

Washtenaw County Environmental Council
OCTOBER 14, 2025 MEETING AGENDA

Tuesday, October 14, 2025. 5:00PM - 6:30PM

In-person Meeting

With Zoom Viewing. Link to watch:

<https://washtenawcounty.zoom.us/j/87283540017?pwd=gVEEnSyqxp4FAxM4EzR4qTbEzgf7mj.1>

- I. Call to Order
- II. Attendance
- III. Land Acknowledgement
- IV. Approval of the Agenda
- V. Approval of the Minutes of the September 2, 2025 Meeting
- VI. Public Comment/Citizen Participation: (up to 4 minutes per speaker)
 - A. Council Responses to Citizen Participation
 - B. Acknowledgement of written Citizen Participation
- VII. Staff Reports
 - A. Acknowledgement of written Staff Reports and Communications
 - B. Beth Gibbons, Director, County Resiliency Office: *Washtenaw County Resiliency Office Report*
 - 1. Resiliency Office Report
 - 2. Resiliency Office Events since last meeting and any upcoming, including tabling or other events that the WCEC might want to also participate in.
 - 3. Other Updates
 - C. Other Staff Reports
- VIII. Chair's Report
 - A. Finance/Budget Report
 - B. Green Energy Tax Credits
- IX. Presentation: Bio-Digesters in Freedom Township: No Suitable Location. *Chris Mikesell, Freedom Township Preservation and Pleasant Lake Property Owners Association*
- X. Presentation: Simplifying Solar: Local Ordinances on Rooftop & Solar and Battery Storage. *Councillor Kris Olsson*
- XI. Committee Reports

- A. Outreach Committee
 - 1. Alex Bryan & Mark Coryell
 - a) Debrief: A2 Green Fair Sept. 19 5-8pm
 - b) Debrief: Third Act SunDay Sept. 21 2-6pm
- XII. Old Business
 - A. Resolution: Data Centers in Washtenaw County
 - B. Green Energy Tax Credits Presentation: Follow up?
- XIII. New Business
- XIV. Communications and Reports
 - A. Councilmembers
- XV. Adjourn

Next Meetings

November 18, 2025

December 16, 2025

Washtenaw County Environmental Council

Tuesday, September 2, 2025. 5:00PM - 6:30PM

Virtual Meeting

Link to join:

<https://washtenawcounty.zoom.us/j/87283540017?pwd=gVEEnSyqxp4FAxM4EzR4qTbEzgf7mj.1>

SEPTEMBER 2, 2025 (AUGUST RESCHEDULED) DRAFT MEETING MINUTES

- I. Call to Order
 - a. 5:02 PM
- II. Attendance
 - a. Michelle Deatrick, Anne Brown, Gay MacGregor, Mark Coryell, Alex Bryan, Benjamin VanGessel, Brian Geiringer, Andrea Pierce, Kris Olsson, Liz Ratzloff, Lauren Sargent, Annie Somerville, Yousef Rabhi
- III. Land Acknowledgement
- IV. Approval of the Agenda
 - a. Moved: Liz Ratzloff
 - b. Second: Ben VanGessel
 - c. Approved: Unanimous Acclamation
- V. Motion to Amend Agenda
 - a. Moved: Yousef Rabhi
 - b. Second: Liz Ratzloff
 - c. Approved: Unanimous Acclamation
- VI. Approval of the Minutes of the July 22, 2025 Meeting
 - a. Moved: Liz Ratzloff
 - b. Second: Alex Bryan
 - c. Approved: Unanimous Acclamation
- VII. Public Comment/Citizen Participation: (up to 4 minutes per speaker)
 - a. Council Responses to Citizen Participation
 - i. No public comment made
 - b. Acknowledgement of written Citizen Participation
 - i. No public comment made
- VIII. Staff Reports
 - a. Acknowledgement of written Staff Reports and Communications
 - b. Beth Gibbons, Director, County Resiliency Office: *Washtenaw County Resiliency Office Report*
 - i. Resiliency Office Report
 - ii. Resiliency Office Events since last meeting and any upcoming, including tabling or other events that the WCEC might want to also participate in.
 - iii. Other Updates

c. Other Staff Reports

i. Jason Fee, Director, Facilities Management

1. 4101 solar system started in August, more coming
2. Saline court 30-45 days out from opening
3. Discussion: Chair asked for notice of opening ceremony

IX. Chair's Report

a. Finance/Budget Report

b. Bylaws updates

X. Presentation: Better Bottle Bill Ballot Initiative

a. *Presenter: Caleb Chavez, Michigan Environmental Council*

b. Council Discussion

- i. Clarifying full realm of deposit redemptions eligible items
- ii. Concerns about cost impact and deposit access on vulnerable communities without access to potable water
- iii. Question about demand for secondary materials within state and US
- iv. Conversation about restrictions within system to address misuse of funds
- v. Summary of funding allocations and use of specific funds such as grants for retailers hosting deposit machines
- vi. Council members asked for additional information to be sent about their questions

XI. Presentation: Green Energy Tax Credits

a. *Presenter: Katie Thomas, Congressional Progressive Caucus Center*

b. Council Discussion

- i. Clarifying what qualifies as "in service" in order for project to be considered eligible
- ii. Clarifying "on vs off site" impact on eligibility
- iii. Statement underlying importance of public power
- iv. Chair gained permission to share materials with networks and was encouraged to adopt materials for local context to have larger impact on local community

XII. Committee Reports

a. Outreach Committee

i. Alex Bryan & Mark Coryell

1. A2 Green Fair Sept. 19 5-8pm
2. Third Act SunDay Sept. 21 2-6pm

ii. Council Discussion

1. Add Scio Township Sustainability Fair on October 5
2. Additional outreach events listed in Resiliency Office report

XIII. New Business

a. Discussion: Upcoming Meetings

i. September 30 Meeting: Virtual

1. Note: The Council's calendar, approved in January, moved the meeting to Sept. 30 because the fourth Tuesday, Sept. 23, is Rosh Hashanah.
- ii. Meeting and Community Listening Session Reschedule Proposal: Move Tuesday, October 28 meeting to Tuesday, October 14, and hold in-person, followed by Community Listening Session
- iii. Motion to Approve Moving October Meeting to October 14
 1. Moved: Kris Olsson
 2. Second: Andrea Pierce
 3. Approved: Unanimous Voice Vote
- iv. Council Discussion
 1. Clarifying meeting time 5-6:30pm, followed by community listening session
- v. Approved by Unanimous Voice Vote

XIV. Old Business

- a. Resolution: Data Centers in Washtenaw County
- b. Motion to Approve Data Center Resolution
 - i. Moved: Kris Olsson
 - ii. Second: Lauren Sargent
- c. Council Discussion
 - i. BG: Noting support for resolution, and interest in a stronger position against data centers
- d. Approved by: Unanimous Voice Vote

XV. Communications and Reports

- a. Councilmembers
 - i. No reports given

XVI. Adjourn

- a. 6:34PM

Next Meetings

September 30, 2025 (virtual)

October 14 in-person at Washtenaw County Learning Resource Center, 4135 Washtenaw Ave, Ann Arbor, MI 48108

ACCOUNT DETAIL HISTORY FOR 2025 00 TO 2025 13

ORG YR/PR	OBJECT JNL	PROJ EFF DATE	SRC	REF1	REF2	REF3	CHECK #	OB	AMOUNT	NET LEDGER BALANCE	NET BUDGET BALANCE
10101104	805400			Special Events - Envr. Council							
							REVISED BUDGET				5,000.00
25/04	2356	04/10/25	APM	288563		294269	457550		225.00	225.00	
	modify acc	BRIAN GEIRINGER				MICHIGAN STATE OF -					
25/04	2357	04/10/25	APM	288563		294268	457550		225.00	450.00	
	modify acc	GAY MACGREGOR				MICHIGAN STATE OF -					
25/04	2358	04/10/25	APM	288563		294267	457550		225.00	675.00	
	modify acc	LAUREN SARGENT				MICHIGAN STATE OF -					
25/08	1872	08/04/25	API	000001		310291			55.00	730.00	
	6673	MICAN* O #694				Unknown					
25/08	1872	08/04/25	API	000001		310292			55.00	785.00	
	6673	MICAN* O #695				Unknown					
LEDGER BALANCES --- DEBITS:						785.00	CREDITS:	.00	NET:	785.00	
GRAND TOTAL --- DEBITS:						785.00	CREDITS:	.00	NET:	785.00	

5 Records printed

** END OF REPORT - Generated by Andrew DeLeeuw **

ACCOUNT DETAIL HISTORY FOR 2025 00 TO 2025 13

REPORT OPTIONS

Print GL Master Start-of-Year Balances?: Y
Year and Period range: 2025 0 to 2025 13
Source journal code:
Include entries between dates: 01/01/1970 and 01/01/2999
Include Encumb/Liq entries: N
Include Budget entries: N
Print J/E comment and vendor: Y
Double space journal detail: Y
Separate page for each account: N
Multiyear view: D
Print report options: Y
Cash account: Subtotal by Date or Ref3/Deposit #: N

October 8, 2025

Dear Council members,

Thank you for the opportunity to once again address you regarding biogas digesters.

Since my presentation to you last year, the Fremont Regional Digester in Newaygo County has closed, and the associated wastewater lagoons storing digestate have been removed and restored to farmland. I'd like to tell you a bit about what happened during its final days.

The lagooned digestate was being spread daily in the last weeks of 2024, after it became clear that Generate Upcycle would no longer be operating the digester in my area. As the farmers pulling from the lagoons reached the digestate solids that had sunk to the bottom, I persisted in asking EGLE to test the material for PFAS. They finally agreed, and the levels found in those lower, "thicker" layers with more solids showed the presence of 11 PFAS chemicals, with two exceeding safe drinking water criteria.

Of course, this is not drinking water. However, the levels warranted a firm caution from EGLE, which led to the digestate spreading being halted. (footnote 1) In addition to the excess levels of many metals and the questionable presence of industrial solvents such as acetone and MEK, as well as excessive levels of salts that are not appropriate for long-term soil health, the new PFAS test results were another alarming piece of the biogas digester fiasco up here.

Whether on-farm or free-standing, these manure-only or manure/"food waste" digesters must be highly regulated to keep inappropriate inputs from entering the system. Food waste and "organics," as they are called, can include things like cellulose insulation, wastewater from places like Colgate-Palmolive, and egg wash water with disinfectants from massive CAFO egg production. These are all possible waste streams that may contain PFAS. They are often ignored in the literature and PR materials from biogas companies, which instead prefer to portray a wholesome food waste stream—painting a picture of lunchroom scraps, eggshells, and toast crusts from a local café.

There is no doubt we must divert waste from landfills when safe and appropriate. But unchecked, under-tested, and currently under-regulated, unfit and dangerous digester inputs can—and will—go into digesters across Michigan. Recently, Michigan House Bills 4257 and 4265 were passed, which must be a dream come true for the biogas industry. It removes some of the few safeguards in place for digesters, and puts testing parameters in the hands of the American Biogas Council, a pro-biogas lobbying group, and leaves them in charge of deciding what to test for and what to leave off the list of testing. This is paramount to the fox guarding the hen-house. The fallout of deregulated digestate spread across Michigan will, over time, turn our farmland into the next generation of landfills.

Thank you for your service on this council,
Kathy Morrison
farmer
Fremont, MI

PS A note on MSU's on campus digester and another reason that it cannot be looked to as an example of how safely a commercial digester does or does run. In addition to MSU being a not for profit, research digester, it also has some very different safeguards than for profit, commercial digesters. For instance, they currently take in true food waste – no industrial wastewater, industrial food processing

residuals, and I recently learned something worth noting that again exemplifies the difference between MSU and commercial digesters in practice. This info is from Dr. Wei Liao, a professor and the director of MSU Anaerobic Digestion Research and Education Center (ADREC) at the department of Biosystems & Agricultural Engineering. He confirmed with me that the monitor wells on MSU's campus near digestate storage and land application are between 350-500 feet deep. This can in no way provide any useful data for how safe digestate spread is near residential wells in rural Michigan. Many residential wells in my area are between 35 – 100 feet deep. Using MSU data as an example to assess how safe digestate spread is near real life scenarios of much shallower wells is a dangerous proposition.

Footnote 1

“^[L]_[SEP]Eleven different PFAS compounds were detected in the samples, and two PFAS compounds, perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS), were present at levels that exceed maximum contaminant levels (MCLs) for drinking water under the Safe Drinking Water Act, MCL 325.1001 et seq., and groundwater cleanup criteria under Part 201 of the Natural Resources and Environmental Protection Act (NREPA), MCL 324.20101 et seq.^[L]_[SEP]EGLE understands the time constraints facing Generate as the seasonal window for land application of the digestate will close later this month. However, additional evaluation of the data and the characteristics of the digestate is required to fully understand the risk posed to soil and groundwater from its land application. Even with additional evaluation, it may not be possible to determine, with any certainty, the nature and extent of the impacts to soil and groundwater. Given these unknowns, EGLE strongly recommends that Generate cease land application of the digestate. EGLE has determined that land application of this material may constitute a violation of the AUA as follows:^[L]_[SEP]• Section 2F(6) of the AUA states that Generate shall ensure the annual applications of the digestate and constituents contained in the digestate applied to agricultural land do not exceed the concentration of contaminants that would cause the creation of a “facility” as defined by Part 201.^[L]_[SEP]• Section 2S of the AUA prohibits the mixture of the material to be land applied with other wastes or wastewaters from Generate or other facilities that are not inert as defined by Part 115, Solid Waste Management, of the NREPA, and the rules promulgated thereunder. The detection of multiple PFAS compounds makes the inertness of the digestate questionable.^[L]_[SEP]• Further, Section 7 of the AUA makes clear that if materials that are land-applied are determined to pose an unacceptable risk to public health, safety, welfare, or the environment, the person responsible for placement of the materials (Generate) will be liable for the performance of response activities and response activity costs under Part 201.^[L]_[SEP]• The effect of land-applying PFAS-contaminated digestate is unknown. The science related to acceptable concentrations of PFAS in soils, crop uptake of PFAS compounds, and risks to agricultural properties is still being developed. Applying PFAS-impacted digestate may contaminate groundwater, nearby residential wells, soil, and crops grown on impacted fields.”

(See attached for full EGLE letter and PFAS test results.)



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
MATERIALS MANAGEMENT DIVISION



PHILLIP D. ROOS
DIRECTOR

December 16, 2024

Logan Randles
Generate Fremont Digester, LLC
1634 Locust Street
Fremont, Michigan 49412

Dear Logan Randles:

SUBJECT: Land Application of Digestate Containing PFAS; Generate Fremont; 1634 Locust Street; Fremont; Newaygo County; Waste Data System Number 493259

On November 22, 2024, staff from the Department of Environment, Great Lakes, and Energy (EGLE), collected samples of the digestate that Generate Fremont Digester, LLC (Generate) land applies via Agricultural Use Approval (AUA) 17-AUA-001 and submitted the samples for laboratory analysis of per – and polyfluoroalkyl substances (PFAS). The samples were collected from the digestate stored in Generate's two lagoons near Holton, Michigan. EGLE received laboratory analysis which indicated that the digestate contained PFAS compounds on December 9, 2024. The laboratory analysis is attached for reference.

EGLE appreciates the steps Generate took to voluntarily and immediately cease land application of the digestate while EGLE analyzed and considered the laboratory data. Eleven different PFAS compounds were detected in the samples, and two PFAS compounds, perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS), were present at levels that exceed maximum contaminant levels (MCLs) for drinking water under the Safe Drinking Water Act, MCL 325.1001 *et seq.*, and groundwater cleanup criteria under Part 201 of the Natural Resources and Environmental Protection Act (NREPA), MCL 324.20101 *et seq.*

EGLE understands the time constraints facing Generate as the seasonal window for land application of the digestate will close later this month. However, additional evaluation of the data and the characteristics of the digestate is required to fully understand the risk posed to soil and groundwater from its land application. Even with additional evaluation, it may not be possible to determine with any certainty, the nature and extent of the impacts to soil and groundwater. Given these unknowns, EGLE strongly recommends that Generate cease land application of the digestate. EGLE has determined that land application of this material may constitute a violation of the AUA as follows:

- Section 2F(6) of the AUA states that Generate shall ensure the annual applications of the digestate and constituents contained in the digestate applied to agricultural land do not exceed the concentration of contaminants that would cause the creation of a “facility” as defined by Part 201. Section 2S of the AUA prohibits the mixture of the material to be land applied with other wastes or wastewaters from Generate or other facilities that are not inert as defined by Part 115, Solid Waste Management, of the NREPA, and the rules promulgated thereunder. The detection of multiple PFAS compounds makes the inertness of the digestate questionable. Further, Section 7 of the AUA makes clear that if materials that are land applied are determined to pose an unacceptable risk to public health, safety, welfare, or the environment, the person responsible for placement of the materials (Generate) will be liable for the performance of response activities and response activity costs under Part 201.
- The effect of land applying PFAS contaminated digestate is unknown. The science related to acceptable concentration of PFAS in soils, crop uptake of PFAS compounds, and risks to agricultural properties is still being developed. Applying PFAS impacted digestate may contaminate groundwater, nearby residential wells, soil, and crops grown on impacted fields.

Generate must maintain compliance with the AUA. EGLE reserves all enforcement authorities in the event it is determined that Generate violated the AUA and/or caused contamination of soil, groundwater, or surface water. EGLE will take enforcement action if the digestate application violates the AUA or creates a facility as defined by Part 201. Should Generate choose to continue land application of the digestate, EGLE recommends that Generate:

- Renotify property owners and adjacent neighbors of planned land application and include information regarding the PFAS detections and notification that PFAS was detected in digestate above drinking water MCLs and groundwater cleanup criteria.
- Provide copies of the notifications to EGLE, and document receipt of the notification by the residents.

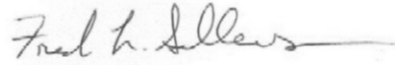
If Generate proceeds with land application of the digestate, but does not notify affected landowners, residents, and neighbors of the PFAS data, then, to ensure property owners are informed of any potential risks to their property, EGLE will make those notifications directly.

The results of this most recent sampling event have been of great interest to the community and the results will be released pursuant to a citizen request and as public information today.

Logan Randles
Page 3
December 16, 2024

EGLE encourages Generate to seek alternative methods for handling the digestate. Alternative options include transporting the digestate to an appropriate wastewater treatment plant or solidification and landfilling. Please contact me with questions via email at SellersF@Michigan.gov.

Sincerely,



Fred L. Sellers
District Supervisor
Kalamazoo District Office
Materials Management Division
269-569-1476

Attachment

cc: Phillip D. Roos, Director, EGLE
Aaron B. Keatley, Chief Deputy Director, EGLE
Hugh C. McDiarmid Jr., Communications Manager, EGLE
Liz Browne, Division Director, EGLE
Abigail Hendershot, MPART Executive Director
Phil Roycraft, EGLE
Amy Peterson, MPART Operations Manager
Rhonda Oyer, EGLE
Abhijit Muduganti, EGLE

09 December 2024

Work Order: 2411239

Kent Walters
EGLE-MMD-GRAND RAPIDS
350 Ottawa Avenue NW, Unit 10
Grand Rapids, MI 49503-2341
RE: GENERATE FREEMONT

This is the official environmental laboratory report for testing conducted by the Michigan Department of Environment, Great Lakes, and Energy. Analyses performed by the laboratory were conducted using methods published by the U.S. Environmental Protection Agency, Standard Methods for the Examination of Water and Wastewater, ASTM, or other published or approved reference methods.

Kirby Shane
Laboratory Director

Total Charges for Reported Analyses:

\$750.00



MICHIGAN DEPARTMENT OF
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MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

EGLE-MMD-GRAND RAPIDS
350 Ottawa Avenue NW, Unit 10
Grand Rapids MI, 49503-2341

Project: GENERATE FREEMONT
Location ID: 498637
Project Manager: Kent Walters

Reported:
12/09/2024

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
EB-01	2411239-01	Water	11/22/2024	11/22/2024	
NL-01	2411239-02	Water	11/22/2024	11/22/2024	
SL-01	2411239-03	Water	11/22/2024	11/22/2024	

Qualifiers and Definitions

Y48	Results are estimated due to the water sample containing a significant sediment layer (≥ 0.5 mL).
QIon	Result is estimated/suspect due to qualifier ion ratio outside of QC limits.
IDA01	Result is estimated/suspect due to isotope dilution analog recovery in the sample outside of QC limits.
I	Dilution required due to matrix interference; reporting limit (RL) raised.
ND	Indicates the analyte was not detected at or above the method reporting limit (RL)
RL	Reporting Limit
NA	Not Applicable

Case Narrative

Samples were received **11/22/2024 2:55:00PM** for client **EGLE-MMD-GRAND RAPIDS** as a part of project **GENERATE FREEMONT**.

Temperature of samples upon receipt was recorded at 1.00° C and samples were received on ice

Samples were logged and designated as Work Order # **2411239** on **11/22/2024 2:59:00PM**.

This Report was created **12/9/2024 1:22:17PM**.

Additional Notes/Narrative (if applicable):



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: EB-01

Lab ID: 2411239-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Analyst	Qualifier
Organics-PFAS Isotope Dilution										
763051-92-9	11Cl-PF3OUdS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
356-02-5	3:3FTCA	ND	4.0	ng/L	1	11/27/24	B4K2623	8327	BM	
757124-72-4	4:2FTS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
914637-49-3	5:3FTCA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
27619-97-2	6:2FTS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
812-70-4	7:3FTCA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
39108-34-4	8:2FTS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
756426-58-1	9Cl-PF3ONS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
919005-14-4	ADONA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
13252-13-6	HFPO-DA	ND	4.0	ng/L	1	11/27/24	B4K2623	8327	BM	
2991-50-6	NEtFOSAA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
2355-31-9	NMeFOSAA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
375-22-4	PFBA	ND	4.0	ng/L	1	11/27/24	B4K2623	8327	BM	
375-73-5	PFBS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
30334-69-1	PFBSA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
335-76-2	PFDA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
307-55-1	PFDODA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
335-77-3	PFDS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
646-83-3	PFECHS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
375-85-9	PFHpA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
375-92-8	PFHpS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
307-24-4	PFHxA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
355-46-4	PFHxS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
41997-13-1	PFHxSA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
375-95-1	PFNA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
68259-12-1	PFNS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
335-67-1	PFOA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
1763-23-1	PFOS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
754-91-6	PFOSA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
2706-90-3	PFPeA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
2706-91-4	PFPeS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
376-06-7	PFTeDA	ND	4.0	ng/L	1	11/27/24	B4K2623	8327	BM	
72629-94-8	PFTTrDA	ND	4.0	ng/L	1	11/27/24	B4K2623	8327	BM	
2058-94-8	PFUnDA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
Isotope Dilution Analog: 13C2-4:2FTS			115 %	31-202	11/27/24	B4K2623	8327	BM		
Isotope Dilution Analog: 13C2-6:2FTS			18.9 %	10-220	11/27/24	B4K2623	8327	BM		
Isotope Dilution Analog: 13C2-8:2FTS			81.2 %	16-189	11/27/24	B4K2623	8327	BM		
Isotope Dilution Analog: 13C2-PFDoDA			104 %	60-139	11/27/24	B4K2623	8327	BM		
Isotope Dilution Analog: 13C2-PFDoDA+13C2-PFTeDA			95.0 %	41-133	11/27/24	B4K2623	8327	BM		
Isotope Dilution Analog: 13C2-PFTeDA			83.0 %	10-133	11/27/24	B4K2623	8327	BM		
Isotope Dilution Analog: 13C3-HFPODA			93.1 %	62-136	11/27/24	B4K2623	8327	BM		



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Client ID: EB-01
Lab ID: 2411239-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Analyst	Qualifier
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Organics-PFAS Isotope Dilution

Isotope Dilution Analog: 13C3-PFBS	98.2 %	58-132	11/27/24	B4K2623	8327	BM
Isotope Dilution Analog: 13C3-PFHxS	99.9 %	80-124	11/27/24	B4K2623	8327	BM
Isotope Dilution Analog: 13C4-PFBA	101 %	76-124	11/27/24	B4K2623	8327	BM
Isotope Dilution Analog: 13C4-PFHpA	106 %	81-125	11/27/24	B4K2623	8327	BM
Isotope Dilution Analog: 13C5-PFHxA	106 %	81-124	11/27/24	B4K2623	8327	BM
Isotope Dilution Analog: 13C5-PFPeA	103 %	78-123	11/27/24	B4K2623	8327	BM
Isotope Dilution Analog: 13C6-PFDA	103 %	77-126	11/27/24	B4K2623	8327	BM
Isotope Dilution Analog: 13C7-PFUnDA	102 %	75-127	11/27/24	B4K2623	8327	BM
Isotope Dilution Analog: 13C8-PFOA	96.2 %	81-125	11/27/24	B4K2623	8327	BM
Isotope Dilution Analog: 13C8-PFOS	98.5 %	79-122	11/27/24	B4K2623	8327	BM
Isotope Dilution Analog: 13C8-PFOA	95.0 %	80-122	11/27/24	B4K2623	8327	BM
Isotope Dilution Analog: 13C9-PFNA	99.8 %	80-126	11/27/24	B4K2623	8327	BM
Isotope Dilution Analog: d3-N-MeFOSAA	116 %	64-144	11/27/24	B4K2623	8327	BM
Isotope Dilution Analog: d5-N-EtFOSAA	117 %	64-149	11/27/24	B4K2623	8327	BM



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Client ID: NL-01
Lab ID: 2411239-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Analyst	Qualifier
Organics-PFAS Isotope Dilution										
763051-92-9	11Cl-PF3OUdS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
356-02-5	3:3FTCA	ND	4.0	ng/L	1	11/27/24	B4K2623	8327	BM	
757124-72-4	4:2FTS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	IDA01
914637-49-3	5:3FTCA	2.1	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
27619-97-2	6:2FTS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
812-70-4	7:3FTCA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
39108-34-4	8:2FTS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
756426-58-1	9Cl-PF3ONS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
919005-14-4	ADONA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
13252-13-6	HFPO-DA	ND	4.0	ng/L	1	11/27/24	B4K2623	8327	BM	
2991-50-6	NEtFOSAA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
2355-31-9	NMeFOSAA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
375-22-4	PFBA	ND	40	ng/L	10	12/03/24	B4K2623	8327	BM	I
375-73-5	PFBS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
30334-69-1	PFBSA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
335-76-2	PFDA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
307-55-1	PFDoDA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
335-77-3	PFDS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
646-83-3	PFECHS	13	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
375-85-9	PFHpA	2.3	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
375-92-8	PFHpS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
307-24-4	PFHxA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
355-46-4	PFHxS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
41997-13-1	PFHxSA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
375-95-1	PFNA	4.3	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
68259-12-1	PFNS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
335-67-1	PFOA	8.7	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
1763-23-1	PFOS	7.8	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
754-91-6	PFOSA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
2706-90-3	PFPeA	ND	20	ng/L	10	12/03/24	B4K2623	8327	BM	I
2706-91-4	PFPeS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
376-06-7	PFTeDA	ND	4.0	ng/L	1	11/27/24	B4K2623	8327	BM	
72629-94-8	PFTTrDA	ND	4.0	ng/L	1	11/27/24	B4K2623	8327	BM	
2058-94-8	PFUnDA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
Isotope Dilution Analog: 13C2-4:2FTS			224 %	31-202	11/27/24	B4K2623	8327	BM	IDA01	
Isotope Dilution Analog: 13C2-6:2FTS			76.6 %	10-220	11/27/24	B4K2623	8327	BM		
Isotope Dilution Analog: 13C2-8:2FTS			86.7 %	16-189	11/27/24	B4K2623	8327	BM		
Isotope Dilution Analog: 13C2-PFDoDA			84.3 %	60-139	11/27/24	B4K2623	8327	BM		
Isotope Dilution Analog: 13C2-PFDoDA+13C2-PFTeDA			69.4 %	41-133	11/27/24	B4K2623	8327	BM		
Isotope Dilution Analog: 13C2-PFTeDA			48.5 %	10-133	11/27/24	B4K2623	8327	BM		
Isotope Dilution Analog: 13C3-HFPODA			66.3 %	62-136	11/27/24	B4K2623	8327	BM		



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Client ID: NL-01
Lab ID: 2411239-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Analyst	Qualifier
Organics-PFAS Isotope Dilution										
	Isotope Dilution Analog: 13C3-PFBS	91.1 %		58-132		11/27/24	B4K2623	8327	BM	
	Isotope Dilution Analog: 13C3-PFHxS	100 %		80-124		11/27/24	B4K2623	8327	BM	
	Isotope Dilution Analog: 13C4-PFBA	77.5 %		76-124		11/27/24	B4K2623	8327	BM	
	Isotope Dilution Analog: 13C4-PFHpA	112 %		81-125		11/27/24	B4K2623	8327	BM	
	Isotope Dilution Analog: 13C5-PFHxA	103 %		81-124		11/27/24	B4K2623	8327	BM	
	Isotope Dilution Analog: 13C5-PFPeA	95.0 %		78-123		11/27/24	B4K2623	8327	BM	
	Isotope Dilution Analog: 13C6-PFDA	99.7 %		77-126		11/27/24	B4K2623	8327	BM	
	Isotope Dilution Analog: 13C7-PFUnDA	94.9 %		75-127		11/27/24	B4K2623	8327	BM	
	Isotope Dilution Analog: 13C8-PFOA	107 %		81-125		11/27/24	B4K2623	8327	BM	
	Isotope Dilution Analog: 13C8-PFOS	99.1 %		79-122		11/27/24	B4K2623	8327	BM	
	Isotope Dilution Analog: 13C8-PFOA	95.5 %		80-122		11/27/24	B4K2623	8327	BM	
	Isotope Dilution Analog: 13C9-PFNA	106 %		80-126		11/27/24	B4K2623	8327	BM	
	Isotope Dilution Analog: d3-N-MeFOSAA	120 %		64-144		11/27/24	B4K2623	8327	BM	
	Isotope Dilution Analog: d5-N-EtFOSAA	115 %		64-149		11/27/24	B4K2623	8327	BM	



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Client ID: SL-01
Lab ID: 2411239-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Analyst	Qualifier
Organics-PFAS Isotope Dilution										See note Y48
763051-92-9	11Cl-PF3OUdS	ND	4.0	ng/L	2	12/03/24	B4K2623	8327	BM	I
356-02-5	3:3FTCA	ND	8.0	ng/L	2	12/03/24	B4K2623	8327	BM	I
757124-72-4	4:2FTS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	IDA01
914637-49-3	5:3FTCA	12	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
27619-97-2	6:2FTS	9.8	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
812-70-4	7:3FTCA	3.5	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
39108-34-4	8:2FTS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	IDA01
756426-58-1	9Cl-PF3ONS	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
919005-14-4	ADONA	ND	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
13252-13-6	HFPO-DA	ND	40	ng/L	10	12/03/24	B4K2623	8327	BM	I
2991-50-6	NEtFOSAA	ND	10	ng/L	5	12/03/24	B4K2623	8327	BM	I, IDA01
2355-31-9	NMeFOSAA	ND	4.0	ng/L	2	12/03/24	B4K2623	8327	BM	I
375-22-4	PFBA	ND	40	ng/L	10	12/03/24	B4K2623	8327	BM	I
375-73-5	PFBS	ND	20	ng/L	10	12/03/24	B4K2623	8327	BM	I
30334-69-1	PFBSA	ND	4.0	ng/L	2	12/03/24	B4K2623	8327	BM	I
335-76-2	PFDA	2.8	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
307-55-1	PFDODA	ND	4.0	ng/L	2	12/03/24	B4K2623	8327	BM	I
335-77-3	PFDS	ND	4.0	ng/L	2	12/03/24	B4K2623	8327	BM	I
646-83-3	PFECHS	210	4.0	ng/L	2	12/03/24	B4K2623	8327	BM	
375-85-9	PFHpA	5.9	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	QIon
375-92-8	PFHpS	ND	10	ng/L	5	12/03/24	B4K2623	8327	BM	I
307-24-4	PFHxA	ND	20	ng/L	10	12/03/24	B4K2623	8327	BM	I
355-46-4	PFHxS	ND	20	ng/L	10	12/03/24	B4K2623	8327	BM	I
41997-13-1	PFHxSA	ND	4.0	ng/L	2	12/03/24	B4K2623	8327	BM	I
375-95-1	PFNA	5.7	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
68259-12-1	PFNS	ND	4.0	ng/L	2	12/03/24	B4K2623	8327	BM	I
335-67-1	PFOA	17	10	ng/L	5	12/03/24	B4K2623	8327	BM	I
1763-23-1	PFOS	47	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	
754-91-6	PFOSA	ND	4.0	ng/L	2	12/03/24	B4K2623	8327	BM	I
2706-90-3	PFPeA	ND	20	ng/L	10	12/03/24	B4K2623	8327	BM	I
2706-91-4	PFPeS	11	2.0	ng/L	1	11/27/24	B4K2623	8327	BM	QIon
376-06-7	PFTeDA	ND	8.0	ng/L	2	12/03/24	B4K2623	8327	BM	I
72629-94-8	PFTTrDA	ND	8.0	ng/L	2	12/03/24	B4K2623	8327	BM	I
2058-94-8	PFUnDA	ND	10	ng/L	5	12/03/24	B4K2623	8327	BM	I
Isotope Dilution Analog: 13C2-4:2FTS			240 %	31-202	11/27/24	B4K2623	8327	BM	IDA01	
Isotope Dilution Analog: 13C2-6:2FTS			92.2 %	10-220	11/27/24	B4K2623	8327	BM		
Isotope Dilution Analog: 13C2-8:2FTS			228 %	16-189	11/27/24	B4K2623	8327	BM	IDA01	
Isotope Dilution Analog: 13C2-PFDoDA			82.4 %	60-139	12/03/24	B4K2623	8327	BM	I	
Isotope Dilution Analog: 13C2-PFDoDA+13C2-PFTeDA			59.9 %	41-133	12/03/24	B4K2623	8327	BM	I	
Isotope Dilution Analog: 13C2-PFTeDA			12.5 %	10-133	11/27/24	B4K2623	8327	BM		
Isotope Dilution Analog: 13C3-HFPODA			77.5 %	62-136	12/03/24	B4K2623	8327	BM	I	



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Lab ID: 2411239-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Analyst	Qualifier
Organics-PFAS Isotope Dilution										See note Y48
Isotope Dilution Analog: 13C3-PFBS			85.1 %	58-132		11/27/24	B4K2623	8327	BM	
Isotope Dilution Analog: 13C3-PFHxS			98.7 %	80-124		11/27/24	B4K2623	8327	BM	
Isotope Dilution Analog: 13C4-PFBA			107 %	76-124		12/03/24	B4K2623	8327	BM	I
Isotope Dilution Analog: 13C4-PFHpA			96.8 %	81-125		11/27/24	B4K2623	8327	BM	
Isotope Dilution Analog: 13C5-PFHxA			82.1 %	81-124		11/27/24	B4K2623	8327	BM	
Isotope Dilution Analog: 13C5-PFPeA			105 %	78-123		12/03/24	B4K2623	8327	BM	I
Isotope Dilution Analog: 13C6-PFDA			83.4 %	77-126		11/27/24	B4K2623	8327	BM	
Isotope Dilution Analog: 13C7-PFUnDA			82.9 %	75-127		12/03/24	B4K2623	8327	BM	I
Isotope Dilution Analog: 13C8-PFOA			93.8 %	81-125		11/27/24	B4K2623	8327	BM	
Isotope Dilution Analog: 13C8-PFOS			86.5 %	79-122		11/27/24	B4K2623	8327	BM	
Isotope Dilution Analog: 13C8-PFOA			99.6 %	80-122		12/03/24	B4K2623	8327	BM	I
Isotope Dilution Analog: 13C9-PFNA			95.6 %	80-126		11/27/24	B4K2623	8327	BM	
Isotope Dilution Analog: d3-N-MeFOSAA			111 %	64-144		11/27/24	B4K2623	8327	BM	
Isotope Dilution Analog: d5-N-EtFOSAA			158 %	64-149		12/03/24	B4K2623	8327	BM	IDA01



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Organics-PFAS Isotope Dilution - Quality Control

Analyte	Result	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Analyzed	Qualifier
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Batch B4K2623 - Method: 3512

Prepared: 11/26/2024

Blank (B4K2623-BLK1)

11Cl-PF3OUdS	ND	ng/L							11/27/2024	
3:3FTCA	ND	ng/L							11/27/2024	
4:2FTS	ND	ng/L							11/27/2024	
5:3FTCA	ND	ng/L							11/27/2024	
6:2FTS	ND	ng/L							11/27/2024	
7:3FTCA	ND	ng/L							11/27/2024	
8:2FTS	ND	ng/L							11/27/2024	
9Cl-PF3ONS	ND	ng/L							11/27/2024	
ADONA	ND	ng/L							11/27/2024	
HFPO-DA	ND	ng/L							11/27/2024	
NEtFOSAA	ND	ng/L							11/27/2024	
NMeFOSAA	ND	ng/L							11/27/2024	
PFBA	ND	ng/L							11/27/2024	
PFBS	ND	ng/L							11/27/2024	
PFBSA	ND	ng/L							11/27/2024	
PFDA	ND	ng/L							11/27/2024	
PFDoDA	ND	ng/L							11/27/2024	
PFDS	ND	ng/L							11/27/2024	
PFECHS	ND	ng/L							11/27/2024	
PFHpA	ND	ng/L							11/27/2024	
PFHpS	ND	ng/L							11/27/2024	
PFHxA	ND	ng/L							11/27/2024	
PFHxS	ND	ng/L							11/27/2024	
PFHxSA	ND	ng/L							11/27/2024	
PFNA	ND	ng/L							11/27/2024	
PFNS	ND	ng/L							11/27/2024	
PFOA	ND	ng/L							11/27/2024	
PFOS	ND	ng/L							11/27/2024	
PFOSA	ND	ng/L							11/27/2024	
PFPeA	ND	ng/L							11/27/2024	
PFPeS	ND	ng/L							11/27/2024	
PFTeDA	ND	ng/L							11/27/2024	
PFTTrDA	ND	ng/L							11/27/2024	
PFUnDA	ND	ng/L							11/27/2024	
Isotope Dilution Analog: 13C2-4:2FTS	191	ng/L	150.1		127	31-202			11/27/2024	
Isotope Dilution Analog: 13C2-6:2FTS	141	ng/L	152.2		92.7	10-220			11/27/2024	
Isotope Dilution Analog: 13C2-8:2FTS	142	ng/L	153.6		92.6	16-189			11/27/2024	
Isotope Dilution Analog: 13C2-PFDoDA	162	ng/L	160.0		101	60-139			11/27/2024	
Isotope Dilution Analog: 13C2-PFDoDA+13C2-PFTeDA	159	ng/L	160.0		99.5	41-133			11/27/2024	
Isotope Dilution Analog: 13C2-PFTeDA	156	ng/L	160.0		97.4	10-133			11/27/2024	
Isotope Dilution Analog: 13C3-HFPODA	324	ng/L	320.0		101	62-136			11/27/2024	
Isotope Dilution Analog: 13C3-PFBS	150	ng/L	149.1		101	58-132			11/27/2024	
Isotope Dilution Analog: 13C3-PFHxS	161	ng/L	151.7		106	80-124			11/27/2024	
Isotope Dilution Analog: 13C4-PFBA	166	ng/L	160.0		104	76-124			11/27/2024	
Isotope Dilution Analog: 13C4-PFHpA	170	ng/L	160.0		107	81-125			11/27/2024	
Isotope Dilution Analog: 13C5-PFHxA	175	ng/L	160.0		109	81-124			11/27/2024	
Isotope Dilution Analog: 13C5-PFPeA	170	ng/L	160.0		106	78-123			11/27/2024	
Isotope Dilution Analog: 13C6-PFDA	162	ng/L	160.0		101	77-126			11/27/2024	
Isotope Dilution Analog: 13C7-PFUnDA	165	ng/L	160.0		103	75-127			11/27/2024	
Isotope Dilution Analog: 13C8-PFOA	165	ng/L	160.0		103	81-125			11/27/2024	



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Organics-PFAS Isotope Dilution - Quality Control

Analyte	Result	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Analyzed	Qualifier
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Batch B4K2623 - Method: 3512

Prepared: 11/26/2024

Blank (B4K2623-BLK1)

Isotope Dilution Analog: 13C8-PFOS	156	ng/L	153.4		101	79-122			11/27/2024	
Isotope Dilution Analog: 13C8-PFOA	163	ng/L	160.0		102	80-122			11/27/2024	
Isotope Dilution Analog: 13C9-PFNA	164	ng/L	160.0		102	80-126			11/27/2024	
Isotope Dilution Analog: d3-N-MeFOSAA	183	ng/L	160.0		115	64-144			11/27/2024	
Isotope Dilution Analog: d5-N-EtFOSAA	184	ng/L	160.0		115	64-149			11/27/2024	

LCS (B4K2623-BS1)

11CI-PF3OUds	37.6	ng/L	37.80		99.5	79-128			11/27/2024	
3:3FTCA	37.9	ng/L	40.00		94.6	76-129			11/27/2024	
4:2FTS	36.4	ng/L	37.40		97.2	79-130			11/27/2024	
5:3FTCA	37.1	ng/L	40.00		92.6	76-126			11/27/2024	
6:2FTS	38.0	ng/L	38.00		100	78-129			11/27/2024	
7:3FTCA	42.0	ng/L	40.00		105	60-130			11/27/2024	
8:2FTS	39.0	ng/L	38.40		102	78-132			11/27/2024	
9CI-PF3ONS	36.3	ng/L	37.40		97.2	81-127			11/27/2024	
ADONA	38.4	ng/L	37.80		101	82-128			11/27/2024	
HFPO-DA	40.2	ng/L	40.00		100	78-130			11/27/2024	
NEtFOSAA	39.8	ng/L	40.00		99.4	80-128			11/27/2024	
NMeFOSAA	40.6	ng/L	40.00		102	79-129			11/27/2024	
PFBA	39.1	ng/L	40.00		97.8	79-126			11/27/2024	
PFBS	37.0	ng/L	35.40		105	82-127			11/27/2024	
PFBSA	38.8	ng/L	40.00		96.9	77-130			11/27/2024	
PFDA	39.2	ng/L	40.00		98.0	81-131			11/27/2024	
PFDODA	39.8	ng/L	40.00		99.4	83-129			11/27/2024	
PFDS	36.7	ng/L	38.60		95.1	80-130			11/27/2024	
PFECHS	37.7	ng/L	36.96		102	78-127			11/27/2024	
PFHpA	40.2	ng/L	40.00		101	82-127			11/27/2024	
PFHpS	38.9	ng/L	38.20		102	79-132			11/27/2024	
PFHxA	40.8	ng/L	40.00		102	82-128			11/27/2024	
PFHxS	37.3	ng/L	36.50		102	81-129			11/27/2024	
PFHxSA	39.7	ng/L	40.00		99.2	78-127			11/27/2024	
PFNA	38.9	ng/L	40.00		97.2	81-128			11/27/2024	
PFNS	39.1	ng/L	38.40		102	80-129			11/27/2024	
PFOA	40.1	ng/L	40.00		100	81-130			11/27/2024	
PFOS	36.4	ng/L	37.04		98.2	82-129			11/27/2024	
PFOSA	39.7	ng/L	40.00		99.3	80-128			11/27/2024	
PFPeA	39.9	ng/L	40.00		99.8	83-127			11/27/2024	
PFPeS	37.0	ng/L	37.60		98.4	80-129			11/27/2024	
PFTeDA	39.7	ng/L	40.00		99.2	80-133			11/27/2024	
PFTeDA	39.6	ng/L	40.00		99.1	73-124			11/27/2024	
PFUnDA	41.9	ng/L	40.00		105	81-130			11/27/2024	
Isotope Dilution Analog: 13C2-4:2FTS	193	ng/L	150.1		129	31-202			11/27/2024	
Isotope Dilution Analog: 13C2-6:2FTS	131	ng/L	152.2		85.9	10-220			11/27/2024	
Isotope Dilution Analog: 13C2-8:2FTS	137	ng/L	153.6		89.5	16-189			11/27/2024	
Isotope Dilution Analog: 13C2-PFDoDA	166	ng/L	160.0		104	60-139			11/27/2024	
Isotope Dilution Analog: 13C2-PFDoDA+13C2-PFTeDA	166	ng/L	160.0		104	41-133			11/27/2024	
Isotope Dilution Analog: 13C2-PFTeDA	166	ng/L	160.0		104	10-133			11/27/2024	
Isotope Dilution Analog: 13C3-HFPODA	304	ng/L	320.0		94.9	62-136			11/27/2024	
Isotope Dilution Analog: 13C3-PFBS	145	ng/L	149.1		97.5	58-132			11/27/2024	
Isotope Dilution Analog: 13C3-PFHxS	156	ng/L	151.7		103	80-124			11/27/2024	

Organics-PFAS Isotope Dilution - Quality Control

Analyte	Result	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Analyzed	Qualifier
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Batch B4K2623 - Method: 3512

Prepared: 11/26/2024

LCS (B4K2623-BS1)

Isotope Dilution Analog: 13C4-PFBA	167	ng/L	160.0		104	76-124			11/27/2024	
Isotope Dilution Analog: 13C4-PFHpA	169	ng/L	160.0		106	81-125			11/27/2024	
Isotope Dilution Analog: 13C5-PFHxA	173	ng/L	160.0		108	81-124			11/27/2024	
Isotope Dilution Analog: 13C5-PFPeA	170	ng/L	160.0		106	78-123			11/27/2024	
Isotope Dilution Analog: 13C6-PFDA	164	ng/L	160.0		103	77-126			11/27/2024	
Isotope Dilution Analog: 13C7-PFUnDA	160	ng/L	160.0		99.7	75-127			11/27/2024	
Isotope Dilution Analog: 13C8-PFOA	165	ng/L	160.0		103	81-125			11/27/2024	
Isotope Dilution Analog: 13C8-PFOS	159	ng/L	153.4		104	79-122			11/27/2024	
Isotope Dilution Analog: 13C8-PFOSA	164	ng/L	160.0		103	80-122			11/27/2024	
Isotope Dilution Analog: 13C9-PFNA	166	ng/L	160.0		104	80-126			11/27/2024	
Isotope Dilution Analog: d3-N-MeFOSAA	182	ng/L	160.0		114	64-144			11/27/2024	
Isotope Dilution Analog: d5-N-EtFOSAA	186	ng/L	160.0		116	64-149			11/27/2024	

LCS Dup (B4K2623-BS1)

11Cl-PF3OUdS	38.5	ng/L	37.80		102	79-128	2.42	200	11/27/2024	
3:3FTCA	39.7	ng/L	40.00		99.2	76-129	4.69	200	11/27/2024	
4:2FTS	39.1	ng/L	37.40		104	79-130	7.21	200	11/27/2024	
5:3FTCA	39.1	ng/L	40.00		97.7	76-126	5.31	200	11/27/2024	
6:2FTS	39.3	ng/L	38.00		103	78-129	3.26	200	11/27/2024	
7:3FTCA	42.9	ng/L	40.00		107	60-130	2.21	200	11/27/2024	
8:2FTS	42.1	ng/L	38.40		110	78-132	7.55	200	11/27/2024	
9Cl-PF3ONS	38.0	ng/L	37.40		102	81-127	4.52	200	11/27/2024	
ADONA	39.7	ng/L	37.80		105	82-128	3.33	200	11/27/2024	
HFPO-DA	41.2	ng/L	40.00		103	78-130	2.46	200	11/27/2024	
NEtFOSAA	41.6	ng/L	40.00		104	80-128	4.62	200	11/27/2024	
NMeFOSAA	41.1	ng/L	40.00		103	79-129	1.13	200	11/27/2024	
PFBA	40.1	ng/L	40.00		100	79-126	2.43	200	11/27/2024	
PFBS	37.7	ng/L	35.40		107	82-127	1.87	200	11/27/2024	
PFBSA	39.7	ng/L	40.00		99.2	77-130	2.40	200	11/27/2024	
PFDA	39.1	ng/L	40.00		97.8	81-131	0.255	200	11/27/2024	
PFDODA	40.9	ng/L	40.00		102	83-129	2.92	200	11/27/2024	
PFDS	37.8	ng/L	38.60		98.0	80-130	3.01	200	11/27/2024	
PFECHS	38.1	ng/L	36.96		103	78-127	1.21	200	11/27/2024	
PFHpA	42.1	ng/L	40.00		105	82-127	4.66	200	11/27/2024	
PFHpS	38.5	ng/L	38.20		101	79-132	0.827	200	11/27/2024	
PFHxA	41.5	ng/L	40.00		104	82-128	1.60	200	11/27/2024	
PFHxS	38.2	ng/L	36.50		105	81-129	2.39	200	11/27/2024	
PFHxSA	39.9	ng/L	40.00		99.8	78-127	0.653	200	11/27/2024	
PFNA	41.7	ng/L	40.00		104	81-128	7.10	200	11/27/2024	
PFNS	39.6	ng/L	38.40		103	80-129	1.12	200	11/27/2024	
PFOA	41.0	ng/L	40.00		102	81-130	2.17	200	11/27/2024	
PFOS	37.8	ng/L	37.04		102	82-129	3.72	200	11/27/2024	
PFOSA	40.8	ng/L	40.00		102	80-128	2.58	200	11/27/2024	
PFPeA	41.1	ng/L	40.00		103	83-127	2.96	200	11/27/2024	
PFPeS	38.9	ng/L	37.60		103	80-129	5.01	200	11/27/2024	
PFTeDA	42.3	ng/L	40.00		106	80-133	6.35	200	11/27/2024	
PFTTrDA	38.7	ng/L	40.00		96.8	73-124	2.30	200	11/27/2024	
PFUnDA	42.7	ng/L	40.00		107	81-130	1.80	200	11/27/2024	
Isotope Dilution Analog: 13C2-4:2FTS	186	ng/L	150.1		124	31-202			11/27/2024	
Isotope Dilution Analog: 13C2-6:2FTS	135	ng/L	152.2		89.0	10-220			11/27/2024	
Isotope Dilution Analog: 13C2-8:2FTS	143	ng/L	153.6		93.0	16-189			11/27/2024	



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Organics-PFAS Isotope Dilution - Quality Control

Analyte	Result	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Analyzed	Qualifier
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Batch B4K2623 - Method: 3512

Prepared: 11/26/2024

LCS Dup (B4K2623-BSD1)

Isotope Dilution Analog: 13C2-PFDoDA	164	ng/L	160.0		102	60-139			11/27/2024	
Isotope Dilution Analog: 13C2-PFDoDA+13C2-PFTeDA	149	ng/L	160.0		92.9	41-133			11/27/2024	
Isotope Dilution Analog: 13C2-PFTeDA	128	ng/L	160.0		79.8	10-133			11/27/2024	
Isotope Dilution Analog: 13C3-HFPODA	312	ng/L	320.0		97.5	62-136			11/27/2024	
Isotope Dilution Analog: 13C3-PFBS	147	ng/L	149.1		98.6	58-132			11/27/2024	
Isotope Dilution Analog: 13C3-PFHxS	157	ng/L	151.7		103	80-124			11/27/2024	
Isotope Dilution Analog: 13C4-PFBA	164	ng/L	160.0		103	76-124			11/27/2024	
Isotope Dilution Analog: 13C4-PFHpA	167	ng/L	160.0		104	81-125			11/27/2024	
Isotope Dilution Analog: 13C5-PFHxA	167	ng/L	160.0		104	81-124			11/27/2024	
Isotope Dilution Analog: 13C5-PFPeA	169	ng/L	160.0		106	78-123			11/27/2024	
Isotope Dilution Analog: 13C6-PFDA	168	ng/L	160.0		105	77-126			11/27/2024	
Isotope Dilution Analog: 13C7-PFUnDA	166	ng/L	160.0		104	75-127			11/27/2024	
Isotope Dilution Analog: 13C8-PFOA	167	ng/L	160.0		104	81-125			11/27/2024	
Isotope Dilution Analog: 13C8-PFOS	156	ng/L	153.4		101	79-122			11/27/2024	
Isotope Dilution Analog: 13C8-PFOSA	162	ng/L	160.0		101	80-122			11/27/2024	
Isotope Dilution Analog: 13C9-PFNA	165	ng/L	160.0		103	80-126			11/27/2024	
Isotope Dilution Analog: d3-N-MeFOSAA	181	ng/L	160.0		113	64-144			11/27/2024	
Isotope Dilution Analog: d5-N-EtFOSAA	189	ng/L	160.0		118	64-149			11/27/2024	

MRL Check (B4K2623-MRL1)

11CI-PF3OUdS	3.56	ng/L	3.780		94.2	76-128			11/27/2024	
3:3FTCA	3.88	ng/L	4.000		97.0	58-153			11/27/2024	
4:2FTS	4.18	ng/L	3.740		112	69-139			11/27/2024	
5:3FTCA	4.24	ng/L	4.000		106	65-139			11/27/2024	
6:2FTS	4.60	ng/L	3.800		121	58-134			11/27/2024	
7:3FTCA	4.68	ng/L	4.000		117	48-140			11/27/2024	
8:2FTS	4.24	ng/L	3.840		110	66-141			11/27/2024	
9CI-PF3ONS	3.80	ng/L	3.740		102	72-139			11/27/2024	
ADONA	3.96	ng/L	3.780		105	75-128			11/27/2024	
HFPO-DA	4.58	ng/L	4.000		114	55-150			11/27/2024	
NEtFOSAA	4.26	ng/L	4.000		106	60-142			11/27/2024	
NMeFOSAA	4.22	ng/L	4.000		106	67-135			11/27/2024	
PFBA	4.00	ng/L	4.000		100	55-131			11/27/2024	
PFBS	3.74	ng/L	3.540		106	64-126			11/27/2024	
PFBSA	4.14	ng/L	4.000		104	75-131			11/27/2024	
PFDA	4.02	ng/L	4.000		100	67-139			11/27/2024	
PFDoDA	4.10	ng/L	4.000		102	75-128			11/27/2024	
PFDS	4.42	ng/L	3.860		115	71-136			11/27/2024	
PFECHS	4.60	ng/L	3.696		124	69-134			11/27/2024	
PFHpA	4.56	ng/L	4.000		114	66-131			11/27/2024	
PFHpS	4.16	ng/L	3.820		109	63-140			11/27/2024	
PFHxA	4.52	ng/L	4.000		113	65-132			11/27/2024	
PFHxS	3.42	ng/L	3.650		93.7	68-139			11/27/2024	
PFHxSA	4.12	ng/L	4.000		103	76-128			11/27/2024	
PFNA	4.48	ng/L	4.000		112	58-143			11/27/2024	
PFNS	4.40	ng/L	3.840		115	71-137			11/27/2024	
PFOA	4.10	ng/L	4.000		102	58-144			11/27/2024	
PFOS	3.94	ng/L	3.704		106	75-135			11/27/2024	
PFOSA	4.24	ng/L	4.000		106	76-132			11/27/2024	
PFPeA	3.96	ng/L	4.000		99.0	67-128			11/27/2024	
PFPeS	3.74	ng/L	3.760		99.5	73-134			11/27/2024	



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Organics-PFAS Isotope Dilution - Quality Control

Analyte	Result	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Analyzed	Qualifier
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Batch B4K2623 - Method: 3512

Prepared: 11/26/2024

MRL Check (B4K2623-MRL1)

PFTeDA	4.38	ng/L	4.000		110	71-132			11/27/2024	
PFTrDA	3.90	ng/L	4.000		97.5	70-121			11/27/2024	
PFUnDA	4.48	ng/L	4.000		112	76-126			11/27/2024	
Isotope Dilution Analog: 13C2-4:2FTS	190	ng/L	150.1		127	31-202			11/27/2024	
Isotope Dilution Analog: 13C2-6:2FTS	101	ng/L	152.2		66.4	10-220			11/27/2024	
Isotope Dilution Analog: 13C2-8:2FTS	145	ng/L	153.6		94.1	16-189			11/27/2024	
Isotope Dilution Analog: 13C2-PFDoDA	166	ng/L	160.0		104	60-139			11/27/2024	
Isotope Dilution Analog: 13C2-PFDoDA+13C2-PFTeDA	149	ng/L	160.0		93.3	41-133			11/27/2024	
Isotope Dilution Analog: 13C2-PFTeDA	126	ng/L	160.0		78.7	10-133			11/27/2024	
Isotope Dilution Analog: 13C3-HFPODA	307	ng/L	320.0		96.0	62-136			11/27/2024	
Isotope Dilution Analog: 13C3-PFBS	146	ng/L	149.1		97.6	58-132			11/27/2024	
Isotope Dilution Analog: 13C3-PFHxS	155	ng/L	151.7		102	80-124			11/27/2024	
Isotope Dilution Analog: 13C4-PFBA	165	ng/L	160.0		103	76-124			11/27/2024	
Isotope Dilution Analog: 13C4-PFHpA	170	ng/L	160.0		107	81-125			11/27/2024	
Isotope Dilution Analog: 13C5-PFHxA	173	ng/L	160.0		108	81-124			11/27/2024	
Isotope Dilution Analog: 13C5-PFPeA	168	ng/L	160.0		105	78-123			11/27/2024	
Isotope Dilution Analog: 13C6-PFDA	162	ng/L	160.0		101	77-126			11/27/2024	
Isotope Dilution Analog: 13C7-PFUnDA	162	ng/L	160.0		101	75-127			11/27/2024	
Isotope Dilution Analog: 13C8-PFOA	164	ng/L	160.0		103	81-125			11/27/2024	
Isotope Dilution Analog: 13C8-PFOS	157	ng/L	153.4		102	79-122			11/27/2024	
Isotope Dilution Analog: 13C8-PFOA	162	ng/L	160.0		101	80-122			11/27/2024	
Isotope Dilution Analog: 13C9-PFNA	164	ng/L	160.0		102	80-126			11/27/2024	
Isotope Dilution Analog: d3-N-MeFOSAA	183	ng/L	160.0		114	64-144			11/27/2024	
Isotope Dilution Analog: d5-N-EtFOSAA	187	ng/L	160.0		117	64-149			11/27/2024	

Matrix Spike (B4K2623-MS1)

Source: 2411197-01

11Cl-PF3OUdS	37.2	ng/L	37.80	ND	98.3	74-127			11/27/2024	
3:3FTCA	38.2	ng/L	40.00	ND	95.4	76-135			11/27/2024	
4:2FTS	38.1	ng/L	37.40	ND	102	78-134			11/27/2024	
5:3FTCA	38.5	ng/L	40.00	ND	96.4	76-131			11/27/2024	
6:2FTS	40.6	ng/L	38.00	ND	107	76-134			11/27/2024	
7:3FTCA	43.0	ng/L	40.00	ND	107	57-143			11/27/2024	
8:2FTS	42.9	ng/L	38.40	ND	112	80-134			11/27/2024	
9Cl-PF3ONS	38.3	ng/L	37.40	ND	102	80-130			11/27/2024	
ADONA	41.1	ng/L	37.80	ND	109	81-135			11/27/2024	
HFPO-DA	44.3	ng/L	40.00	ND	111	76-135			11/27/2024	
NEtFOSAA	45.8	ng/L	40.00	ND	115	80-131			11/27/2024	
NMeFOSAA	41.5	ng/L	40.00	ND	104	80-131			11/27/2024	
PFBA	44.0	ng/L	40.00	4.90	97.8	80-132			11/27/2024	
PFBS	37.6	ng/L	35.40	1.34	102	82-132			11/27/2024	
PFBSA	43.3	ng/L	40.00	0.620	107	74-140			11/27/2024	
PFDA	40.2	ng/L	40.00	ND	101	81-134			11/27/2024	
PFDoDA	42.2	ng/L	40.00	ND	106	83-132			11/27/2024	
PFDS	38.6	ng/L	38.60	ND	99.9	75-129			11/27/2024	
PFECHS	40.3	ng/L	36.96	ND	109	32-180			11/27/2024	
PFHpA	44.1	ng/L	40.00	1.24	107	76-136			11/27/2024	
PFHpS	38.7	ng/L	38.20	ND	101	78-135			11/27/2024	
PFHxA	45.7	ng/L	40.00	3.48	106	76-139			11/27/2024	
PFHxS	38.1	ng/L	36.50	ND	104	66-150			11/27/2024	
PFHxSA	42.7	ng/L	40.00	ND	107	74-135			11/27/2024	



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Organics-PFAS Isotope Dilution - Quality Control

Analyte	Result	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Analyzed	Qualifier
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Batch B4K2623 - Method: 3512

Prepared: 11/26/2024

Matrix Spike (B4K2623-MS1)			Source: 2411197-01							
PFNA	42.5	ng/L	40.00	ND	106	81-132			11/27/2024	
PFNS	39.3	ng/L	38.40	ND	102	76-134			11/27/2024	
PFOA	46.2	ng/L	40.00	2.06	110	80-135			11/27/2024	
PFOS	43.2	ng/L	37.04	5.44	102	71-141			11/27/2024	
PFOSA	41.8	ng/L	40.00	ND	104	75-135			11/27/2024	
PFPeA	45.9	ng/L	40.00	2.76	108	71-143			11/27/2024	
PFPeS	38.0	ng/L	37.60	ND	101	79-133			11/27/2024	
PFTeDA	42.0	ng/L	40.00	ND	105	78-141			11/27/2024	
PFTrDA	41.5	ng/L	40.00	ND	104	72-128			11/27/2024	
PFUnDA	42.9	ng/L	40.00	ND	107	81-131			11/27/2024	
Isotope Dilution Analog: 13C2-4:2FTS	283	ng/L	150.1		188	31-202			11/27/2024	
Isotope Dilution Analog: 13C2-6:2FTS	143	ng/L	152.2		93.7	10-220			11/27/2024	
Isotope Dilution Analog: 13C2-8:2FTS	152	ng/L	153.6		99.0	16-189			11/27/2024	
Isotope Dilution Analog: 13C2-PFDoDA	159	ng/L	160.0		99.6	60-139			11/27/2024	
Isotope Dilution Analog: 13C2-PFDoDA+13C2-PFTeDA	132	ng/L	160.0		82.3	41-133			11/27/2024	
Isotope Dilution Analog: 13C2-PFTeDA	92.7	ng/L	160.0		57.9	10-133			11/27/2024	
Isotope Dilution Analog: 13C3-HFPODA	244	ng/L	320.0		76.2	62-136			11/27/2024	
Isotope Dilution Analog: 13C3-PFBS	142	ng/L	149.1		95.1	58-132			11/27/2024	
Isotope Dilution Analog: 13C3-PFHxS	159	ng/L	151.7		105	80-124			11/27/2024	
Isotope Dilution Analog: 13C4-PFBA	164	ng/L	160.0		103	76-124			11/27/2024	
Isotope Dilution Analog: 13C4-PFHpA	179	ng/L	160.0		112	81-125			11/27/2024	
Isotope Dilution Analog: 13C5-PFHxA	175	ng/L	160.0		109	81-124			11/27/2024	
Isotope Dilution Analog: 13C5-PFPeA	164	ng/L	160.0		102	78-123			11/27/2024	
Isotope Dilution Analog: 13C6-PFDA	172	ng/L	160.0		107	77-126			11/27/2024	
Isotope Dilution Analog: 13C7-PFUnDA	162	ng/L	160.0		101	75-127			11/27/2024	
Isotope Dilution Analog: 13C8-PFOA	171	ng/L	160.0		107	81-125			11/27/2024	
Isotope Dilution Analog: 13C8-PFOS	155	ng/L	153.4		101	79-122			11/27/2024	
Isotope Dilution Analog: 13C8-PFOSA	156	ng/L	160.0		97.4	80-122			11/27/2024	
Isotope Dilution Analog: 13C9-PFNA	173	ng/L	160.0		108	80-126			11/27/2024	
Isotope Dilution Analog: d3-N-MeFOSAA	192	ng/L	160.0		120	64-144			11/27/2024	
Isotope Dilution Analog: d5-N-EtFOSAA	190	ng/L	160.0		119	64-149			11/27/2024	

Matrix Spike Dup (B4K2623-MSD1)			Source: 2411197-01							
11Cl-PF3OUdS	35.0	ng/L	37.80	ND	92.6	74-127	5.93	16.6	11/27/2024	
3:3FTCA	38.1	ng/L	40.00	ND	95.2	76-135	0.157	19.2	11/27/2024	
4:2FTS	38.1	ng/L	37.40	ND	102	78-134	0.105	19.3	11/27/2024	
5:3FTCA	36.5	ng/L	40.00	ND	91.3	76-131	5.38	16.1	11/27/2024	
6:2FTS	39.1	ng/L	38.00	ND	103	76-134	3.67	16.8	11/27/2024	
7:3FTCA	40.3	ng/L	40.00	ND	101	57-143	6.29	22.5	11/27/2024	
8:2FTS	39.9	ng/L	38.40	ND	104	80-134	7.30	17.5	11/27/2024	
9Cl-PF3ONS	37.2	ng/L	37.40	ND	99.4	80-130	2.92	13.1	11/27/2024	
ADONA	40.3	ng/L	37.80	ND	107	81-135	2.02	13	11/27/2024	
HFPO-DA	42.1	ng/L	40.00	ND	105	76-135	5.00	23.2	11/27/2024	
NEtFOSAA	40.9	ng/L	40.00	ND	102	80-131	11.3	14.3	11/27/2024	
NMeFOSAA	39.8	ng/L	40.00	ND	99.4	80-131	4.28	14.2	11/27/2024	
PFBA	43.3	ng/L	40.00	4.90	95.9	80-132	1.79	11.6	11/27/2024	
PFBS	36.4	ng/L	35.40	1.34	98.9	82-132	3.30	13.6	11/27/2024	
PFBSA	40.6	ng/L	40.00	0.620	99.9	74-140	6.44	15.6	11/27/2024	
PFDA	39.4	ng/L	40.00	ND	98.6	81-134	2.01	15.9	11/27/2024	
PFDoDA	40.9	ng/L	40.00	ND	102	83-132	3.27	12.6	11/27/2024	



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Organics-PFAS Isotope Dilution - Quality Control

Analyte	Result	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Analyzed	Qualifier
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Batch B4K2623 - Method: 3512

Prepared: 11/26/2024

Matrix Spike Dup (B4K2623-MSD1)		Source: 2411197-01								
PFDS	34.3	ng/L	38.60	ND	89.0	75-129	11.6	18.7	11/27/2024	
PFCHS	39.7	ng/L	36.96	ND	107	32-180	1.55	15.4	11/27/2024	
PFHpA	43.0	ng/L	40.00	1.24	104	76-136	2.57	13.3	11/27/2024	
PFHpS	40.8	ng/L	38.20	ND	107	78-135	5.38	14.7	11/27/2024	
PFHxA	45.3	ng/L	40.00	3.48	105	76-139	0.791	12.6	11/27/2024	
PFHxS	38.7	ng/L	36.50	ND	106	66-150	1.56	14.7	11/27/2024	
PFHxSA	40.7	ng/L	40.00	ND	102	74-135	4.75	14.8	11/27/2024	
PFNA	40.6	ng/L	40.00	ND	101	81-132	4.67	13.7	11/27/2024	
PFNS	38.3	ng/L	38.40	ND	99.8	76-134	2.57	14.5	11/27/2024	
PFOA	43.9	ng/L	40.00	2.06	104	80-135	5.24	12.4	11/27/2024	
PFOS	42.3	ng/L	37.04	5.44	99.5	71-141	2.01	13.2	11/27/2024	
PFOSA	40.3	ng/L	40.00	ND	101	75-135	3.55	13.8	11/27/2024	
PFPeA	45.6	ng/L	40.00	2.76	107	71-143	0.481	11.5	11/27/2024	
PFPeS	36.8	ng/L	37.60	ND	97.9	79-133	3.26	14.8	11/27/2024	
PFTeDA	41.2	ng/L	40.00	ND	103	78-141	1.73	16.2	11/27/2024	
PFTrDA	37.9	ng/L	40.00	ND	94.8	72-128	9.11	19.1	11/27/2024	
PFUnDA	41.9	ng/L	40.00	ND	105	81-131	2.45	13.2	11/27/2024	
Isotope Dilution Analog: 13C2-4:2FTS	271	ng/L	150.1		180	31-202			11/27/2024	
Isotope Dilution Analog: 13C2-6:2FTS	120	ng/L	152.2		79.0	10-220			11/27/2024	
Isotope Dilution Analog: 13C2-8:2FTS	145	ng/L	153.6		94.3	16-189			11/27/2024	
Isotope Dilution Analog: 13C2-PFDoDA	130	ng/L	160.0		81.3	60-139			11/27/2024	
Isotope Dilution Analog: 13C2-PFDoDA+13C2-PFTeDA	105	ng/L	160.0		65.6	41-133			11/27/2024	
Isotope Dilution Analog: 13C2-PFTeDA	69.8	ng/L	160.0		43.6	10-133			11/27/2024	
Isotope Dilution Analog: 13C3-HFPODA	246	ng/L	320.0		76.9	62-136			11/27/2024	
Isotope Dilution Analog: 13C3-PFBS	143	ng/L	149.1		95.6	58-132			11/27/2024	
Isotope Dilution Analog: 13C3-PFHxS	155	ng/L	151.7		102	80-124			11/27/2024	
Isotope Dilution Analog: 13C4-PFBA	164	ng/L	160.0		102	76-124			11/27/2024	
Isotope Dilution Analog: 13C4-PFHpA	174	ng/L	160.0		109	81-125			11/27/2024	
Isotope Dilution Analog: 13C5-PFHxA	173	ng/L	160.0		108	81-124			11/27/2024	
Isotope Dilution Analog: 13C5-PFPeA	166	ng/L	160.0		103	78-123			11/27/2024	
Isotope Dilution Analog: 13C6-PFDA	170	ng/L	160.0		106	77-126			11/27/2024	
Isotope Dilution Analog: 13C7-PFUnDA	157	ng/L	160.0		98.1	75-127			11/27/2024	
Isotope Dilution Analog: 13C8-PFOA	173	ng/L	160.0		108	81-125			11/27/2024	
Isotope Dilution Analog: 13C8-PFOS	153	ng/L	153.4		99.7	79-122			11/27/2024	
Isotope Dilution Analog: 13C8-PFOSA	157	ng/L	160.0		98.4	80-122			11/27/2024	
Isotope Dilution Analog: 13C9-PFNA	176	ng/L	160.0		110	80-126			11/27/2024	
Isotope Dilution Analog: d3-N-MeFOSAA	188	ng/L	160.0		117	64-144			11/27/2024	
Isotope Dilution Analog: d5-N-EtFOSAA	187	ng/L	160.0		117	64-149			11/27/2024	



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Analysis Request - PFAS

For Environmental Water

211239	Project Name:	Generate Fremont Digestate Lagoons	Matrix:	Water	
Location ID:	498637	Activity:	33650	Sample Collector:	Kent Walters
Dept / Division / District:	EGLE/MMD/GRDO	Location Code:		Sample Collector Phone:	616-278-4350
State Project Manager:	Kent Walters	Sub Location Code:		Contract Firm Primary Contact:	
State Project Mgr Email:	WaltersK7@michigan.gov			Primary Contact Phone:	
CC Email 1:	SellersF@michigan.gov			Overflow Lab Choice:	Merrit
CC Email 2:				*Rush Turnaround Request	Temp: 1.0 (C) (F) (M)
CC Email 3:				Days:	Appr By:

*Project Turnaround Time other than standard (15 business days) must be pre-approved and scheduled with a Laboratory Manager. Details on Page 2.

	Lab Use Only	Field Sample ID	Collection Date	Collection Time	Bottle Count	Comments
1	01	EB-01	11/22/24	110	3	
2	02	NL-01	11/22/24	1130	3	
3	03	SL-01	11/22/24	1150	3	High % of Solid
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

ANALYSIS SELECTION (Applies to all samples listed above)

☐ PFAS - Method 1633 (2x 250 mL plastic bottles per sample with 2 additional bottles per 20 samples for QC)	☒ PFAS - Method 8327 (3x 15 mL plastic test tubes per sample)
--	--

Any Known Hazards:

Chain of Custody	Relinquished By	Received By	Date / Time
	Kent Walters & Org	McL...	11/22/24 1455
	Signature	Signature	
	Print Name & Org	Print Name & Org	

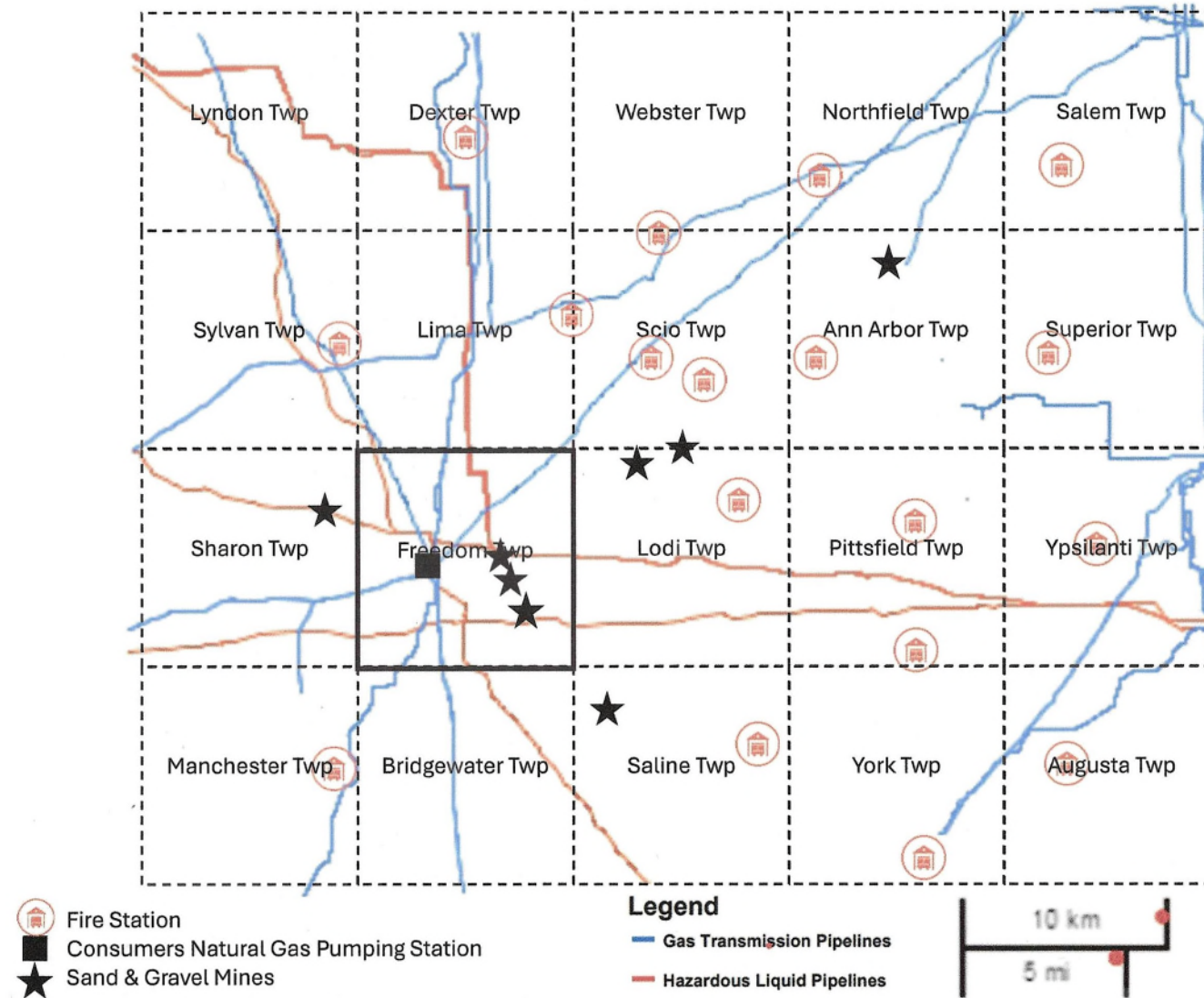
THERE IS NO SUITABLE LOCATION FOR A BIO-DIGESTER IN FREEDOM TOWNSHIP

Christine Mikesell

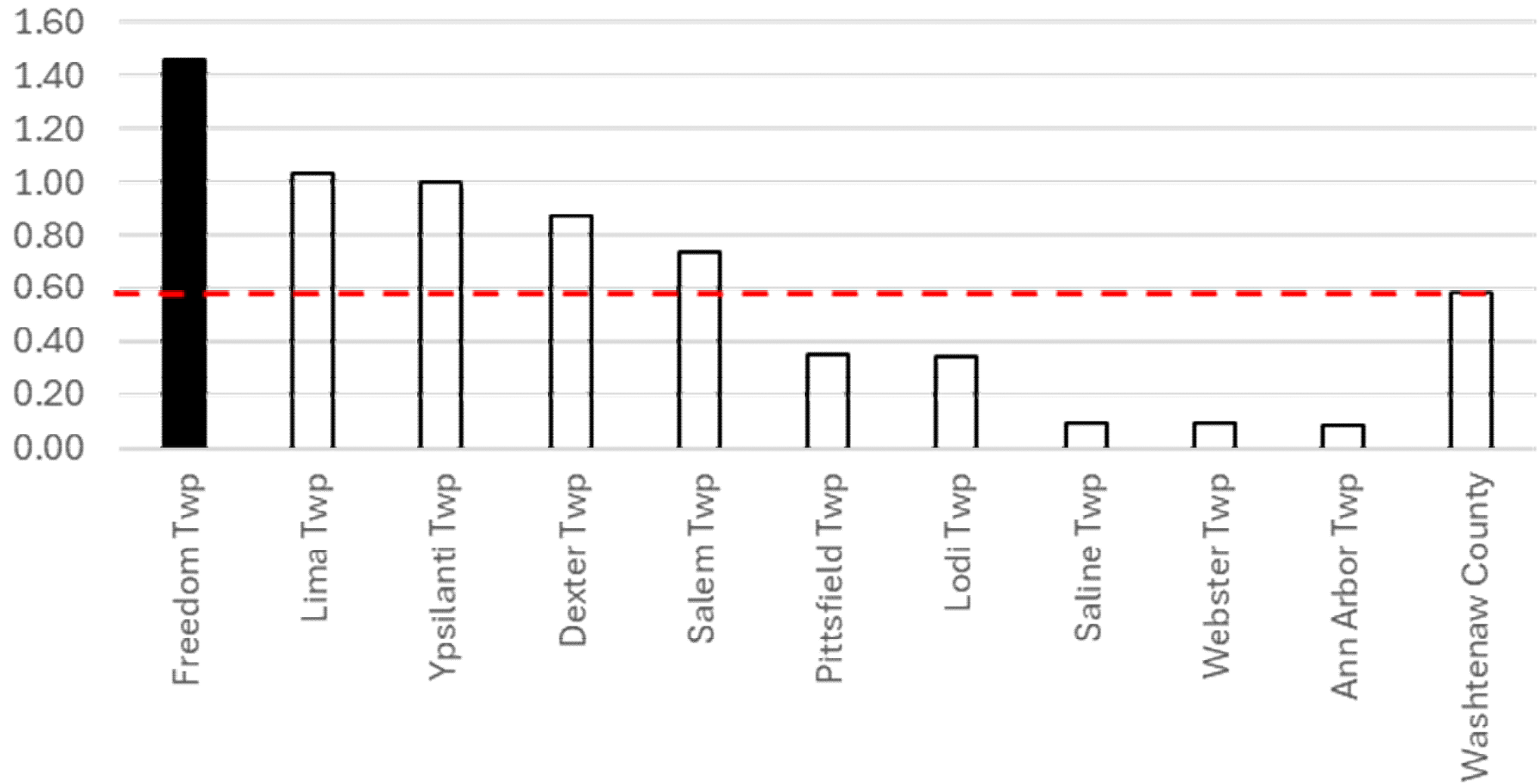
Video of field spraying

Video of field runoff

Washtenaw County Pipelines w/Fire Stations & Mines



Pipeline Miles per Square Mile







Energy

Consumers Energy investigates fire that led to state natural-gas alert

By Jay Greene



Credit: Todd McInturf/Detroit News via AP

Fire comes out of the top of two silo-looking structures at the compressor station at Consumers Energy in Armada Township.

[Reprints](#) [Share](#)

February 01, 2019 02:59 PM

What can happen if you don't call...



Photo above taken during a 1996 incident in Grand Haven, MI where a contractor struck Wolverine's pipeline after not following proper one-call procedure. No-one was seriously injured, but it illustrates the importance of dialing 811 before conducting any digging activity.

PIPE Program

July 30, 2025 / 10:18 PM EDT/CBS/AP

Nebraska biofuels plant explosion kills 3 people, including 2 young girls



Firefighters battle a fire after an explosion in an industrial area in Fremont, Neb., Tuesday, July 29, 2025. CHRIS MACHIAN/OMAHA WORLD-HERALD VIA AP

FREEDOM TOWNSHIP:

DISPROPORTIONATE BURDEN - DISPROPORTIONATE RISK

- * CONSUMER'S GAS COMPRESSION PLANT
- * SEVEN OIL & GAS COMPANIES OPERATING IN THE TOWNSHIP
- * 52 MILES OF PIPELINE – 50% MORE THAN THE NEXT HIGHEST TOWNSHIPS
- * FUEL STORAGE TANKS
- * 3 GRAVEL MINES
- * NO HAZMAT CAPABILITY - NO LOCAL FIRE, POLICE OR EMS SERVICES

- * PROPOSED: A METHANE PRODUCING GAS PLANT – THE “BIO-DIGESTER”

THERE IS NO APPROPRIATE LOCATION

IN OUR TOWNSHIP FOR MORE RISK

Washtenaw County Environmental Council October 14, 2025

Resiliency Office Report

Beth Gibbons, Washtenaw County Resiliency Office Director

1. Staffing/Support Status

- Kim Heumann, Michigan Healthy Climate Corps Fellow serving with the Resiliency Office is concluding her fellowship on Friday, October 17. She has made significant contributions to the Resiliency Office over the past year, including publishing our bi-monthly newsletter, establishing our social media accounts, and directing interns from University of Michigan and Eastern Michigan University. She will continue with our office in a part-time role.
- The Facilities Management Division and Resiliency Office submitted an application to Round 3 of the MI Healthy Climate Fellows (MHCF) program to secure a year-long fellow who will support the Office's expanding portfolio of initiatives.
- The office has submitted a budget request for general fund support of a permanent Communication and Engagement Coordinator for the office.

2. Projects Underway

- MICHAP Project: Washtenaw County is partnering with the Michigan Department of Health and Human Services and MSU to address local climate-related health challenges. The project will inform design strategies for the redevelopment of Ecorse Road in Ypsilanti Township. The Resiliency Office is coordinating with County staff and Township officials to facilitate community engagement and assess additional potential project sites. Public meetings are anticipated to take place in late 2025.
- Renewable Energy Zoning Technical Assistance: The Office continues to provide technical assistance to municipalities in the development of renewable energy zoning frameworks. Recent efforts have included sharing updates regarding Public Act 233 and promotion of an online resource library curated by the EGLE and the University of Michigan's Center for EmPowering Communities.
- Data Center Resources & Municipal Toolkit: On September 15, 2025 the Board of Commissioners passed a resolution directing staff develop usable resources for communities to prepare for and respond to data center development. The Resiliency Office is leading this effort and will work with the Environmental Council and regional experts to design a usable toolkit for townships, villages and cities within Washtenaw County. To support the Board of Commissioners and inform the public at-large about data centers the Resiliency Office published a webpage that will be updated on a weekly basis: [Data Centers | Washtenaw County, MI - Official Website](#)
- WC Climate Resilience Network: The Resiliency Office has contracted Non-Profit Enterprise at Work (NEW) to facilitate the formation of the Washtenaw County Climate Resilience Network. This regional convening body will foster collaboration among municipalities, organizations, and institutions, enabling the exchange of resources and best practices. The next Network meeting is scheduled for October 17, 2025.

- Social Media Accounts: The Resiliency Office launched our Facebook and Instagram

3. Grants & Funding Update

- **EGLE's Challenge #2: Unlocking Elective Pay** - The Resiliency Office partnered with Washtenaw 2030 District on a proposal to host a Direct Pay Ambassador in Washtenaw County. The grant was awarded and beginning in November a Direct Pay Ambassador will work with non-profit entities and faith-based organization to establish direct-pay eligible projects.
- **Climate Migration Planning Proposal** - The WRDSF Fund has invited the Resiliency Office to submit a \$50,000 proposal to initiate planning and narrative development around demographic shifts driven by climate change. This project will explore: Municipal and social service preparedness for supporting an aging population in a changing climate; institutional readiness for an influx of newcomers; identifying data, resources, and strategies needed to better plan for future demographic changes.

4. Outreach Updates - (New events added since last meeting)

Forth Roadmap Conference	Oct 14-16	Detroit
7th Annual GVSU Climate Change Education Solutions Summit 2025	Oct 14-16	Muskegon, MI
Park Adoption Workday	October 20–22, 2025	Ann Arbor
Sustainable Innovation Meetup	10/21/2025	Cahoots, Ann Arbor
Midwest Climate Resilience Conference (MCRC)	Oct 22-24	Milwaukee, WI
Double Food Donation Summit: Advancing Food Rescue in Michigan - MISBF	10/28/2025	Lansing, MI
MI Sustainability Conference (MISCON)	Nov 6-7	Grand Rapids
Zero Emission - Passive House Building Workshop	11/6/2025	Ann Arbor MI
USGBC Michigan Building Transformation Forum	11/19/2025	Ann Arbor, MI