample collected from that manhole reported TCE at 6.7 µg/m^3 and confirmed the results obtained from the E. Concordia Avenue Central manhole with TCE reported at 14 µg/m^3.

RECOMMENDED FOLLOW-UP ACTIVITIES

For near-term follow-up, GZA plans to resample the manholes within North Weil Street and in the manhole in the intersection of North Weil Street and East Concordia Avenue again in February 2025. GZA will also sample the manhole in the North Weil Street sewer between manholes N. Weil Manhole South and N. Weil Manhole Central to evaluate the sewer gas in the North Weil Street manhole adjacent to the southern portion of the Site and adjacent to monitoring well MW-14 (see the location for monitoring well MW-14 on the image above). Other follow-up activities will be evaluated after receipt of the expanded confirmation sampling.

If you have questions, please contact Mr. Fenelon at bernard.fenelon@gza.com or (262) 424-2045; or Mr. Osborne at john.osborne@gza.com or (262) 424-2042.

Very truly yours,

GZA GeoEnvironmental, Inc.

Bernard G. Fenelon, P. G.
Senior Consultant/Hydrogeologist

John C. Osborne, P.G.
Senior Principal/Hydrogeologist

J:\151600to151699\151683 JCI Badger\51 Off-Site Soil\Correspondence\2025 02 Sewer Sampling Results Letter\
FINAL 151683.51 N Weil and E Concordia Sanitary Sewer Gas Results Ltr_JCI Badger 2-12-25.docx

Attachments: Table 1-Sanitary Sewer Manhole Air Analytical Results Summary
Limitations
Sewer Manhole Inspection Forms
Sewer Manhole Gas Laboratory Analytical Report and Chain-of-Custody Documentation

c: Kurt Sprangers, P.E., City of Milwaukee (via email - kspran@milwaukee.gov)
Mr. Thomas Kettinger (via email)

TABLES

TABLE 1
SANITARY SEWER MANHOLE AIR ANALYTICAL RESULTS SUMMARY
North Weil Street and East Concordia Avenue Sanitary Sewers
3238 North Bremen Street
Milwaukee, Wisconsin

Sewer Manhole Location	Sample Date	Vinyl Chloride	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Trichloroethene	Tetrachloroethene
Sanitary Sewer Gas Screening Level (SSGSL)		**56**	**1,400**	**1,400**	**70**	**1,400**
N. Weil Manhole South	Jan 8 - 17, 2025	<13	<4.8	<2.0	<1.5	<0.99
N. Weil Manhole Central	Jan 8 - 17, 2025	<13	<4.8	<2.0	**140**	**6.0**
N. Weil Manhole North	Jan 8 - 17, 2025	<13	<4.8	<2.0	**83**	**3.6**
E. Concordia Manhole West	Jan 8 - 17, 2025	<13	<4.8	<2.0	**14**	**4.6**
E. Concordia Manhole Central	Jan 8 - 17, 2025	<13	<4.8	<2.0	**14**	**4.5**
E. Concordia Manhole East	Jan 8 - 17, 2025	<13	<4.8	<2.0	**50**	**2.5**

Notes:

1) Samples were collected by GZA GeoEnvironmental, Inc. from sewer manholes using Waterloo Membrane Sampler™ (WMS™) passive sampling media left in place for approximately nine days and analyzed by Eurofins of Folsom, California for tetrachloroethene (PCE); trichloroethene (TCE); cis- and trans-1,2-dichloroethene; and vinyl chloride in accordance with Modified EPA Method TO-17.

2) Results are provided in micrograms per cubic meter ($\mu g/m^3$) with the detections in **bold** font.

3) "<" denotes parameter was not detected above specified detection limit.

4) Sanitary Sewer Gas Screening Levels (SSGSLs) taken for the WDNR's Wisconsin Vapor Quick Look-Up Table Indoor Air Vapor Action levels and Vapor Risk levels (July 2024).

ATTACHMENT 1

Limitations

LIMITATIONS

USE OF REPORT

1. GZA GeoEnvironmental, Inc. (GZA) prepared this report on behalf of, and for the exclusive use of our Client for the stated purpose(s) and location(s) identified in the Proposal for Services and/or Report. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not expressly identified in the agreement, for any use, without our prior written permission, shall be at that party's sole risk, and without any liability to GZA.

STANDARD OF CARE

2. GZA's findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the Proposal for Services and/or Report and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. Conditions other than described in this report may be found at the subject location(s).
3. GZA's services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made. Specifically, GZA does not and cannot represent that the Site contains no hazardous material, oil, or other latent condition beyond that observed by GZA during its study. Additionally, GZA makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by a local, state, or federal agency.
4. In conducting our work, GZA relied upon certain information made available by public agencies, Client and/or others. GZA did not attempt to independently verify the accuracy or completeness of that information. Inconsistencies in this information which we have noted, if any, are discussed in the Report.

SUBSURFACE CONDITIONS

5. The generalized soil profile(s) provided in our Report are based on widely-spaced subsurface explorations and are intended only to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and were based on our assessment of subsurface conditions. The composition of strata, and the transitions between strata, may be more variable and more complex than indicated. For more specific information on soil conditions at a specific location refer to the exploration logs. The nature and extent of variations between these explorations may not become evident until further exploration or construction. If variations or other latent conditions then become evident, it will be necessary to reevaluate the conclusions and recommendations of this report.
6. Water level readings have been made, as described in this Report, in and monitoring wells at the specified times and under the stated conditions. These data have been reviewed and interpretations have been made in this report. Fluctuations in the level of the groundwater however occur due to temporal or spatial variations in areal recharge rates, soil heterogeneities, the presence of subsurface utilities, and/or natural or artificially induced perturbations. The observed water table may be other than indicated in the Report.

COMPLIANCE WITH CODES AND REGULATIONS

7. We used reasonable care in identifying and interpreting applicable codes and regulations necessary to execute our scope of work. These codes and regulations are subject to various, and possibly contradictory, interpretations. Interpretations and compliance with codes and regulations by other parties is beyond our control.

SCREENING AND ANALYTICAL TESTING

8. GZA collected environmental samples at the locations identified in the Report. These samples were analyzed for the specific parameters identified in the report. Additional constituents, for which analyses were not conducted, may be present in soil, groundwater, surface water, sediment and/or air. Future Site activities and uses may result in a requirement for additional testing.

9. Our interpretation of field screening and laboratory data is presented in the Report. Unless otherwise noted, we relied upon the laboratory's QA/QC program to validate these data.

10. Variations in the types and concentrations of contaminants observed at a given location or time may occur due to release mechanisms, disposal practices, changes in flow paths, and/or the influence of various physical, chemical, biological, or radiological processes. Subsequently observed concentrations may be other than indicated in the Report.

INTERPRETATION OF DATA

11. Our opinions are based on available information as described in the Report, and on our professional judgment. Additional observations made over time, and/or space, may not support the opinions provided in the Report.

ADDITIONAL INFORMATION

12. In the event that the Client or others authorized to use this report obtain additional information on environmental or hazardous waste issues at the Site not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, on the basis of this evaluation, may modify the conclusions stated in this report.

ADDITIONAL SERVICES

13. GZA recommends that we be retained to provide services during any future investigations, design, implementation activities, construction, and/or property development/ redevelopment at the Site. This will allow us the opportunity to: i) observe conditions and compliance with our design concepts and opinions; ii) allow for changes in the event that conditions are other than anticipated; iii) provide modifications to our design; and iv) assess the consequences of changes in technologies and/or regulations.

ATTACHMENT 2

Sewer Manhole Inspection Forms

MANHOLE INSPECTION FORM

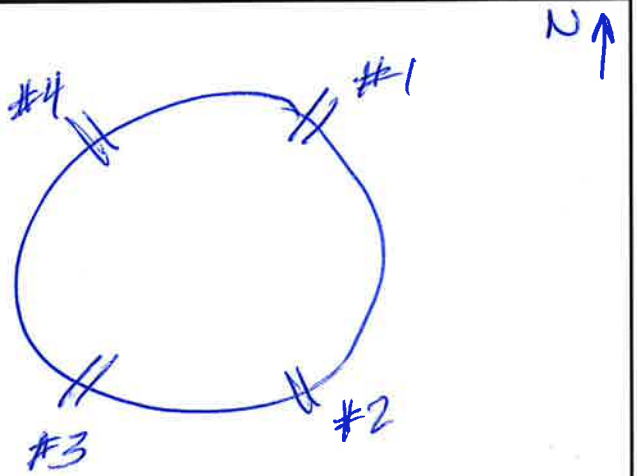
DATE: 1/8/25

Inspector(s): AINSWORTH / HERBST

Site/Project Number: JCI BADGER 20.0151683.51

MANHOLE ID: N. WEST MANHOLE NORTH RIM ELEVATION: N/A

PIPE CONNECTIONS					
Position or #	Depth to Invert	Pipe Size	Flow From	Flow To	Material
#1	12'	24"	SSW	NE	PVC
#2	10'	8"	SE	NE	PVC
#3	12"	18"	SSW	NE	CONCRETE
#4	6'	12"	NW	NE	PVC

LOCATION DESCRIPTION	MANHOLE SKETCH
	

MANHOLE INSPECTION FORM

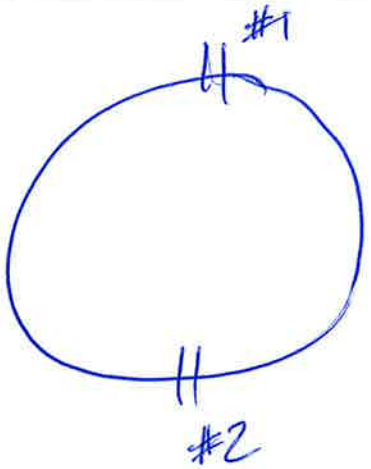
DATE: 1/8/25

Inspector(s): AINSWORTH / HERBST

Site/Project Number: JCI BADGER 20.0151683.5T

MANHOLE ID: N. WEST MANHOLE CENTRAL RIM ELEVATION: N/A

PIPE CONNECTIONS					
Position or #	Depth to Invert	Pipe Size	Flow From	Flow To	Material
#1	13.5'	18"	S	N	CONCRETE
#2	13.5'	18"	S	N	CONCRETE

LOCATION DESCRIPTION	MANHOLE SKETCH
	

MANHOLE INSPECTION FORM

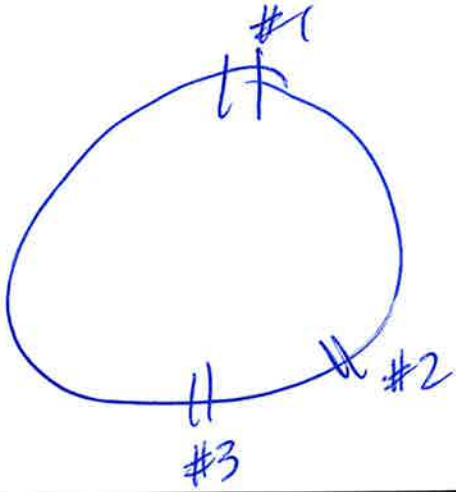
DATE: 1/8/25

Inspector(s): Ainsworth / Herbst

Site/Project Number: JCI Badger 20.0151683.51

MANHOLE ID: N. Well Manhole South RIM ELEVATION: N/A

PIPE CONNECTIONS					
Position or #	Depth to Invert	Pipe Size	Flow From	Flow To	Material
#1	12'	18"	S	N	Concrete
#2	4.5'	12"	SE	N	PVC
#3	12'	18"	S	N	Concrete

LOCATION DESCRIPTION	MANHOLE SKETCH
	

MANHOLE INSPECTION FORM

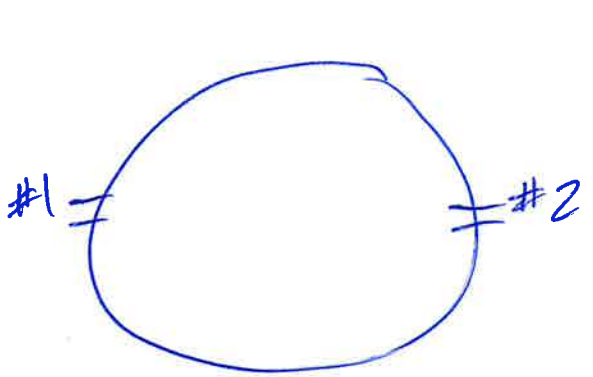
DATE: 1/8/25

Inspector(s): AINSWORTH / HERBST

Site/Project Number: JCI BADGER 20.0151683.57

MANHOLE ID: E. CONCORDIA MANHOLE WEST RIM ELEVATION: N/A

PIPE CONNECTIONS					
Position or #	**Depth to Invert**	**Pipe Size**	**Flow From**	**Flow To**	**Material**
#1	15'	36"	W	E	PLASTIC
#2	15'	36"	W	E	PLASTIC

LOCATION DESCRIPTION	MANHOLE SKETCH
	

MANHOLE INSPECTION FORM

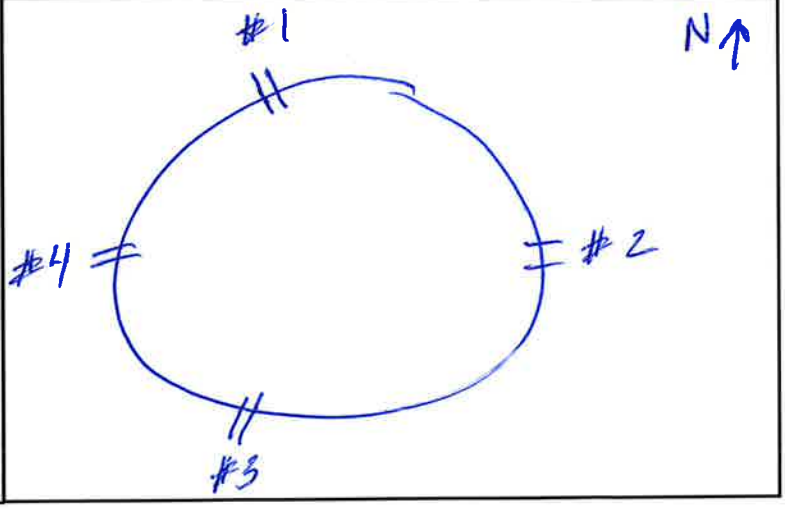
DATE: 1/8/25

Inspector(s): AINSWORTH / HERBST

Site/Project Number: JCI-BADGER 20.0151683.51

MANHOLE ID: E. CONCORDIA MANHOLE CENTRAL RIM ELEVATION: N/A

PIPE CONNECTIONS					
Position or #	Depth to Invert	Pipe Size	Flow From	Flow To	Material
#1	14'	18"	NW	E	PVC
#2	15'	36"	W	E	PVC
#3	15'	36"	W	E	PVC
#4	14'	18"	SW	E	PVC

LOCATION DESCRIPTION	MANHOLE SKETCH
	

MANHOLE INSPECTION FORM

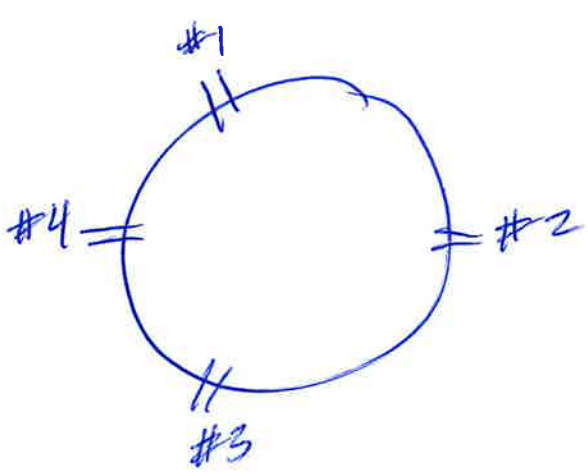
DATE: 1/8/25

Inspector(s): AINSWORTH / HERBST

Site/Project Number: JCI BADGER 20.0151683.51

MANHOLE ID: E. CONCORDIA MANHOLE EAST RIM ELEVATION: N/A

PIPE CONNECTIONS					
Position or #	Depth to Invert	Pipe Size	Flow From	Flow To	Material
#1	13'	24"	NW	E	PVC
#2	14'	CONCRETE FORM	W	E	CONCRETE
#3	13'	24"	SW	E	PVC
#4	14'	CONCRETE FORM	W	E	CONCRETE

LOCATION DESCRIPTION	MANHOLE SKETCH
	

ATTACHMENT 3

Sewer Manhole Gas Laboratory Analytical Report
and Chain-of-Custody Documentation

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Analytical Report

1/31/2025

Mr. Bernard Fenelon
GZA GeoEnvironmental, Inc.
17975 West Sarah Lane
Ste 100
Brookfield WI 53045

Project Name: JCI - BADGER
Project #: 20.0151683.51
Workorder #: 2501390

Dear Mr. Bernard Fenelon

The following report includes the data for the above referenced project for sample(s) received on 1/20/2025 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

eurofins | Air Toxics

WORK ORDER #: 2501390

Work Order Summary

CLIENT:	Mr. Bernard Fenelon GZA GeoEnvironmental, Inc. 17975 West Sarah Lane Ste 100 Brookfield, WI 53045	**BILL TO:**	Mr. Bernard Fenelon GZA GeoEnvironmental, Inc. 17975 West Sarah Lane Ste 100 Brookfield, WI 53045
PHONE:	262-754-2594	**P.O. #**	
FAX:	262754-9711	**PROJECT #**	20.0151683.51 JCI - BADGER
DATE RECEIVED:	01/20/2025	**CONTACT:**	Jade White
DATE COMPLETED:	01/31/2025		

FRACTION #	NAME	TEST
01A	N. WEIL MANHOLE SOUTH	Passive S.E. WMS
02A	N. WEIL MANHOLE CENTRAL	Passive S.E. WMS
03A	N. WEIL MANHOLE NORTH	Passive S.E. WMS
04A	E. CONCORDIA MANHOLE EAST	Passive S.E. WMS
05A	E. CONCORDIA MANHOLE WEST	Passive S.E. WMS
06A	E. CONCORDIA MANHOLE CENTRAL	Passive S.E. WMS
07A	Lab Blank	Passive S.E. WMS
08A	CCV	Passive S.E. WMS
09A	LCS	Passive S.E. WMS
09AA	LCSD	Passive S.E. WMS

CERTIFIED BY: Heidi Hayes DATE: 01/31/25

Technical Director

Cert. No.: AZ Licensure-AZ0775, FL NELAP-E87680, LA NELAP–02089, MN NELAP-2836569, NH NELAP–209224-A, NJ NELAP-CA016, NY NELAP-11291, TX NELAP-T104704434, UT NELAP-CA009332023-16, VA NELAP-13180, WA NELAP-C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) CA300005-21
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.

LABORATORY NARRATIVE
WMS Passive SE by Mod EPA TO-17
GZA GeoEnvironmental, Inc.
Workorder# 2501390

Six WMS-SE samples were received on January 20, 2025. 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:

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 missing method assignment in the 'Requested Analyses' checkboxes for the

associated samples. The laboratory proceeded with the analysis as per the original contract or verbal agreement.

The Chain of Custody (COC) information for samples N. WEIL MANHOLE SOUTH, N. WEIL MANHOLE CENTRAL, N. WEIL MANHOLE NORTH, E. CONCORDIA MANHOLE EAST, E. CONCORDIA MANHOLE WEST and E. CONCORDIA MANHOLE CENTRAL 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, a sampling duration of 12950 minutes was applied.

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
VOC BY PASSIVE SAMPLER - GC/MS

Client Sample ID: N. WEIL MANHOLE SOUTH

Lab ID#: 2501390-01A

No Detections Were Found.

Client Sample ID: N. WEIL MANHOLE CENTRAL

Lab ID#: 2501390-02A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Trichloroethene	0.050	1.5	4.7	140
Tetrachloroethene	0.050	0.99	0.30	6.0

Client Sample ID: N. WEIL MANHOLE NORTH

Lab ID#: 2501390-03A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Trichloroethene	0.050	1.5	2.8	83
Tetrachloroethene	0.050	0.99	0.18	3.6

Client Sample ID: E. CONCORDIA MANHOLE EAST

Lab ID#: 2501390-04A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Trichloroethene	0.050	1.5	1.7	50
Tetrachloroethene	0.050	0.99	0.12	2.5

Client Sample ID: E. CONCORDIA MANHOLE WEST

Lab ID#: 2501390-05A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Trichloroethene	0.050	1.5	0.45	14
Tetrachloroethene	0.050	0.99	0.23	4.6

Client Sample ID: E. CONCORDIA MANHOLE CENTRAL

Lab ID#: 2501390-06A

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

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

Client Sample ID: E. CONCORDIA MANHOLE CENTRAL

Lab ID#: 2501390-06A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Trichloroethene	0.050	1.5	0.47	14
Tetrachloroethene	0.050	0.99	0.23	4.5

eurofins | Air Toxics

Client Sample ID: N. WEIL MANHOLE SOUTH

Lab ID#: 2501390-01A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**18012322sim**	**Date of Collection: 1/17/25 9:10:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis: 1/23/25 04:02 PM**
		Date of Extraction: 1/23/25

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Vinyl Chloride	0.20	13	Not Detected	Not Detected
trans-1,2-Dichloroethene	0.10	4.8	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.050	2.0	Not Detected	Not Detected
Trichloroethene	0.050	1.5	Not Detected	Not Detected
Tetrachloroethene	0.050	0.99	Not Detected	Not Detected

Temperature = 77.0F , duration time = 12950 minutes.

Container Type: WMS-SE

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130

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Client Sample ID: N. WEIL MANHOLE CENTRAL

Lab ID#: 2501390-02A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**18012323sim**	**Date of Collection: 1/17/25 9:18:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis: 1/23/25 04:28 PM**
		Date of Extraction: 1/23/25

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Vinyl Chloride	0.20	13	Not Detected	Not Detected
trans-1,2-Dichloroethene	0.10	4.8	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.050	2.0	Not Detected	Not Detected
Trichloroethene	0.050	1.5	4.7	140
Tetrachloroethene	0.050	0.99	0.30	6.0

Temperature = 77.0F , duration time = 12937 minutes.

Container Type: WMS-SE

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130

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Client Sample ID: N. WEIL MANHOLE NORTH

Lab ID#: 2501390-03A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**18012324sim**	**Date of Collection: 1/17/25 9:28:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis: 1/23/25 04:54 PM**
		Date of Extraction: 1/23/25

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Vinyl Chloride	0.20	13	Not Detected	Not Detected
trans-1,2-Dichloroethene	0.10	4.8	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.050	2.0	Not Detected	Not Detected
Trichloroethene	0.050	1.5	2.8	83
Tetrachloroethene	0.050	0.99	0.18	3.6

Temperature = 77.0F , duration time = 12925 minutes.

Container Type: WMS-SE

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130

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Client Sample ID: E. CONCORDIA MANHOLE EAST

Lab ID#: 2501390-04A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**18012325sim**	**Date of Collection: 1/17/25 9:35:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis: 1/23/25 05:21 PM**
		Date of Extraction: 1/23/25

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Vinyl Chloride	0.20	13	Not Detected	Not Detected
trans-1,2-Dichloroethene	0.10	4.8	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.050	2.0	Not Detected	Not Detected
Trichloroethene	0.050	1.5	1.7	50
Tetrachloroethene	0.050	0.99	0.12	2.5

Temperature = 77.0F , duration time = 12908 minutes.

Container Type: WMS-SE

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130

eurofins | Air Toxics

Client Sample ID: E. CONCORDIA MANHOLE WEST

Lab ID#: 2501390-05A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**18012326sim**	**Date of Collection: 1/17/25 9:44:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis: 1/23/25 05:47 PM**
		Date of Extraction: 1/23/25

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Vinyl Chloride	0.20	13	Not Detected	Not Detected
trans-1,2-Dichloroethene	0.10	4.8	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.050	2.0	Not Detected	Not Detected
Trichloroethene	0.050	1.5	0.45	14
Tetrachloroethene	0.050	0.99	0.23	4.6

Temperature = 77.0F , duration time = 12900 minutes.

Container Type: WMS-SE

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130

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Client Sample ID: E. CONCORDIA MANHOLE CENTRAL

Lab ID#: 2501390-06A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**18012327sim**	**Date of Collection: 1/17/25 9:53:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis: 1/23/25 06:14 PM**
		Date of Extraction: 1/23/25

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Vinyl Chloride	0.20	13	Not Detected	Not Detected
trans-1,2-Dichloroethene	0.10	4.8	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.050	2.0	Not Detected	Not Detected
Trichloroethene	0.050	1.5	0.47	14
Tetrachloroethene	0.050	0.99	0.23	4.5

Temperature = 77.0F , duration time = 12892 minutes.

Container Type: WMS-SE

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2501390-07A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**18012320sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/23/25 03:09 PM**	
		Date of Extraction: 1/23/25	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Vinyl Chloride	0.20	13	Not Detected	Not Detected
trans-1,2-Dichloroethene	0.10	4.8	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.050	2.0	Not Detected	Not Detected
Trichloroethene	0.050	1.5	Not Detected	Not Detected
Tetrachloroethene	0.050	0.99	Not Detected	Not Detected

Temperature = 77.0F , duration time = 12950 minutes.

Container Type: WMS-SE

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130

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Client Sample ID: CCV

Lab ID#: 2501390-08A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**18012302sim**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 1/23/25 07:06 AM**
		Date of Extraction: NA

Compound	%Recovery
Vinyl Chloride	95
trans-1,2-Dichloroethene	107
cis-1,2-Dichloroethene	103
Trichloroethene	98
Tetrachloroethene	95

Container Type: NA - Not Applicable

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

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Client Sample ID: LCS

Lab ID#: 2501390-09A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**18012318sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/23/25 02:16 PM**	
		Date of Extraction: 1/23/25	

Compound	%Recovery	Method Limits
Vinyl Chloride	132	50-140
trans-1,2-Dichloroethene	100	70-130
cis-1,2-Dichloroethene	94	70-130
Trichloroethene	91	70-130
Tetrachloroethene	86	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130

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Client Sample ID: LCSD

Lab ID#: 2501390-09AA

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**18012319sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/23/25 02:42 PM**	
		Date of Extraction: 1/23/25	

Compound	%Recovery	Method Limits
Vinyl Chloride	122	50-140
trans-1,2-Dichloroethene	97	70-130
cis-1,2-Dichloroethene	91	70-130
Trichloroethene	90	70-130
Tetrachloroethene	85	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130

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Method : Passive SE GC/MS WMS (Sh)-c/t-1,2-DCE, PCE, TCE & VC

CAS Number	Compound	Rpt. Limit (ug)
75-01-4	Vinyl Chloride	0.20
156-60-5	trans-1,2-Dichloroethene	0.10
156-59-2	cis-1,2-Dichloroethene	0.050
79-01-6	Trichloroethene	0.050
127-18-4	Tetrachloroethene	0.050

	Surrogate	Method Limits
2037-26-5	Toluene-d8	70-130

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Analysis Request / Passive Sorbent Chain of Custody

eurofinsus.com

Eurofins Environment Testing Northern California, LLC
180 Blue Ravine Rd. Suite B, Folsom, CA 95630
Phone (800) 985-5955; Fax (916) 351-8279

Workorder #: 2501390

page 1 of 1

Client: GZA GeoEnvironmental Inc
Site Name: JCI - Badger
Project Manager: Bernard Fenelon
Sampler: Chris Ainsworth

Project Name: JCI - Badger
Project #: 20.0151683.51
PO#:

Turnaround Time (Specify Below)
Standard X Rush _____ (Surcharges will apply, per availability)
Samples received after 3PM PST are considered to be received on the following workday.
Requested Date (mm/dd/yy):
QR Number of Days:

Sample Matrix (Check One)

Reporting Units (Circle One)
ppbv µg/m³ ppmv mg/m³ µg ng

Times are military unless am/pm is indicated

Lab ID	Field Sample Identification (Location)	Tube # / Sampler ID	Deployment Information Date	Deployment Information Time	Retrieval Information Date	Retrieval Information Time	Indoor/Outdoor Air	Soil Gas	Workplace Monitoring	(Other)	Temperature	Analysis Requested	Sample Comments:
01A	N. Weil Manhole South	AN-R-24-197	1/6/25	920	1/7/25	910				X			
02A	N. Weil Manhole Central	AN-R-24-201	1/6/25	941	1/7/25	918				X			
03A	N. Weil Manhole North	AN-R-24-198	1/6/25	1005	1/7/25	928				X			
04A	E. Concordia Manhole East	AN-R-24-199	1/6/25	1027	1/7/25	935				X			
05A	E. Concordia Manhole West	AN-R-24-200	1/6/25	1044	1/7/25	944				X			
06A	E. Concordia Manhole Central	AN-R-24-202	1/6/25	1101	1/7/25	953				X			

Special Instructions/Notes:
PLEASE ANALYZE: PCE; TCE; Cis and Trans 1,2 DCE

Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
	1/7/25	1500	PER FED Ex		
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
			[illegible] EAL	1.20.25	0931
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time

Lab Use Only

Shipper Name: Fed Ex | Custody Seals Intact? Yes No (None) | Temperature: N/A | Condition: Good

Sample Transportation Notice: Relinquishing signature on this document indicates that samples are shipped in compliance with all applicable local, State, Federal, and international laws, regulations, and ordinances of any kind. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins Air Toxics against any claim, demand, or action, of any kind, related to the collection, handling, of shipping of samples. D.O.T Hotline (800) 467-4922