

EATON COUNTY BOARD OF COMMISSIONERS



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Terrance Augustine
Brandon Haskell
Jeanne Pearl-Wright

Trevor "TJ" Youngquist
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Brian Droscha
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Brian Lautzenheiser
Jim Mott - Chair
Frank Holmes
Barbara A. Rogers - Vice Chair

EATON COUNTY BOARD OF COMMISSIONERS/PUBLIC WORKS AND PLANNING COMMITTEE

WEDNESDAY, FEBRUARY 14, 2024
9:00 A.M.

BOARD OF COMMISSIONERS' ROOM, COUNTY COURTHOUSE, CHARLOTTE

AGENDA

1. Call to Order.
2. Pledge of Allegiance.
3. Agenda Additions and Changes.
4. Approval of January 10, 2024 Minutes.
5. Limited Public Comment.
6. EATRAN Semi-Annual Report – Brad Funkhouser
7. Landfill Semi-Annual Monitoring – Mike Serafini, Strata Environmental Services
8. Construction Code/Planning and Zoning Report.
 - 2022 and 2023 Annual Department Report
 - Finance Report
9. DIA Update.
 - Environmental Sustainability Director
 - MMP Barry County Communication
 - Finance Report
10. Parks Report.
 - Parks Strategic Plan – Williams and Works, Maleah Rakestraw and Toby Hayes
 - Eaton County Parks Community Grant Program
 - Finance Report
11. Miscellaneous.
 - **Housing Focus Group Funding**
12. Limited Public Comment.
13. Adjournment.

A quorum of the Board of Commissioners may be present at this meeting.



1045 Independence Blvd.
Charlotte, MI 48813



eatoncounty.org

PUBLIC WORKS & PLANNING COMMITTEE

**WEDNESDAY, JANUARY 10, 2024
9:00 A.M.**

MINUTES

MEMBERS PRESENT: Commissioners Barbara Rogers, Blake Mulder, Joe Brehler, Brian Lautzenheiser, Scott Hansen, and Trevor Youngquist.

ABSENT: Commissioner Terrance Augustine

ALSO PRESENT: Commissioner Jim Mott, Connie Sobie, Claudine Williams, Chris Garrison, Travis Keeton, Brandy Miller, Deb Penfield, Drain Commissioner Richard Wagner, Stacy Hissong, and Chris Mattson.

The January 10, 2024 regular meeting of the Public Works and Planning Committee was called to order at 9:00 a.m. by Chairperson Rogers.

The Pledge of Allegiance was given by all.

Commissioner Lautzenheiser moved to approve the agenda. Commissioner Youngquist seconded. Motion carried unanimously.

Commissioner Youngquist moved to approve the December 13, 2023 meeting minutes. Commissioner Lautzenheiser seconded. Motion carried unanimously.

Limited Public Comment. None.

Construction Code, Planning and Zoning Director, Chris Garrison, presented the department's monthly report. A contract has been signed for the BS&A online permitting system and the Department has a meeting on December 8, to begin discussions on its implementation. The goal is to be live in February. It was noted there are ongoing discussions with Equalization and the Treasurer's Office regarding moving to a cloud based BS&A system.

Brandy Miller, Zoning Administrator, gave an update on the Master Plan. It was reported the Planning Commission, at their December 5th meeting, moved to recommend the Board of Commissioners approve the Draft Eaton County Master Plan to be sent out for the required sixty three (63) day review and comment period. It was also requested by the Planning Commission the Board of Commissioners relinquish their final approval authority of the plan as long as no changes are made during this period. A Resolution to Reserve Right to Final Approval of the 2024 Eaton County Master Plan was presented. Commissioner Mulder moved to recommend approval of the resolution to the Board of Commissioners as presented. Commissioner Youngquist seconded. Commissioner Brehler opposed. Motion carried.

Ms. Miller also informed the Committee of an upcoming training in February for the Planning Commission and Zoning Board of Appeals members presented by the Michigan Association of Planning regarding clarification of regulations.

Resource Recovery Program Assistant, Debbie Penfield, presented the department's monthly report. The Department received notice from EGLE of the initiation of the material management planning process which has been reported on for the past several months. The County now has 180 days to return a notice of intent to prepare a plan. Discussion was held. The Committee was informed the deadline for licensed waste haulers to submit second period reporting is January 15, 2024. To date zero reports have been received out of the nine (9) registered haulers. Discussion was held.

Parks Director, Travis Keeton, presented the department's monthly report. An update on Community Grant Projects was given and discussion was held in reference to a request from Barry County for a path connector to Maple Valley Schools from the county line at Curtis Road.

Chris Mattson, Project Manager at Spicer, and Stacy Hissong, General Counsel for the Michigan Association of County Drain Commissioners, gave a presentation regarding the Bank Intercounty Drain Project.

Limited Public Comment. None.

Chairperson Rogers adjourned the meeting at 11:07 a.m.

The next regularly scheduled meeting of the Public Works and Planning Committee will be held on Wednesday, February 14 at 9:00 a.m. in the Board of Commissioner Room of the Courthouse located at 1045 Independence Blvd, Charlotte, MI 48813.

Barbara Rogers, Chairperson

From: [Brad Funkhouser](#)
To: [Brad Funkhouser](#)
Subject: EATRAN Final Report - Transportation Needs Study and Service Plan
Date: Tuesday, January 2, 2024 12:08:34 PM
Attachments: [20231228 EATRAN Service Plan Report FINAL.pdf](#)
Importance: High

Happy New Year,

Attached you will find **EATRAN's Transportation Needs Study and Service Plan – FINAL REPORT**.

This project, which began nearly a year ago, provided an opportunity for hundreds of residents and businesses to provide their input as we collectively vision the future of transit throughout Eaton County and beyond. This report sets the stage for future regional transit discussions as the demand for transit in and out of Eaton County continues to grow.

In addition to the report, I'm proud to report to you that CATA's Route 3 extension in Delta Twp. has experienced steady growth since May 2023, with the **monthly ridership nearly exceeding 3,000** (in just the extension area between Lansing Mall and Delta Crossing). Future connection of this regional route with rural connector routes will promote cross-county transit travel and serve as a model in future planning.

Stay tuned for exciting new service initiatives in the coming days!

I appreciate your support. Thank You.

Brad

Bradley T. Funkhouser, AICP
Executive Director

Eaton County Transportation Authority – EATRAN
916 E. Packard Hwy.
Charlotte, MI 48813
(517) 543-4087



Eaton County Department of Construction Codes & Planning and Zoning

1045 Independence Boulevard, Charlotte, Michigan 48813
Telephone: (517) 543-3004 Fax: (517) 543-9924

"OUR GOAL IS TO PROVIDE A SAFER PLACE TO LIVE, WORK AND PLAY"

Department of Construction Codes & Planning and Zoning Report 1/31/2024 For Public Works & Planning Committee February 14, 2024

Department Boards:

- The **Planning Commission** met on February 6th to review and approve the 2022 and 2023 Annual reports for submittal to the Board of Commissioners; a copy of the reports are attached.
- The **Zoning Board of Appeals** did not meet in February due to lack of business. Their next meet is March 5th where they will consider application BA-3-24-1 a request for interpretation regarding existing land uses and marihuana facilities.
- The **Construction Code Board of Appeals** did not meet in January due to lack of business.
- The **Zoning Ordinance Committee** met on January 16th, discussions resulted in proposed text amendments DCA-3-24-1 and DCA-3-24-2 which will be heard by the Planning Commission on March 5th. The Zoning Ordinance Committee will meet again on February 20th at 4:00 p.m.

Online Permitting System (BS&A):

Staff met with BS&A on January 29th, 30th and 31st to begin the implementation process of our online permitting system. While the program is designed, we are in the testing phase and waiting on information from Official Payments (Eaton County's preferred vendor for credit card payments) to go live. Once we are live an email will be sent to all contractors registered with our office informing them of the online permitting process. Customers will still be able to come into the office if they choose to apply for a permit, staff will assist them with the online permit system.

Staff from Info. Systems, Property Descriptions and Equalization, Treasures Office and our office will meet on February 8th to continue discussion regarding the BS&A cloud based system for building, assessing and tax programs.

Master Plan Update:

The Master Plan was sent for the required sixty-three (63) review on January 24th. The Planning Commission will hold the required public hearing on April 23rd at 6:00 p.m. Since the January 17th Board of Commissioner's Meeting, staff has had several discussions with Mr. Eric DeYoung of Nederveld regarding the future land use for properties located in Carmel and Eaton Townships adjacent to the I-69 Interchange. Staff held a meeting with the Supervisors of each township, and Mr. DeYoung to discuss his proposal on February 5th. Staff will be attending the March 7th Eaton Township Meeting and March 21st Carmel Township Meeting.

The Draft Eaton County Master Plan is located on the Eaton County Website:

<https://www.eatoncounty.org/618/Master-Plan>

Windsor Township:

On January 9th, Windsor Township adopted Ordinance 46, the Windsor Township Michigan Construction Code Ordinance. On February 7th, they finalized the creation of their Building Department. Presently, Eaton County is the enforcement agency. We do not know when they will take over the permitting and inspections for construction projects in Windsor Township. Windsor Township did not inform us of the change. We have requested a meeting with the Windsor Township Board.

Code Enforcement (open/active):

- Work without permits nine (9)
- Hazardous buildings twenty-one (21)
- Junk thirty-nine (39)
- Zoning thirty-two (32)

No tickets were issued in the month of January.

County Wide Housing Starts		January	February	March	April	May	June	July	August	September	October	November	December	2023 Totals	2024 Totals
Delta Twp.	Site Built	2												23	2
	Mobile Homes	0												0	0
	Totals	2	0	0	0	0	0	0	0	0	0	0	0	23	2
Eaton County	Site Built	4												78	4
	Mobile Homes	0												9	0
	Totals	4	0	0	0	0	0	0	0	0	0	0	0	87	4
Eaton Rapids	Site Built	2												0	2
	Mobile Homes	0												10	0
	Totals	2	0	0	0	0	0	0	0	0	0	0	0	10	2
Grand Ledge	Site Built	0												14	0
	Mobile Homes	10												5	10
	Totals	10	0	0	0	0	0	0	0	0	0	0	0	19	10
Oneida	Site Built	0												2	0
	Mobile Homes	0												0	0
	Totals	0	0	0	0	0	0	0	0	0	0	0	0	2	0
County Wide Total		18	0	0	0	0	0	0	0	0	0	0	0	141	18

Monthly Activity Con Code	Tickets issued		Magistrate hearings		Court cases		Commercial Plan Review		Complaints regarding contractors		Public Surveys		TOTAL MONTH	
	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"
MO/YR	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"
JAN		0	1	0	0	0	2	4	0	0	4	0	7	4
FEB			0		0		4		0		0		4	0
MARCH			0		0		0		0		3		3	0
APRIL			0		0		4		0		2		6	0
MAY			0		0		5		0		2		7	0
JUNE			0		0		5		1		8		14	0
JULY	22		1		0		4		0		5		32	0
AUG	6		0		1		3		0		4		14	0
SEPT	0		1		1		4		0		2		8	0
OCT	0		0		0		4		0		3		7	0
NOV	0		0		0		7		0		2		9	0
DEC	0		0		0		4		0		2		6	0
TOTALS	28	0	3	0	2	0	46	4	1	0	37	0	117	4

Construction Inspections	Building		Electrical		Mechanical		Plumbing		TOTAL	
									MONTH	
MO/YR	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"
JAN	224	348	132	110	211	119	78	86	645	663
FEB	240		109		106		96		551	0
MARCH	255		89		87		156		587	0
APRIL	237		98		89		182		606	0
MAY	326		104		86		177		693	0
JUNE	297		120		86		62		565	0
JULY	335		101		68		47		551	0
AUG	471		148		114		71		804	0
SEPT	432		124		59		11		626	0
OCT	437		141		114		66		758	0
NOV	361		104		97		93		655	0
DEC	347		129		121		61		658	0
TOTALS	3962	348	1399	110	1238	119	1100	86	7699	663

Construction Permits	Building		Electrical		Mechanical		Plumbing		TOTAL	
									MONTH	
MO/YR	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"
JAN	50	33	69	71	85	84	44	51	248	239
FEB	64		46		63		259		432	0
MARCH	47		57		63		78		245	0
APRIL	78		82		71		46		277	0
MAY	83		64		64		35		246	0
JUNE	68		80		75		34		257	0
JULY	91		80		60		22		253	0
AUG	90		79		60		40		269	0
SEPT	143		116		74		31		364	0
OCT	65		103		107		35		310	0
NOV	67		140		174		142		523	0
DEC	63		58		96		21		238	0
TOTALS	909	33	974	71	992	84	787	51	3662	239

Construction Enforcements	WWOP	WWOP	WWOP	WWOP	HAZ BLDG	HAZ BLDG	HAZ BLDG	HAZ BLDG
	(NEW)	(NEW)	(CLOSED)	(PENDING)	(NEW)	(NEW)	(CLOSED)	(PENDING)
		2023 carryover 7				2023 carryover 21		
MO/YR	2023	2024	2024	2024(PENDING)	2023	2024	2024	2024(PENDING)
JAN	22	3	1	9	7	0	0	21
FEB	20				5			
MARCH	14				5			
APRIL	20				0			
MAY	9				5			
JUNE	12				2			
JULY	14				0			
AUG	8				3			
SEPT	5				1			
OCT	3				5			
NOV	1				0			
DEC	2				1			
TOTALS	130	3	1	9	34	0	0	21
			TOTAL WORK WITHOUT PERMITS (WWP) & HAZARDOUS BUILDINGS VIOLATIONS					30

Planning & Zoning Cases	Conditional Use Permits		Board of Appeals		Administrative Variances		District Change Amendments		Site Plan Reviews		Zoning Referrals		Private Roads		Agricultural Buildings		Lot Line Adjustments		Land Divisions Reviewed		TOTAL	
																					MONTH	
MO/YR	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"	"23"	"24"
JAN	0	0	0	0	0	0	0	0	0	0	19	10	0	0	0	1	1	1	2	1	22	13
FEB	0	0	0	0	0		0	0	0		16		0		2		5		1		24	0
MARCH	0	1	0	1	0		0	2	0		19		0		2		1		3		25	4
APRIL	4		1		0		1		0		22		0		3		0		1		32	0
MAY	3		2		0		0		0		22		0		3		2		2		34	0
JUNE	0		0		0		0		0		22		0		1		2		1		26	0
JULY	0		0		0		0		0		32		0		1		3		1		37	0
AUG	1		0		0		1		0		25		0		4		4		2		37	0
SEPT	1		0		0		0		0		25		0		4		2		1		33	0
OCT	4		0		0		0		0		21		0		1		3		3		32	0
NOV	0		0		0		0		0		16		0		1		2		1		20	0
DEC	2		1		0		0		0		9		0		1		2		1		16	0
TOTALS	15	1	4	1	0	0	2	2	0	0	248	10	0	0	23	1	27	1	19	1	338	17

Planning & Zoning Enfor.	JUNK	JUNK	JUNK	JUNK	ZONING	ZONING	ZONING	ZONING
	(NEW)	(NEW)	(CLOSED)	(PENDING)	(NEW)	(NEW)	(CLOSED)	(PENDING)
		2023 carryover: 39				2023 carryover: 33		
MO/YR	2023	2024	2024	2024(PENDING)	2023	2024	2024	2024(PENDING)
JAN	3	0	0	39	2	0	1	32
FEB	2				1			
MARCH	7				3			
APRIL	2				1			
MAY	2				3			
JUNE	1				2			
JULY	0				0			
AUG	1				0			
SEPT	2				1			
OCT	3				3			
NOV	0				5			
DEC	0				0			
TOTALS	23	0	0	39	21	0	1	32
			TOTAL PENDING JUNK & ZONING VIOLATIONS					71

2022 ANNUAL REPORT

Eaton County Planning Commission

This Annual Report is prepared for the Eaton County Board of Commissioners by the Eaton County Planning Commission as required by the Michigan Zoning Enabling Act (PA 110 of 2006) and Michigan Planning Enabling Act (PA 33 of 2008) to document planning and zoning activities each year. The following report identifies the activities of the Planning Commission and Zoning Board of Appeals for 2022.



INTRODUCTION

The Eaton County Planning Commission functions under and has their powers and duties set forth by the Michigan Zoning Enabling Act (PA 110 of 2006) and Michigan Planning Enabling Act (PA 33 of 2008). The Michigan Planning Enabling Act (MPEA) provides for the creation, organization, powers and duties of Planning Commissions. The Michigan Zoning Enabling Act (MZEA) provides for the adoption of zoning ordinances and the establishment of zoning districts and prescribes powers and duties of certain officials including the Planning Commission.

Section 308 of the MZEA (MCL 125.3308) required the Planning Commission to prepare a report for the legislative body on the administration and enforcement of the Zoning Ordinance.

Section 19 of the MPEA (MCL 125.3819) requires the Eaton County Planning Commission to make an annual written report to the County Board of Commissioners.

This report is to provide the Board with a summary of the planning activities over the past year.

MEMBERSHIP

The MPEA states that membership of the Planning Commission shall be representative of important segments of the community, such as the economic, governmental, educational, and social development of the local unit of government, in accordance with the major interests as they exist in the local unit of government, such as agriculture, natural resources, recreation, education, public health, government, transportation, industry, and commerce. The membership shall also be representative of the entire geography of the local unit of government to the extent practicable.

In 2022, the Planning Commission's membership was as follows:

Brian Ross, Chairperson	Lisa Lawitzke
Ben Tirrell, Vice – Chairperson	Bruce Porter
Mike Hosey, Secretary	Zachary Dillinger
Jim Mott, BOC Representative	Tim Cattron
Barbara Rogers, BOC Representative	

Department Staff for 2022 was as follows:

Claudine Williams, Director of Community Development and Housing
Brandy Miller, Planning and Zoning Assistant/Code Enforcement Officer

MEETINGS

Regular meetings of the Planning Commission were scheduled for the First Tuesday of the month at 7:00 p.m. All meetings were held in compliance with the Open Meetings Act (PA 267 of 1976). Meetings were held in the Board of Commissioners Room of the Eaton County Courthouse building.

- The Planning Commission held eight (8) regular meetings and one (1) special meeting.
- The Planning Commission Subcommittees held a total of three (3) meetings.

EATON COUNTY PLANNING AND ZONING

Eaton County has been administering planning and zoning activities for the county for almost 60 years, beginning on October 1, 1959.

The current Planning Commission consists of nine (9) members authorized with overseeing zoning and planning related matters within Eaton County's Zoning Jurisdiction. This includes all land within Eaton County excluding a portion of the City of Lansing, Delta, Windsor, Oneida and Benton Charter Townships and any cities and villages. Hamlin Township began administering zoning for their township in October of 2022.

County planning and zoning provides a regional perspective, creates consistency, and is in line with the State of Michigan's goal to work regionally together. County planning and zoning ensures a regional view and wise planned growth within our community.

PLANNING COMMISSION RESPONSIBILITIES

The Planning Commission's basic duties and responsibilities include the following:

- Conduct public hearings as required by the Zoning Ordinance and the MZEA and MPEA, making specific determinations on each matter.
- Make comprehensive reviews and recommend changes to the Ordinance periodically in cooperation with affected Township Boards of Trustees.
- Make recommendations to the Board of Commissioners on Zoning Ordinance Text Amendments in accordance with the MZEA, Eaton County Zoning Ordinance and the Eaton County Master Plan.
- Make recommendations to the Board of Commissioners on rezoning requests (Zoning Map Amendments) in accordance with the MZEA, Eaton County Zoning Ordinance and the Eaton County Master Plan.
- Make recommendations to the Board of Commissioners on amendments to the Purchase of Development Rights (PDR) Ordinance in accordance with the MZEA.
- Update and maintain the Eaton County Master Plan in accordance with the MPEA.
- Review and comment on any proposed Master Plans or Master Plan amendments for any community within or adjacent to Eaton County as required by the MPEA.
- The Planning Commission is also considered a reviewing agency for applications into the Farmland and Open Space Preservation Program (PA 116).

PLANNING COMMISSION ACTIVITY IN 2022

The Planning Commission worked diligently throughout the year to uphold their responsibilities and accomplish their tasks. The following is a summary of their activity:

Conditional Use Permits: The Commission held public hearings on twelve (12) conditional use permit requests in 2022. Nine (9) new permits and three (3) changes to existing permits were approved; resulting in thirteen (13) land uses as follows:

- Five (5) Construction Contractors Establishments – one (1) each in Eaton Rapids, Hamlin and Kalamo Townships were new. Two (2) in Eaton Rapids Township were a change of conditions to existing permits.
- One (1) Surface Mine – in Vermontville Township.
- Three (3) Home Businesses – one (1) each in Hamlin, Eaton and Vermontville Townships.
- One (1) Commercial Recreation Facilities – in Eaton Township.
- Two (2) Agricultural Businesses – one (1) each in Carmel and Eaton Townships.
- One (1) Distressed Vehicle Transporter – in Walton Township.

Conditional Use Permit (CUP) Applications By Year							
	New	Change of Conditions	Withdrawn	Denied	Dismissed	Revoked	Total
2010	13	2	0	0	0	0	15
2011	7	1	3	0	0	0	11
2012	13	6	2	0	0	0	21
2013	16	0	2	1	0	0	19
2014	8	6	0	0	0	0	14
2015	32	2	0	0	0	0	34
2016	13	6	0	0	0	0	19
2017	22	6	1	0	0	0	29
2018	16	8	1	0	0	0	25
2019	8	6	0	0	0	0	14
2020	4	4	0	0	2	1	11
2021	10	5	1	0	0	0	16
2022	9	3	0	0	0	0	12
TOTALS	171	55	10	1	2	1	240

Zoning Ordinance Text Amendments: The Planning Commission did not have any requests for Zoning Ordinance text amendments in 2022.

Zoning Ordinance Map Amendments: The Planning Commission held public hearings on two (2) Zoning Ordinance Map amendment requests in 2022:

- **DCA-5-22-1:** Request by Ernest and Caren Gurka for a District Change Amendment to change the zoning of a vacant parcel of land located off from River Road identified as parcel 130-031-400-001-03, from Low Density Residential (R-1) to Limited Agricultural (LA). The property is located in Section 31, Bellevue Township.
- **DCA-7-22-2:** Request by Garrett and Kellie Madry for a District Change Amendment to change the zoning of property located at 11260 Pine Hwy, from Low Density Residential (R-1) to Limited Agricultural (LA). The property is located in Section 30, Bellevue Township.

All map amendments were recommended for approval to the Board of Commissioners; they were approved and adopted.

Sub Committee Meetings:

- The Site Plan Review Committee did not meet in 2022.
- The Zoning Ordinance Committee held one (1) public meeting in 2022 to work on language for Wind Energy Systems.
- The Administrative Committee held two (2) public meeting review proposals for the Master Plan Update.

Farmland Agreement Applications: The Planning Commission reviewed and commented on two (2) Farmland Agreement applications in Kalamo and Roxand Townships. Total acreage of land entering into the program was two-hundred thirty-three (233) acres.

Surface Mine Inspections: Staff conducted inspections of all ten (surface) mines in 2022.

Purchase of Development Rights (PDR): Eaton County received funding from the Michigan Department of Agriculture and Rural Development (MDARD) to protect a one-hundred seventy-one (171) acres of farm land in Eaton Rapids Township. The PDR Committee did not meet in 2022.

ZONING PERMIT AND VIOLATION ACTIVITY IN 2022

Staff issued three-hundred fifteen (315) Zoning Referrals in 2022. Thirty-six (36) junk violations were carried over from the year 2021, twenty-three (23) new ones were received and twenty-eight (28) were closed. Twenty-six (26) zoning violations were carried over from 2021, thirty-six (36) new ones were received and thirty-six (6) were closed. Details are shown on the charts located on pages 6 and 7 of this report.

CASES	Conditional Use Permits		Board of Appeals		Adminis- trative Variances		District Change Amend- ments		Site Plan Reviews		Zoning Referrals		Private Roads		Agricultural Buildings		Lot Line Adjustments		Land Divisions Reviewed		TOTAL	
																					MONTH	
MO/YR	"21"	"22"	"21"	"22"	"21"	"22"	"21"	"22"	"21"	"22"	"21"	"22"	"21"	"22"	"21"	"22"	"21"	"22"	"21"	"22"	"21"	"22"
JAN	1	0	0	0	0	0	0	0	0	0	18	18	0	0	3	5	5	8	4	6	31	37
FEB	1	4	1	1	0	0	0	0	0	0	8	16	0	0	1	0	2	0	1	3	14	24
MARCH	0	0	1	0	0	0	0	0	1	0	31	20	1	0	6	1	2	3	5	4	47	28
APRIL	1	0	0	1	0	0	2	0	0	0	38	38	0	0	8	3	3	3	4	6	56	51
MAY	0	2	0	0	0	0	0	1	2	0	39	36	0	0	4	3	2	2	4	2	51	46
JUNE	3	1	2	0	0	0	1	0	0	0	33	38	0	0	0	0	4	4	2	4	45	47
JULY	1	2	0	1	0	0	0	1	0	0	27	31	0	0	1	2	7	2	2	4	38	43
AUG	1	1	1	0	0	0	0	0	1	0	31	37	0	0	2	3	4	2	6	2	46	45
SEPT	4	1	0	1	0	0	0	0	0	0	25	29	0	0	3	2	3	2	4	4	39	39
OCT	2	1	0	1	0	0	0	0	0	0	21	26	0	0	2	1	2	1	1	4	28	34
NOV	0	0	0	0	0	0	2	0	0	0	12	14	0	0	1	0	3	2	2	3	20	19
DEC	2	0	1	1	0	0	1	0	0	0	14	12	0	0	1	5	2	6	6	0	27	24
TOTALS	16	12	6	6	0	0	6	2	4	0	297	315	1	0	32	25	39	35	41	42	442	437

CASES	JUNK	JUNK	JUNK	JUNK	ZONING	ZONING	ZONING	ZONING
	(NEW)	(NEW)	(CLOSED)	(PENDING)	(NEW)	(NEW)	(CLOSED)	(PENDING)
		2021 carryover: 36				2021 carryover: 26		
MO/YR	2021	2022	2022	2022(PENDING)	2021	2022	2022	2022(PENDING)
JAN	0	1	16	21	3	7	14	19
FEB	1	1	1	21	1	0	0	19
MARCH	0	1	1	21	1	2	4	17
APRIL	2	6	3	24	1	3	2	18
MAY	5	6	1	29	8	2	0	20
JUNE	2	0	1	28	0	1	1	20
JULY	2	1	3	26	7	10	6	24
AUG	1	1	0	27	4	5	2	27
SEPT	0	2	1	28	3	1	0	28
OCT	4	1	1	28	6	1	3	26
NOV	1	2	0	30	0	4	3	27
DEC	0	1	0	31	1	0	1	26
TOTALS	18	23	28	31	35	36	36	26
			TOTAL PENDING JUNK & ZONING VIOLATIONS					57

PLANNING ACTIVITY FOR 2023 (Goals)

- The Planning Commission will continue to work on updating the 2012 County Master Plan.
- The Planning Commission will continuously review the Zoning Ordinance and will make recommendations to the Board of Commissioners on amendments to the Zoning Ordinance as needed.
- The Planning Commission will also maintain the open lines of communication with townships. The Planning Commission and staff believe communication with our townships is important to best service the people of Eaton County.

ZONING BOARD OF APPEALS (ZBA) ACTIVITY IN 2022

The Zoning Board of Appeals acts upon questions as they arise in the administration of the Zoning Ordinance. The Zoning Board of Appeals may reverse or affirm wholly or partly or may modify the order, requirement, decision, or determination of the Development Official, the Site Plan Review Committee, the Planning Commission, or any other official administering or enforcing the provisions of the Zoning Ordinance.

ZONING BOARD OF APPEALS RESPONSIBILITIES

The Zoning Board of Appeals basic duties and responsibilities include the following:

- Conduct public hearings as required by the Zoning Ordinance and the MZEA, making specific determinations on each matter.

Regular meetings of the Board of Appeals were scheduled for the first Tuesday of the month at 6:00 p.m. The Board of Appeals met six (6) times in 2022. All meetings were held in compliance with the Open Meetings Act (PA 267 of 1976).

In 2022, the Board of Appeals membership was as follows:

Nikki Chmielewski, Chairperson	Charamy Cleary
Don Chase, Vice – Chairperson	Jeremy Whittum (alternate)
April Stopczynski, Secretary	
Tim Cattron (Planning Commission Representative)	

The Zoning Board of Appeals heard eight (8) requests from six (6) applicants in 2022. The table on the following page indicates the type and number of request with the Zoning Board of Appeals decision.

2022 Zoning Board of Appeals Requests					
Type of Action	Approved	Denied	Postponed	Withdrawn	Total
Variance for setback of accessory building to communication tower	1				1
Review of Planning Commission's Decision		1			1
Review of Staff Decision			1		1
Variance for minimum parcel size	1				1
Variance for minimum road frontage for a parcel	1				1
Variance for number of parking spaces		1			1
Variance for required landscaping	1				1
Variance for square footage allow for rental storage building	1				1
TOTALS 2022	5	2	1		8

2023 ANNUAL REPORT

Eaton County Planning Commission

This Annual Report is prepared for the Eaton County Board of Commissioners by the Eaton County Planning Commission as required by the Michigan Zoning Enabling Act (PA 110 of 2006) and Michigan Planning Enabling Act (PA 33 of 2008) to document planning and zoning activities each year. The following report identifies the activities of the Planning Commission and Zoning Board of Appeals for 2023.



INTRODUCTION

The Eaton County Planning Commission functions under and has their powers and duties set forth by the Michigan Zoning Enabling Act (PA 110 of 2006) and Michigan Planning Enabling Act (PA 33 of 2008). The Michigan Planning Enabling Act (MPEA) provides for the creation, organization, powers and duties of Planning Commissions. The Michigan Zoning Enabling Act (MZEA) provides for the adoption of zoning ordinances and the establishment of zoning districts and prescribes powers and duties of certain officials including the Planning Commission.

Section 308 of the MZEA (MCL 125.3308) required the Planning Commission to prepare a report for the legislative body on the administration and enforcement of the Zoning Ordinance.

Section 19 of the MPEA (MCL 125.3819) requires the Eaton County Planning Commission to make an annual written report to the County Board of Commissioners.

This report is to provide the Board with a summary of the planning activities over the past year.

MEMBERSHIP

The MPEA states that membership of the Planning Commission shall be representative of important segments of the community, such as the economic, governmental, educational, and social development of the local unit of government, in accordance with the major interests as they exist in the local unit of government, such as agriculture, natural resources, recreation, education, public health, government, transportation, industry, and commerce. The membership shall also be representative of the entire geography of the local unit of government to the extent practicable.

In 2023, the Planning Commission's membership was as follows:

Brian Ross, Chairperson	Lisa Lawitzke
Ben Tirrell, Vice – Chairperson	Bruce Porter
Mike Hosey, Secretary	Zachary Dillinger
Frank Holmes, BOC Representative	Tim Cattron
Scott Hansen, BOC Representative	

Department Staff for 2023 was as follows:

Claudine Williams, Director of Community Development and Housing
Chris Garrison, Director of the Department of Construction Codes & Planning and Zoning
Brandy Miller, Planning and Zoning Administrator/Code Enforcement Officer
Tammy Alger, Planning and Zoning Assistant

MEETINGS

Regular meetings of the Planning Commission were scheduled for the First Tuesday of the month at 7:00 p.m. All meetings were held in compliance with the Open Meetings Act (PA 267 of 1976). Meetings were held in the Board of Commissioners Room of the Eaton County Courthouse building.

- The Planning Commission held eight (8) regular meetings and five (5) special meetings.
- The Planning Commission Subcommittees held a total of one (1) meeting.

EATON COUNTY PLANNING AND ZONING

Eaton County has been administering planning and zoning activities for the county since October 1, 1959.

The current Planning Commission consists of nine (9) members authorized with overseeing zoning and planning related matters within Eaton County's Zoning Jurisdiction. This includes all land within Eaton County excluding a portion of the City of Lansing, Delta, Windsor, Oneida and Benton Charter Townships, Hamlin Township and any cities and villages.

County planning and zoning provides a regional perspective, creates consistency, and is in line with the State of Michigan's goal to work regionally together. County planning and zoning ensures a regional view and wise planned growth within our community.

PLANNING COMMISSION RESPONSIBILITIES

The Planning Commission's basic duties and responsibilities include the following:

- Conduct public hearings as required by the Zoning Ordinance and the MZEA and MPEA, making specific determinations on each matter.
- Make comprehensive reviews and recommend changes to the Ordinance periodically in cooperation with affected Township Boards of Trustees.
- Make recommendations to the Board of Commissioners on Zoning Ordinance Text Amendments in accordance with the MZEA, Eaton County Zoning Ordinance and the Eaton County Master Plan.
- Make recommendations to the Board of Commissioners on rezoning requests (Zoning Map Amendments) in accordance with the MZEA, Eaton County Zoning Ordinance and the Eaton County Master Plan.
- Make recommendations to the Board of Commissioners on amendments to the Purchase of Development Rights (PDR) Ordinance in accordance with the MZEA.
- Update and maintain the Eaton County Master Plan in accordance with the MPEA.
- Review and comment on any proposed Master Plans or Master Plan amendments for any community within or adjacent to Eaton County as required by the MPEA.
- The Planning Commission is also considered a reviewing agency for applications into the Farmland and Open Space Preservation Program (PA 116).

PLANNING COMMISSION ACTIVITY IN 2023

The Planning Commission worked diligently throughout the year to uphold their responsibilities and accomplish their tasks. The following is a summary of their activity:

Conditional Use Permits: The Commission held public hearings on fifteen (15) conditional use permit requests for sixteen land (16) uses in 2023. Seven (7) new permits and eight (8) changes to existing permits were approved, one (1) land use request was withdrawn; resulting in sixteen (16) land uses as follows:

- Six (6) Construction Contractors Establishments – one (1) in Walton Township was new. Three (3) in Eaton Rapids Township and one (1) each in Kalamo and Vermontville Townships were a change of conditions to existing permits.
- One (1) Surface Mine – in Eaton Township.
- One (1) Religious Institution– change of conditions in Carmel Township.
- One (1) Home Business – in Brookfield Township.
- One (1) Commercial Recreation Facilities – change of conditions in Eaton Township.
- One (1) Agricultural Business – change of conditions in Eaton Rapids Township.
- One (1) Day Care Facility – in Brookfield Township.
- Two (2) Government Facilities – one (1) each in Brookfield and Walton Township.
- One (1) Open Air Storage – in Walton Township was withdrawn.
- One (1) Park – in Sunfield Township.

Conditional Use Permit (CUP) Applications By Year							
	New	Change of Conditions	Withdrawn	Denied	Dismissed	Revoked	Total
2011	7	1	3	0	0	0	11
2012	13	6	2	0	0	0	21
2013	16	0	2	1	0	0	19
2014	8	6	0	0	0	0	14
2015	32	2	0	0	0	0	34
2016	13	6	0	0	0	0	19
2017	22	6	1	0	0	0	29
2018	16	8	1	0	0	0	25
2019	8	6	0	0	0	0	14
2020	4	4	0	0	2	1	11
2021	10	5	1	0	0	0	16
2022	9	3	0	0	0	0	12
2023	7	8	1	0	0	0	16
TOTALS	165	61	11	1	2	1	241

Zoning Ordinance Text Amendments: The Planning Commission held one (1) public hearing in reference to a Zoning Ordinance text amendment request in 2023:

- **DCA-8-23-2:** Request by Eaton County Planning Commission to amend the Eaton County Land Development Code (Zoning Ordinance). Article 7 Land Development Districts, add Wind Energy Systems as a use in Sections 7.3.3 & 7.3.4 (Limited Agricultural) and Section 7.6.4 (Industrial); Article 14 Specific Provisions and Requirements, amend Section 14.5 Community Service Facility and add Section 14.41 Wind Energy System (WES).

Zoning Ordinance Map Amendments: The Planning Commission held one (1) public hearing in reference to a zoning Ordinance Map amendment request in 2023:

- **DCA-4-23-1:** Request by Paul Elieff, owner of 125 STJOE LLC, for a District Change Amendment to change the zoning of property located at 1540 Island Highway, from Industrial (I) to Limited Agricultural (LA). The property is located in Section 17, Eaton Township.

All amendments were recommended for approval to the Board of Commissioners; they were approved and adopted.

Sub Committee Meetings:

- The Site Plan Review Committee did not meet in 2023.
- The Zoning Ordinance Committee held five (5) public meetings in 2023 to discuss potential amendments to the Zoning Ordinance.
- The Administrative Committee did not meet in 2023.

Farmland Agreement Applications: The Planning Commission reviewed and commented on three (3) Farmland Agreement applications in Bellevue and Eaton Rapids Townships. Total acreage of land entering into the program was one-hundred six (106) acres.

Surface Mine Inspections: Staff conducted inspections of all ten (surface) mines in 2023.

Purchase of Development Rights (PDR): There were no PDR activities in 2023.

ZONING PERMIT AND VIOLATION ACTIVITY IN 2023

Staff issued two-hundred forty-eight (248) Zoning Referrals in 2023. Thirty-one (31) junk violations were carried over from the year 2022, twenty-three (23) new ones were received and fifteen (15) were closed. Twenty-six (26) zoning violations were carried over from 2022, twenty-one (21) new ones were received and fourteen (14) were closed. Details are shown on the charts located on pages 6 and 7 of this report.

Planning & Zoning Cases	Conditional Use Permits		Board of Appeals		Adminis- trative Variances		District Change Amend- ments		Site Plan Reviews		Zoning Referrals		Private Roads		Agricultural Buildings		Lot Line Adjustments		Land Divisions Reviewed		TOTAL	
																					MONTH	
MO/YR	"22"	"23"	"22"	"23"	"22"	"23"	"22"	"23"	"22"	"23"	"22"	"23"	"22"	"23"	"22"	"23"	"22"	"23"	"22"	"23"	"22"	"23"
JAN	0	0	0	0	0	0	0	0	0	0	18	19	0	0	5	0	8	1	6	2	37	22
FEB	4	0	1	0	0	0	0	0	0	0	16	16	0	0	0	2	0	5	3	1	24	24
MARCH	0	0	0	0	0	0	0	0	0	0	20	19	0	0	1	2	3	1	4	3	28	25
APRIL	0	4	1	1	0	0	0	1	0	0	38	22	0	0	3	3	3	0	6	1	51	32
MAY	2	3	0	2	0	0	1	0	0	0	36	22	0	0	3	3	2	2	2	2	46	34
JUNE	1	0	0	0	0	0	0	0	0	0	38	22	0	0	0	1	4	2	4	1	47	26
JULY	2	0	1	0	0	0	1	0	0	0	31	32	0	0	2	1	2	3	4	1	43	37
AUG	1	1	0	0	0	0	0	1	0	0	37	25	0	0	3	4	2	4	2	2	45	37
SEPT	1	1	1	0	0	0	0	0	0	0	29	25	0	0	2	4	2	2	4	1	39	33
OCT	1	4	1	0	0	0	0	0	0	0	26	21	0	0	1	1	1	3	4	3	34	32
NOV	0	0	0	0	0	0	0	0	0	0	14	16	0	0	0	1	2	2	3	1	19	20
DEC	0	2	1	1	0	0	0	0	0	0	12	9	0	0	5	1	6	2	0	1	24	16
TOTALS	12	15	6	4	0	0	2	2	0	0	315	248	1	0	25	23	35	27	42	19	437	338

Planning & Zoning Enfor.	JUNK	JUNK	JUNK	JUNK	ZONING	ZONING	ZONING	ZONING
	(NEW)	(NEW)	(CLOSED)	(PENDING)	(NEW)	(NEW)	(CLOSED)	(PENDING)
		2022 carryover: 31				2022 carryover: 26		
MO/YR	2022	2023	2023	2023(PENDING)	2022	2023	2023	2023(PENDING)
JAN	1	3	0	34	7	2	1	27
FEB	1	2	0	36	0	1	0	28
MARCH	1	7	4	39	2	3	1	30
APRIL	6	2	1	40	3	1	0	31
MAY	6	2	1	41	2	3	3	31
JUNE	0	1	0	42	1	2	2	31
JULY	1	0	0	42	10	0	1	30
AUG	1	1	3	40	5	0	4	26
SEPT	2	2	0	42	1	1	0	27
OCT	1	3	3	42	1	3	0	30
NOV	2	0	3	39	4	5	2	33
DEC	1	0	0	39	0	0	0	33
TOTALS	23	23	15	39	36	21	14	33
			TOTAL PENDING JUNK & ZONING VIOLATIONS					72

PLANNING ACTIVITY FOR 2024 (Goals)

- The Planning Commission will continue to work on updating the 2012 County Master Plan with a goal to have it completed and adopted by May of 2024.
- Once the Master Plan is adopted the Planning Commission will begin working to achieve the overall goals as listed in Chapter 11 of the Master Plan.
- The Planning Commission will continuously review the Zoning Ordinance and will make recommendations to the Board of Commissioners on amendments to the Zoning Ordinance as needed.
- The Planning Commission will also maintain the open lines of communication with townships. The Planning Commission and staff believe communication with our townships is important to best service the people of Eaton County.

ZONING BOARD OF APPEALS (ZBA) ACTIVITY IN 2023

The Zoning Board of Appeals acts upon questions as they arise in the administration of the Zoning Ordinance. The Zoning Board of Appeals may reverse or affirm wholly or partly or may modify the order, requirement, decision, or determination of the Development Official, the Site Plan Review Committee, the Planning Commission, or any other official administering or enforcing the provisions of the Zoning Ordinance.

ZONING BOARD OF APPEALS RESPONSIBILITIES

The Zoning Board of Appeals basic duties and responsibilities include the following:

- Conduct public hearings as required by the Zoning Ordinance and the MZEA, making specific determinations on each matter.

Regular meetings of the Board of Appeals were scheduled for the first Tuesday of the month at 6:00 p.m. The Board of Appeals met four (4) times in 2023. All meetings were held in compliance with the Open Meetings Act (PA 267 of 1976).

In 2023, the Board of Appeals membership was as follows:

Nikki Chmielewski, Chairperson

Charamy Cleary

Don Chase, Vice – Chairperson

Mark Stahl (alternate)

Tim Cattron (Planning Commission Representative)

April Stopczynski, Secretary (resigned in Sept.); Rob Cook was appointed in October.

The Zoning Board of Appeals heard seven (7) requests from five (5) applicants in 2023. The table on the following page indicates the type and number of request with the Zoning Board of Appeals decision.

2023 Zoning Board of Appeals Requests				
Type of Action	Approved	Denied	Withdrawn	Total
Variance for number of signs	1			1
Variance for setback of accessory building to communication tower	1			1
Review of Planning Commission's Decision		1		1
Variance for setback of animal holding area	1			1
Variance for setback from road right-of-way	1			1
Variance for setback from side property line	1			1
Variance for setback from rear property line	1			1
TOTALS 2023	6	1		7

Eaton County Construction Code
Financial Report
Fiscal Year 2023/24
Through the end of January, 2024

	Original Budget	Adjusted Budget	Actual Year to Date	Projected Year to Date	Remaining Balance	% Used
Revenues						
Permitting Revenue						
Building Permits *	300,000	350,375	419,618.01	711,148.05	(360,773.05)	203%
Mechanical Permits	120,000	120,000	60,111.00	180,333.00	(60,333.00)	150%
Electrical Permits	120,000	120,000	50,035.00	150,105.00	(30,105.00)	125%
Plumbing Permits	65,000	65,000	31,838.00	95,514.00	(30,514.00)	147%
Total Permitting Revenue	605,000	655,375	561,602.01	1,137,100.05	(481,725.05)	
Other Revenue						
Construction Code Services	11,600	11,600	10,600.00	31,800.00	(20,200.00)	274%
Fines and Forfeitures	500	500	-	-	500.00	0%
Fund Balance Carryover	400,310	400,310	-	-	400,310.00	0%
Total Other Revenue	412,410	412,410	10,600.00	31,800.00	380,610.00	
Total Revenues	1,017,410	1,067,785	572,202.01	1,168,900.05	(101,115.05)	109%
Operational Expenditures						
Personnel	682,374	682,374	150,005.65	861,844.99	(179,470.99)	126%
Supplies	22,700	22,700	5,750.38	17,251.14	5,448.86	76%
Other Services & Charges	59,012	79,387	20,521.71	51,565.13	27,821.87	65%
Total Operational Expenditures	764,086	784,461	176,277.74	930,661.26	(146,200.26)	
Other Expenditures						
Debt Service - Vehicle Leases	19,404	19,404	7,377.68	22,133.04	(2,729.04)	114%
Capital Outlay	51,000	51,000	-	51,000.00	-	100%
Transfer Out - General Fund	45,000	45,000	-	45,000.00	-	100%
Transfer Out - Public Improvement	134,000	134,000	-	134,000.00	-	100%
Transfer Out - Computer Fund	3,920	33,920	-	33,920.00	-	100%
Total Other Expenditures	253,324	283,324	7,377.68	286,053.04	(2,729.04)	101%
Total Expenditures	1,017,410	1,067,785	183,655.42	1,216,714.30	(148,929.30)	114%
Excess Revenues over Expenses (Net Carryover)	-	-	388,546.59	(47,814.25)		
9/30/2023 Estimated Fund Balance	1,139,660	1,139,660	1,139,660	1,139,660		
Projected 9/30/2024 Fund Balance	739,350	739,350	751,113	1,091,846		

* Projected Building Permits Includes One-Time Single Permit for \$288,036

Resource Recovery Department Report

For Public Works & Planning Committee

January 2024

General Updates:

Jared Bogdanov-Hanna accepted the position of Sustainability Director for Eaton County with a start date of 02/12/2024.

Local Projects:

All 1st quarter Solid Waste Alternative Grant reporting forms were received prior to the January 31, 2024 and the appropriate grant funds have been disbursed

Interviews for the vacant Sunfield Recycling Center Operator position were held 01/09/2024. Mathew Cain was hired to fill the position and began on January 24, 2024.

The Sunfield Recycling Center has been receiving #5 PP from Calhoun County per DIA discussion 07/12/2023. To date, SRC has processed a combined total of 780 pounds of #5 PP from Calhoun County. Recently, the department was contacted by Metro Recycling and Calhoun County regarding #1PET and #2HDPE plastics. Due to continued difficulties with material management during the planning and development process for their new recycling center, Calhoun County now is unable to secure a purchaser for these plastics and would like to expand our intermunicipal cooperation to include these materials. The department is exploring whether our current multicounty collaboration can be redesigned to include the #1 and #2 plastics that would be feasible for Eaton County. We will share our findings and any recommendations as they are finalized.

County Programs:

The second quarter progress report for the 2022-2023 Rural Electronics Recycling Grant was completed and submitted to EGLE on 01/30/2024. Considering the slow progress in completing the grant deliverables, EGLE offered an additional 90-day extension, moving the expected completion date from 09/30/2024 to 12/31/2024.

The September 30, 2023 to December 31, 2023 progress report for the 2023 Scrap Tire Cleanup Grant report was sent on 01/19/2024. The County has not yet received determination from EGLE regarding our 2024 Scrap Tire Cleanup Grant application.

The department has received 7 out of the 9 Solid Waste Ordinance Licensing forms. Letters were sent to all licensed waste haulers via certified mail on November 30, 2023 and were due December 31, 2023. Licensing forms have been received from; College Hunks, Daggett Container, Jim & Sons, Knight Transfer, Liberty Environmental, Republic Services, Waste Management.

The department has received 8 out of the 9 Solid Waste Ordinance Reporting forms and payments for the second period of 2023. Reporting forms were sent by certified mail to all licensed haulers on 12/15/2023 and were due by January 15, 2024. Forms have been received from; College Hunks, Daggett Container, Granger, Jim & Sons, Knight Transfer, Liberty Environmental, Republic Services, Waste Management.

Granger has informed the department their Solid Waste Ordinance Licensing application is either misplaced internally or lost through the postal service. Granger is in the process of cancelling the original check, issuing a new check, and resending their paperwork and payment. Therefore, no further action is deemed necessary.

Gil Lebron of Lebron Trash Hauling contacted the department on January 30, 2024. The department has agreed to provide an additional 30 days for Mr. Lebron to come into compliance with his SWOL and SWOR filings. A DIA hearing will be scheduled for the March 13, 2024 PW&P meeting if Mr. Lebron fails to meet the new deadline for compliance.

Barry County Administration
220 West State Street
Hastings, MI 49058
Ph. (269) 945-1284
Fax (269) 948 4884



Barry County

Michael Brown
County Administrator

Luella Dennison
Deputy County Administrator

February 6, 2024

Ms. Connie Sobie, Controller/Administrator
Eaton County Administration Building
1945 Independence Blvd.
Charlotte MI 48813

Re: Materials Management Plan – Request for Consultation with Adjacent County

Dear Ms. Sobie:

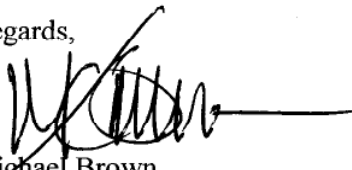
In accordance with the updates of Part 115 amendments of the Natural Resources and Environmental Protection Act (NREPA), which became effective March 29, 2023, Barry County (the County) is beginning the process of drafting a new materials management plan (MMP). The county has one-hundred and eighty (180) days after the Michigan Department of Environment, Great Lakes, and Energy (EGLE) initiates the process to respond. EGLE initiated the process beginning January 8, 2024.

Counties are required to consult with adjacent counties regarding the potential of preparing a multicounty plan. If the County Board of Commissioners assumes authority of MMP development and implementation, it is required to provide EGLE with documentation. It is anticipated that the County will assume authority as the County Assurance Agency (CAA).

The County Recycling Coordinator has had preliminary discussions with the adjacent counties; the Notice of Intent (NOI) submission requires formal documentation of these conversations. The County is requesting that you complete and return the enclosed form no later than **February 27, 2024**. The County intends to use the responses to gauge interest in further consultation on this matter. A self-addressed stamped envelope is enclosed for your convenience, or you may email the form to mbrown@barrycounty.org.

If you have any questions, please do not hesitate to contact me.

Regards,


Michael Brown
County Administrator

Pam

Enclosure (2)

Adjacent County Response to Request for Consultation Form

Counties that assume authority over materials management plan (MMP) development and implementation are required to consult with adjacent counties regarding the option to prepare a multicounty plan under Part 115, Solid Waste Management of the Natural Resources and Environmental Protection Act, Act 451 of 1994 (MCL 342.11571(1)) which became effective March 29, 2023.

Your county has been identified as a county adjacent to Barry County. Please complete this form and submit as requested, no later than February 27, 2024, to begin the process as required.

3. The County of **EATON** _____ **IS** _____ **IS NOT** interested in additional consultation and discussion of the option to prepare a multicounty plan. (Please mark one)

County: **EATON**

Name: _____

Title: _____

Signature: _____

Date: _____

Eaton County Resource Recovery
Financial Report
Fiscal Year 2023/24
Through the end of January, 2024

	Original Budget	Adjusted Budget	Actual Year to Date	Projected Year to Date	Remaining Balance	% Used
Revenues						
Administration						
Private Grant	36,000	36,000	-	-	36,000.00	0%
Donations	11,000	11,000	100.00	8,000.00	3,000.00	73%
Transfers-In	81,392	81,392	-	81,392.00	-	100%
Fund Balance - Carry Over	33,395	33,395	-	-	33,395.00	0%
Total Administration Revenues	161,787	161,787	100.00	89,392.00	72,395.00	
Operational Revenues						
Waste Hauler Licenses	1,800	1,800	840.00	1,500.00	300.00	83%
Solid Waste Surcharge	330,000	330,000	172,227.46	346,767.46	(16,767.46)	105%
Agricultural Plastic Revenue	2,500	2,500	913.60	2,000.00	500.00	80%
Total Operational Revenues	334,300	334,300	173,981.06	350,267.46	(15,967.46)	
Total Revenues	496,087	496,087	174,081.06	439,659.46	56,427.54	89%
Expenditures						
Administration						
Personnel	192,908	192,908	22,323.77	205,936.44	(13,028.44)	107%
Supplies	3,000	3,000	727.68	3,883.04	(883.04)	129%
Other Services	10,104	10,104	1,279.09	11,837.27	(1,733.27)	117%
Debt Service - Vehicle Lease	-	-	-	-	-	0%
Transfer Out - Public Improvement	40,624	40,624	-	40,624.00	-	100%
Total Administration Expenditures	246,636	246,636	24,330.54	262,280.75	(15,644.75)	106%
Operational Expenditures						
County Projects	132,350	132,350	1,875.76	132,350.00	-	100%
Local Projects	117,101	117,101	31,334.66	117,101.00	-	100%
Total Operational Expenditures	249,451	249,451	33,210.42	249,451.00	-	100%
Total Expenditures	496,087	496,087	57,540.96	511,731.75	(15,644.75)	103%
Excess Revenues over Expenses (Net Carryover)	-	-	116,540.10	(72,072.29)	40,782.79	
Available Resources from Administration	(84,849)	(84,849)	(24,230.54)	(172,888.75)	88,039.75	
Available Resources from Operations	84,849	84,849	140,770.64	100,816.46	(15,967.46)	
Projected Net Carryover	-	-	116,540.10	(72,072.29)	72,072.29	
9/30/2023 Estimated Fund Balance	240,513	240,513	240,513	240,513		
Projected 9/30/2024 Fund Balance	207,118	207,118	357,053	168,441		

**Eaton County Resource Recovery
Program Update**
Fiscal Year 2023/24
Through the end of January, 2024

	Adopted Budget	Amended Budget	YTD Transactions	Projected YTD Transactions	Amended Budget Less YTD Transactions	% Used
Summary of Programs						
529 - County Programs						
Roadside Cleanup	1,900.00	1,900.00	865.04	1,900.00	1,034.96	100.0%
Household Battery Collection	11,000.00	11,000.00	-	11,000.00	11,000.00	100.0%
Scrap Tire Collection	36,000.00	36,000.00	-	36,000.00	36,000.00	100.0%
Household Hazardous Waste Collection	60,000.00	60,000.00	822.77	60,000.00	59,177.23	100.0%
Education Programs	1,000.00	1,000.00	54.95	1,000.00	945.05	100.0%
Electronic Recycling	18,000.00	18,000.00	-	18,000.00	18,000.00	100.0%
Event Supplies & Contractual	1,200.00	1,200.00	133.00	1,200.00	1,067.00	100.0%
Promotion Programs	3,250.00	3,250.00	133.00	3,250.00	3,117.00	100.0%
Total	132,350.00	132,350.00	2,008.76	132,350.00	130,341.24	100.0%
530 - SWAG Programs						
Bellevue/Olivet	17,501.00	17,501.00	5,021.34	17,501.00	12,479.66	100.0%
Charlotte Area Recycling (CARA)	28,500.00	28,500.00	10,645.94	28,500.00	17,854.06	100.0%
Delta Twp - Recycling Center	27,600.00	27,600.00	4,202.97	27,600.00	23,397.03	100.0%
City of Grand Ledge - Recycling	21,500.00	21,500.00	8,062.76	21,500.00	13,437.24	100.0%
Sunfield Recycling Center (Pilot Project)	22,000.00	22,000.00	3,401.65	22,000.00	18,598.35	100.0%
Total	117,101.00	117,101.00	31,334.66	117,101.00	85,766.34	100.0%



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(517) 627-4234 fax
www.eatoncountyparks.org

Directors Report-February 14th, 2024

Monthly Briefing:

*Parks Focus Group
2024/2025 Budget Preparation
Naturalist Position*

Parks Focus Group: The group met on January 31st to go over the Community Grant Program for the 2024 cycle. This time was used to determine when the application for the 2024 year will open and if any changes to the application needed to be made. 2024 participants will have almost 6 weeks to submit their grant applications. I do not have any updates for projects from the 2023 grant cycle.

Annual Budget: Still gathering information for the 2024-2025 budget. This is a critical year for parks with many changes coming. I am very excited to ramp up our recreation and naturalist programs and start seeing some changes to our parks. A few items I am trying to get pricing on are:

1. Switch back for Fitzgerald Park
2. Geo Thermo HVAC system for Lincoln Brick Interpretive Center
3. Supplies for new naturalist programs
4. New containment barrier for Fox Park beach area
5. Metal/Asphalt roof for the park office
6. Solar Panels for Lincoln Brick Interpretive Center

Naturalist Position: After 33 years with Eaton County, Jackie Blanc the park's naturalist has retired. I hope to have this position filled soon as we have ABNL (Annie's Big Nature Lesson) beginning the second week of March.



Eaton County Parks Community Grant Program

Introduction:

The Eaton County Parks and Recreation Millage was passed by voters on November 8th 2022. A portion of these funds will be used for competitive grant programs that will support acquisition, improvements and/or development of parks and open spaces located within Eaton County, MI. The Eaton County Parks Community Grant Program was created to assist local communities with planning, purchasing, preliminary engineering/design, and construction costs directly related to park and open space projects located in Eaton County.

The total amount available for the 2024/2025 grant cycle is up to \$400,000. Eaton County Board of Commissioners reserves the ability on a yearly basis to adjust the funding in each grant program at its sole discretion.

Eligibility:

Funding for cities, villages, and townships within Eaton County for park and open spaces related improvements who provide recreation, conservation, and natural resource access within locally owned and operated parks and open spaces. Grant projects must be located in Eaton County, Michigan. Grant applications must be submitted by a city, village, or township in Eaton County. Grants for projects within County owned and/or operated parks are not eligible. Awards will only be given for new projects, in progress or completed projects are not eligible. If applicants have any questions about the grant application process please contact the **Eaton County Parks & Recreation Department** at (517)-627-7351 or via email at tkeeton@eatoncounty.org.

Funding:

Funding is generated through the Eaton County Parks Millage. Resources are limited and it is possible not all grant applications will receive funding.

Grant Limits:

Eaton County Parks Community Grant Program application limits – \$5,000 minimum / up to \$400,000 maximum

Grant Match:

Project match funding is not required, however, project budgets which include match funding will score higher depending on the level of the contribution. Documentation for match funding must include who is providing the contribution and what area of the project will benefit from it. In kind match is allowable provided detailed documentation outlining the work to be completed, the cost of the work and who it will be performed by is submitted. Administration costs/fees are not allowable as project match. Grants of \$5,000 or less do not require matching funds and will not be scored in this area.

Evaluation Criteria

Applicants are encouraged to develop projects that will enhance or provide long term and viable recreational opportunities. Projects that improve outdoor recreation in general and connect to or improve county owned/operated parks in some way are encouraged. Applications will be evaluated based on providing access to natural resources, outdoor spaces and conservation. Engagement with other agencies (ie: Health Department, Road Commission, etc.) to ensure the project meets or will meet their requirements is suggested.

Application Guidance

Project Title – Please use a project title that includes the applicant municipality name and a few words to describe the proposed project. (This is just an application project title and is not meant to be a permanent name).

Primary Grant Contact Person Information – This should be the person responsible for administering the grant and should be someone directly familiar with the project and will be able to answer questions about the project.

Project Details

1. Describe the project and why it was chosen by the community for this opportunity.
2. Describe any relevant history or background information regarding the project. Include any environmental concerns and how the project will address them. Additionally, include what, if any, planning has already been completed and what stage of readiness the project is in.
3. Describe the physical location of the proposed project to include the current property owner.
4. Describe the community need and purpose of the project, who will benefit from it and how it aligns with local community or county plans. Include how the project will contribute to strong, healthy communities that promote health and safety.
5. Disclose if the municipality or another entity would profit in any way from the project or improvement. ie: will there be an admittance fee, will it be leased or rented, etc.
6. Describe if the project will be open to the public 24/7 or only open to the public during certain hours. Will all public be able to use the end product or will only certain groups or teams have access.
7. Describe how the project will impact Eaton County Parks and the residents of Eaton County.
8. Describe your public engagement process and list details of any community partnerships that have been established towards the goal of completion of the project.
9. Describe sustainability and natural resource stewardship efforts that will be implemented with this project. Explain how the project will preserve natural resources and if any sustainable practices will be implemented such as energy efficiency elements, easy-to-maintain plants etc.
10. Describe how the project will be maintained long-term. Include who will be responsible for the continued project maintenance and how will it be funded.
11. Provide a map or site plan that shows the detailed locations of the project scope items to be funded by the grant, i.e., proposed playground location, proposed trail route, etc.
12. Provide a map or site plan identifying where the project location is in reference to other features such as other parks, community centers, gathering places, attractions, etc.
13. Describe the minimum amount needed in order for the project to move forward. If the County is unable to fund the full amount of the project, could items be reduced or removed (ie: landscaping etc.) Describe what the highest priority within the request is and if the project budget includes contingencies for project over runs.

Project Identification in Planning Documents

Indicate where and how this project is addressed in relevant community planning documents, which may include: the Eaton County Parks Master Plan <https://www.eatoncounty.org/384/Parks-Master-Plan> or the Eaton County Master Plan <https://www.eatoncounty.org/618/Master-Plan> or any local municipality plans to include: Capital Improvement Plan, Park Master Plan, Community Master Plan, Trail Master Plan, etc. Please provide a link or directions to where the documents can be found. If not available online please include documents.

Public Engagement/Support

Applicants must hold at least one (1) public meeting, prior to application submission, to receive public input about the project. This can be a regularly scheduled board/commission meeting or separate stakeholder or public input meeting. A summary of all relevant public engagement, including dates, and a list of partnerships if any must be provided. Projects with multiple partnerships and higher levels of public engagement will score higher.

ADA Compliance/Universal Accessibility

Projects must, at a minimum meet accessibility, universal design requirements. Please refer to the following link for more information <https://www.dakc.us/disability-advocates-universal-design-guidelines/>. Describe any additional efforts taken to engage the disability community for your project.

Certified Resolution

A certified copy of a resolution from the applicants governing body (city council, village council, township board) indicating approval to apply and participation in the grant program must be attached.

Recognition Sign

Applicants that are awarded grants through the Eaton County Grant Program are required to prominently display a recognition sign which will be provided by the Eaton County Parks Department. This signage must be posted in an approved location and present for the life of the project.

Required Attachments

Documents required for grant submission are identified on the Required Documents Checklist which can be found in the application. All attachments must be provided in order for the grant application to be considered complete.

Pre-Development Costs Information

Project pre-development is allowable as a grant expense and may include but not be limited to design, preliminary engineering, Phase 1 or 2 Environmental Site Assessments, public engagement and construction plans. Applications containing pre-development only activities must also include supporting information guaranteeing the future project will be completed. Additionally, preference will be given to project based activity applications over pre-development only applications.

Miscellaneous Information

Grants are project based only and do not allow for administrative expenses or ongoing costs for items such as maintenance. Multiyear projects are allowable, however, they must be phased in a way that are not dependent on each other for funding. Additionally, each phase must be fully completed before an application for an additional phase will be accepted. Applicants must have a representative available for Project Site visits by the Grant Program Committee (see timeline for potential). A one page summary of the project may be submitted

in addition to the application to include any additional information. This grant is a reimbursement grant to the local unit of government. Payments to the unit of government will be processed on a monthly basis upon approval of the documentation provided. Grants will not be awarded for projects that have been started and/or completed prior to grant awards agreements being completed.

Scoring Criteria and Points System

Scoring Categories	Total Points Available
Project Design and why it was chosen to include history and background information	0-10
Location and Ownership	0-5
Community Need and project health and wellness outcomes	0-15
Impact on Eaton County Parks and Community Residents	0-15
Public Engagement and Community Partnerships	0-10
Sustainability and Natural Resource Stewardship	0-10
Long Term Maintenance	0-10
ADA Compliance/Universal Accessibility	0-15
Matching Funds	0-10
Total Score Available	100

Project Dates

The 2024/2025 grant cycle is from July 1, 2024 to September 30, 2025. Grant monies not used during the grant period (including any approved extensions by Eaton County) will be forfeited and allocated funds will be returned to the Grant Program. Grant period extensions may be requested, in writing by grantees prior to the end of an identified grant period. Any extensions will be denied or granted at the discretion of Eaton County Grant management staff.

Timeline

Activity	Timeline
Grant application release	March 1, 2024
Grant application deadline	April 19 5:00 p.m. (EST) deadline
Grant request reviewed by the Eaton County Parks Community Grant Program Committee	April 22 – May 3
Grant Program Committee Project Site Visits – Applicants must be present at time of visit	April 22 – May 3
Parks Director submits recommendations to the Public Works and Planning Committee	May 8
Public Works and Planning Committee submits recommendations to Eaton County Board of Commissioners	May 15
Eaton County Board of Commissioners renders decision and directs grant agreements be issued	May 16
Submission of grant agreements to Eaton County Controllers Office	June 3
2023-2024 Eaton County Parks Grant Cycle	July 1 st , 2024- September 30 th , 2025 5:00 p.m. (EST) deadline

Grant Submittal

Applications must be submitted in a pdf format and as one complete/combined document. All applications and supporting documents may not exceed ____ pages.

All grant applications and materials must be received by April 19, 2024, before 5:00 p.m. (EST) and can be sent to:

Eaton County Parks & Recreation

Attn: Travis Keeton

133 Fitzgerald Park Drive

Grand Ledge, Michigan 48837

Electronic submission can be sent to:

tkeeton@eatoncounty.org

Eaton County Parks and Recreation
Financial Report
Fiscal Year 2023/24
Through the end of January, 2024

	Original Budget	Adjusted Budget	Actual Year to Date	Projected Year to Date	Remaining Balance	% Used
Revenues						
Administration						
Property Tax Revenues	2,209,922	2,209,922	225.07	2,209,922.00	-	100%
Grant Revenues	-	-	-	-	-	0%
Donations	1,200	1,200	303.00	909.00	291.00	76%
Transfers-In	-	-	-	-	-	0%
Fund Balance - Carry Over	(1,168,730)	(563,372)	-	-	(563,372.00)	0%
Total Administration Revenues	1,042,392	1,647,750	528.07	2,210,831.00	(563,081.00)	
Operational Revenues						
Site Fees	12,310	12,310	1,890.00	5,670.00	6,640.00	46%
Naturalist & Special Program Revenues	31,900	31,900	3,250.61	19,751.83	12,148.17	62%
Farm Rental Income	17,700	17,700	-	17,000.00	700.00	96%
Total Operational Revenues	61,910	61,910	5,140.61	42,421.83	19,488.17	
Total Revenues	1,104,302	1,709,660	5,668.68	2,253,252.83	(543,592.83)	132%
Expenditures						
Administration						
Personnel	628,368	628,368	169,535.04	784,520.83	(156,152.83)	125%
Supplies	36,057	36,057	7,194.39	20,583.17	15,473.83	57%
Other Services	51,604	51,604	14,321.68	22,965.04	28,638.96	45%
Debt Service (Vehicle Lease)	17,650	17,650	9,018.88	27,056.64	(9,406.64)	153%
Transfers Out - General Fund	-	-	-	-	-	0%
Total Administration Expenditures	733,679	733,679	200,069.99	855,125.68	(121,446.68)	117%
Operational Expenditures						
Park Specific Expenses (less personnel)	203,123	203,123	47,797.13	145,026.26	58,096.74	71%
Capital and One Time Purchases	167,500	167,500	98,114.30	165,057.00	2,443.00	99%
Grant Program Expenses	-	605,358	-	605,358.00	-	100%
Total Operational Expenditures	370,623	975,981	145,911.43	915,441.26	60,539.74	94%
Total Expenditures	1,104,302	1,709,660	345,981.42	1,770,566.94	(60,906.94)	104%
Excess Revenues over Expenses (Net Carryover)	-	-	(340,312.74)	482,685.89	(604,499.77)	
9/30/2023 Estimated Fund Balance	2,037,796	2,037,796	2,037,796	2,037,796		
Projected 9/30/2024 Fund Balance	3,206,526	2,601,168	1,697,484	2,520,482		

Eaton County Parks and Recreation
Program Update
Fiscal Year 2023/24
Through the end of January, 2024

	Original Budget	Adjusted Budget	Actual Year to Date	Projected Year to Date	Remaining Balance	% Used
Park Specific Expenses (less personnel)						
Fitzgerald Park	97,423	97,423	34,740.71	104,222.13	(6,799.13)	107.0%
Fox Park	47,000	47,000	4,332.72	12,998.16	34,001.84	27.7%
Bellevue Area Parks	2,000	2,000	187.92	751.68	1,248.32	37.6%
Lincoln Park	39,700	39,700	7,088.83	21,266.49	18,433.51	53.6%
Crandell Park	17,000	17,000	1,446.95	5,787.80	11,212.20	34.0%
Total Park Specific Expenses	203,123	203,123	47,797.13	145,026.26	58,096.74	71.4%
Capital and One Time Purchases						
Admin - Equipment Trailer	24,000	24,000	-	24,000.00	-	100.0%
Admin - Bobcat	84,000	84,000	81,982.30	84,000.00	-	100.0%
Admin - Zero Turn Mower	16,000	16,000	13,557.00	13,557.00	2,443.00	84.7%
Lincoln Park - HVAC Replacement/Repairs	25,000	25,000	-	25,000.00	-	100.0%
Lincoln Park - Bathroom Auto Locks	5,000	5,000	-	5,000.00	-	100.0%
Crandell Park - Kayak Dock Extension	8,500	8,500	-	8,500.00	-	100.0%
Crandell Park - Bathroom Auto Locks	5,000	5,000	2,575.00	5,000.00	-	100.0%
Total Capital and One Time Purchases	573,746	573,746	193,708.56	455,109.52	118,636.48	79.3%
Grant Programs						
Eaton Rapids - Mill Pointe Park Pavillion	-	39,200	-	39,200.00	-	100.0%
City of Charlotte - Library Picnic Area	-	5,000	-	5,000.00	-	100.0%
Delta Township - Webster Bridge Design	-	150,750	-	150,750.00	-	100.0%
Grand Ledge - Grand Ledge Ball Park Phase I	-	212,694	-	212,694.00	-	100.0%
Hamlin Township - Hamlin Park Picnic & Play	-	87,157	-	87,157.00	-	100.0%
Olivet - Walking Bridge Fencing	-	5,000	-	5,000.00	-	100.0%
Vermontville - Creating Safe Fall Space	-	35,000	-	35,000.00	-	100.0%
Pottersville - Sunset Hills Park	-	65,557	-	65,557.00	-	100.0%
Signage	-	5,000	-	5,000.00	-	100.0%
Total Grant Programs	-	605,358	-	605,358.00	-	100.0%

Transportation Needs Study and Service Plan

Final Report

Eaton County Transportation Authority (EATRAN)

December 2023

Prepared for:

Eaton County Transportation Authority

Prepared by:

AECOM
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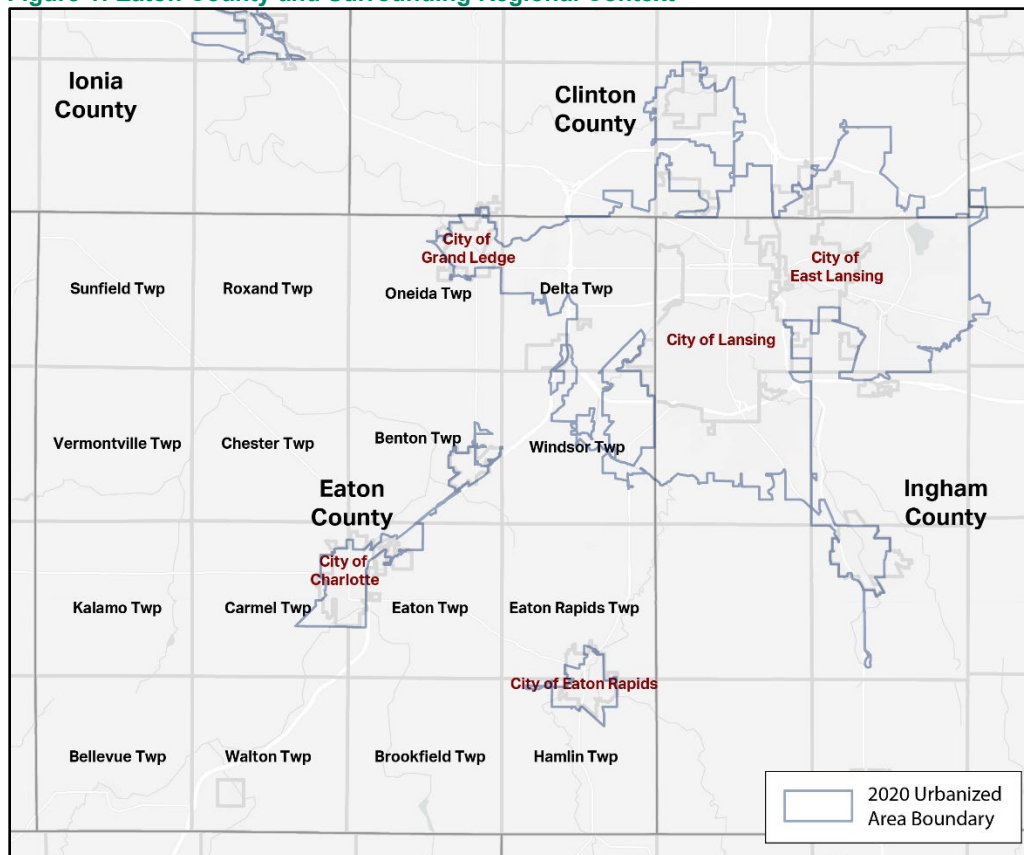
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Introduction

The Eaton County Transportation Authority (EATRAN) has developed a Transportation Needs and Service Plan to consider opportunities for improving existing public transportation services and better address travel needs in Eaton County. This study has been conducted in the context of increased collaboration across the Tri-County region. In Fall 2022, a historic partnership was formed between the Capital Area Transportation Authority (CATA) and EATRAN and an expanded interlocal agreement was established between CATA and Clinton Transit.¹ These collaborations reduce the limitations that economic or geographic boundaries impose on public transit agencies, who are seeking to enhance regional mobility. This Final Report recommends actions for expanding and improving transit service for Eaton County residents and paves the way for further analysis and agency collaboration.

This Final Report builds upon findings from a previous Existing Conditions Report (Appendix A) and County-Wide Survey (Appendix B), both completed in 2023. These earlier efforts inform the goals and actions that form the basis of this Final Report. This study was also informed by a survey of customers riding the CATA Route 3 service extension. This route was extended on a pilot basis into Delta Township, beginning in the Summer of 2023.

Figure 1: Eaton County and Surrounding Regional Context



Eaton County is a largely rural county that has experienced modest population growth over the last decade. Population density is highest in the northeast portion of the county, with Delta Township leading in population density and Oneida, Windsor, and Delta Townships experiencing relatively higher population growth. Northeast portions of the County (Delta Township, Grand Ledge) are within the Lansing urbanized area. Urbanized areas are significant because Federal 5307 Urbanized Area Formula Program Grants are only available in these areas. 5307 grants provide a significant amount of funding for transit capital, operating assistance, and planning in urbanized areas.

¹ "Tri-County public transit agencies launch unprecedented partnership to enhance regional mobility," CATA, September 14, 2022, <https://www.cata.org/About/News/tri-county-public-transit-agencies-launch-unprecedented-partnership-to-enhance-regional-mobility>.

Figure 2: Eaton County Population (U.S. Census Bureau, 2012-2021)

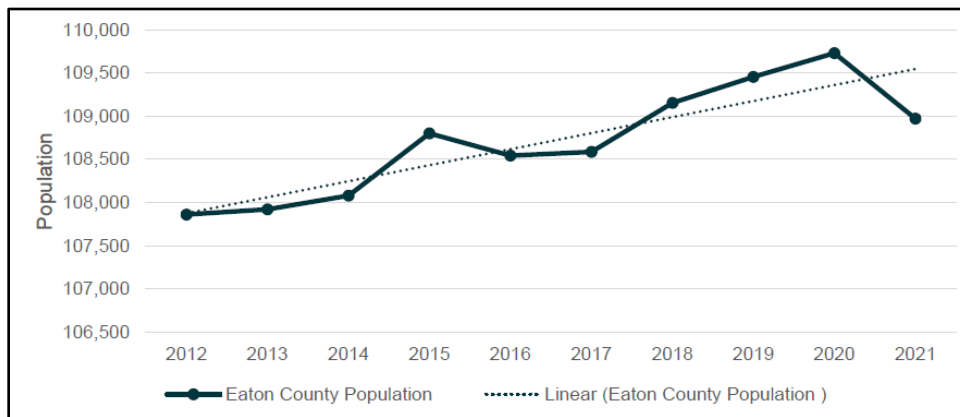
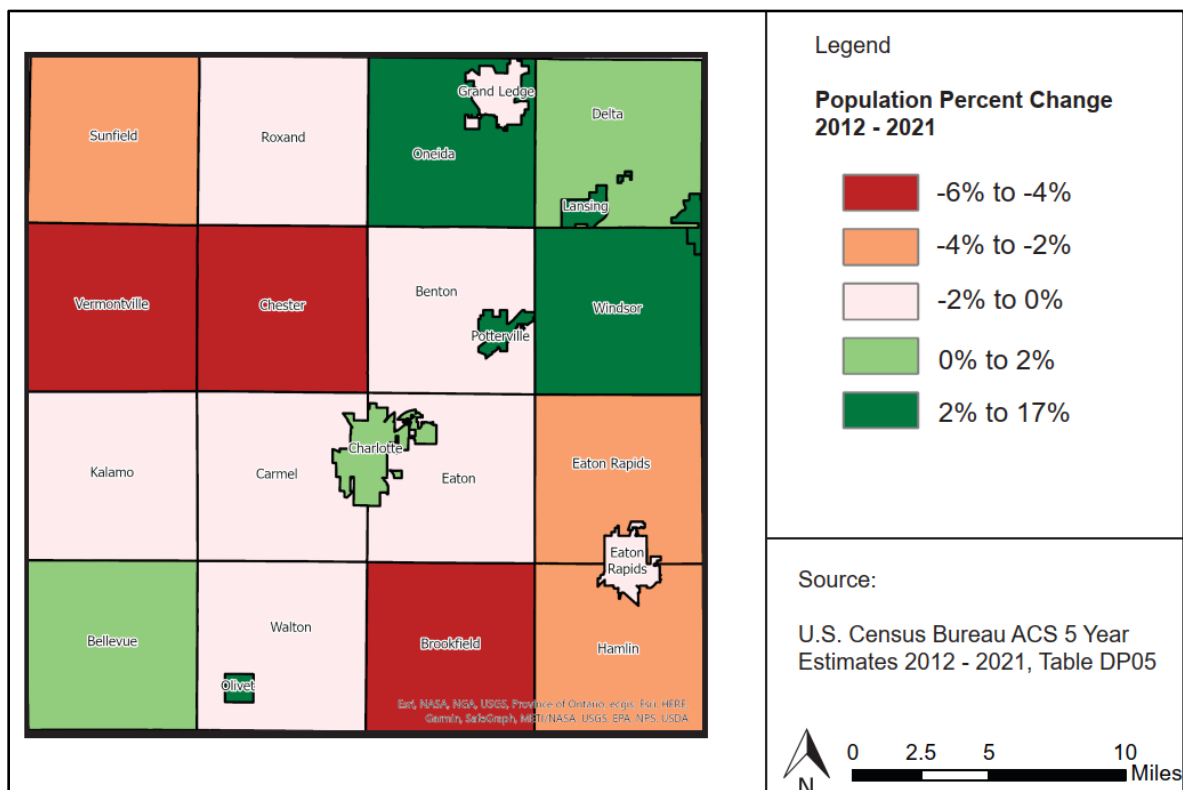


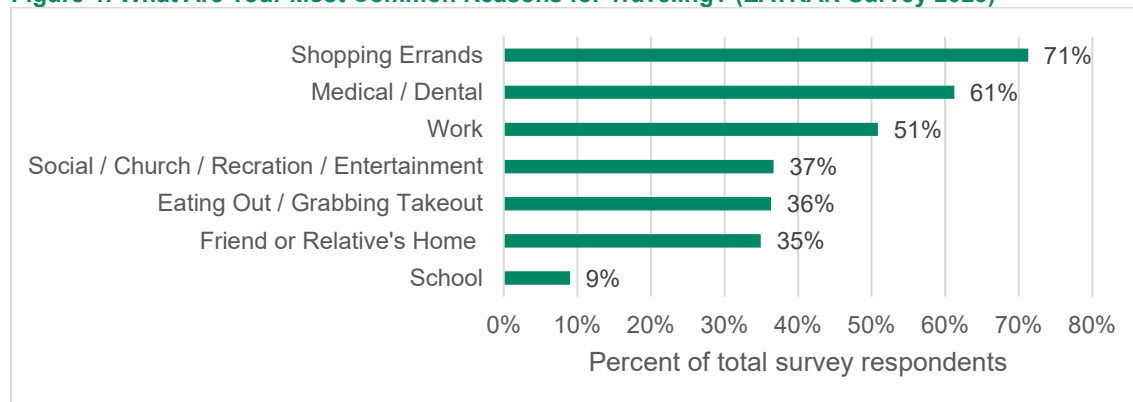
Figure 3: Eaton County Townships Population Percent Change (U.S. Census Bureau, 2012-2021)



As the Lansing region grows, especially into Eaton and Clinton County, there has been an increased emphasis on collaboration among regional service providers including CATA and Clinton County Transit. The County-wide Survey results revealed that 72% of respondents frequently travel outside of Eaton County. The most common out-of-county destinations were Lansing (31% of respondents frequently travel to Lansing), followed by Ingham County (15%), East Lansing (5%), and Clinton County (4%).² Survey findings also revealed that Eaton County residents have a wide variety of travel needs. Common reasons for travelling include shopping or running errands, going to medical and dental appointments, and getting to work. These uses call for a wider range of service times and result in ridership volumes more evenly spread throughout the day.

² 2023 EATRAN Survey, Respondents could select multiple options.

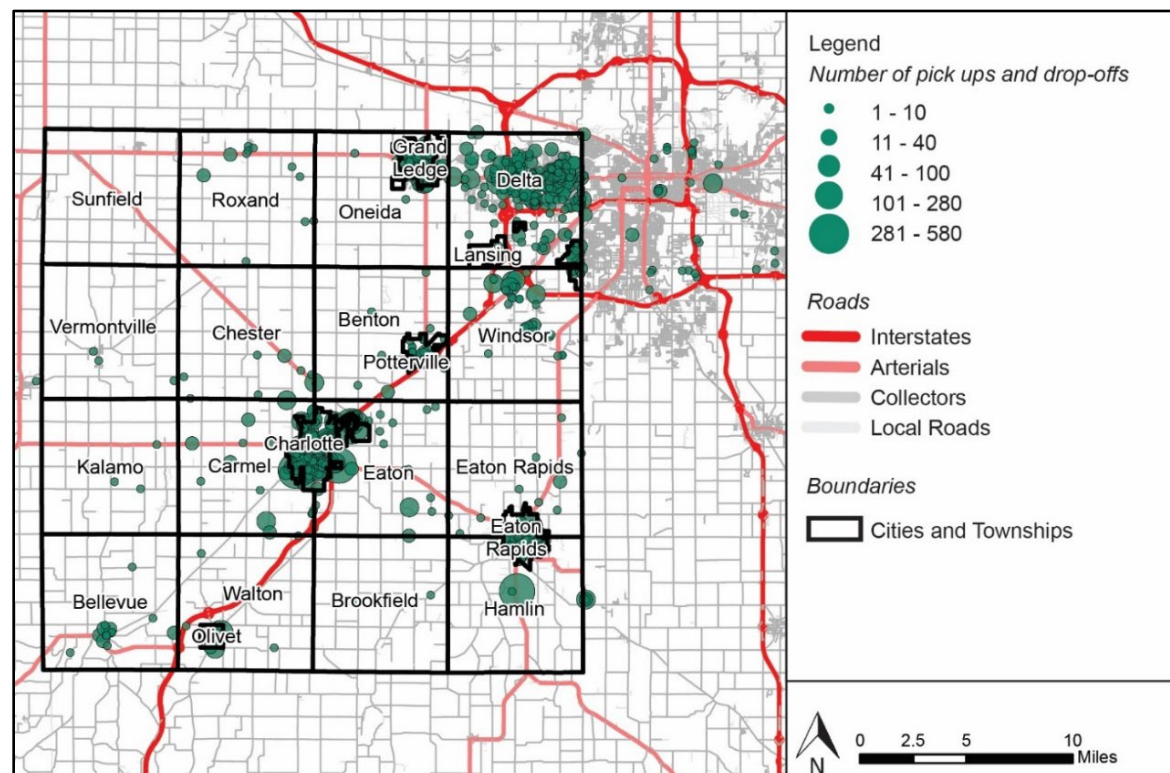
Figure 4: What Are Your Most Common Reasons for Traveling? (EATRAN Survey 2023)



Respondents could select up to 3 answers

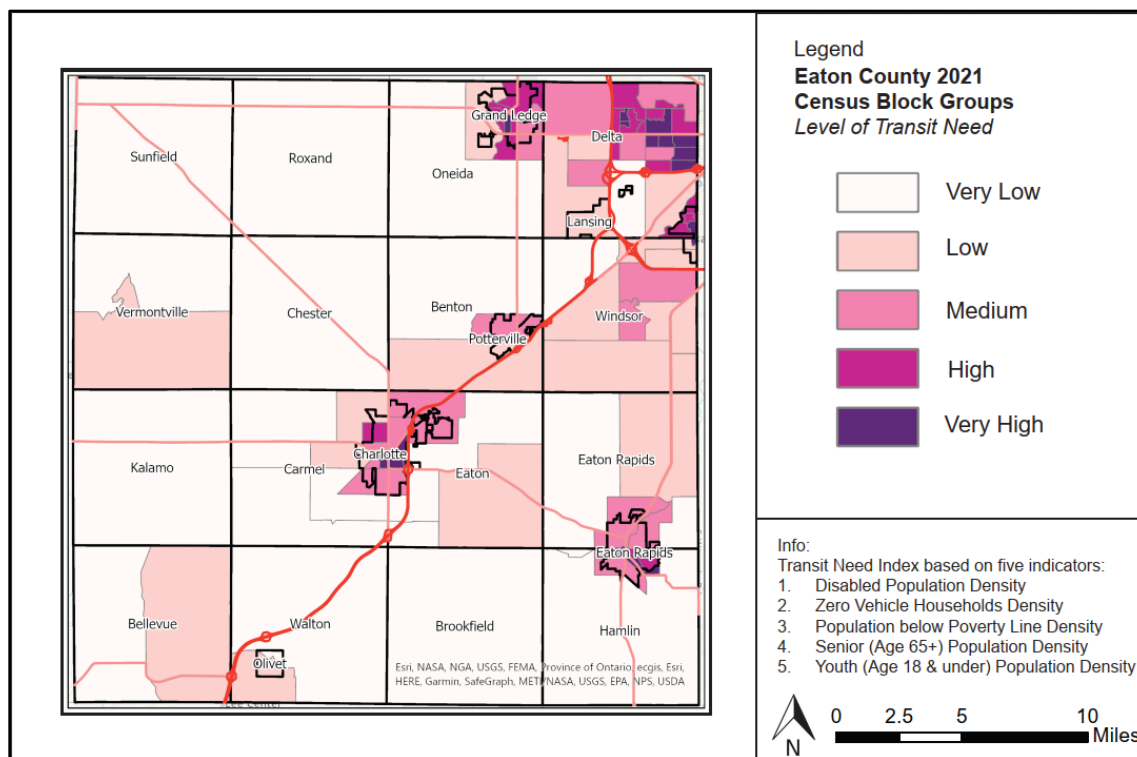
EATRAN currently provides curb-to-curb demand response service within the County. This service must be reserved in advance, and trips are limited to origins and destinations within the County (except for medical trips into Ingham County). In May 2023, the greatest concentration of pickup and drop-off destinations within the county were in Delta Township, Charlotte, Grand Ledge, and Eaton Rapids (Figure 5).³ The level of transit need was also the greatest in those four jurisdictions (Figure 6).

Figure 5: EATRAN Pickup/Drop-off Destinations, May 2023 (EATRAN PCTrans Data)



³ EATRAN PCTrans Data, May 2023

Figure 6: Eaton County Level of Transit Need by Census Block (United States Census Bureau, 2017-2021)



As a result of these findings, a key focus of this study is to increase connections from Eaton County to the larger Lansing Metro Region and allow for more travel across county lines. EATRAN service is heavily utilized, primarily by seniors and those with disabilities. EATRAN aims to maintain and improve its vital demand response service to meet the needs of existing customers. To better serve the variety of transportation needs exhibited by Eaton County residents and to open service to new users, demand response service could be improved by expanding evening service hours, expanding service to weekends, and upgrading software to enhance the user experience as well as the scheduler and dispatcher experience. Additionally, EATRAN aims to explore methods to develop new services, including establishing fixed route service between Eaton County and key destinations in Ingham County and facilitating transfers to CATA fixed route bus service.

Improvements to existing service and the development of new services can be maximized by coordinating with regional service providers and partnering with local social service agencies and major employers. Achieving some of these goals will require new financial resources, while others may be met with existing resources and slight operational changes.

The actions presented in Table 1 are explored further in this report, which provides background and options related to each action. Cost estimates and anticipated timelines are provided where appropriate. This report can help guide EATRAN and its regional transit partners in the coming years as it plans operations, seeks out new funding opportunities, and improves regional mobility.

Table 1: Goals and Actions Timeline and Anticipated Costs

	Next 12 months	1-2 years	3+ years	Anticipated Cost
1. Improve Existing Services				
A				Low/Neutral
Improve the customer trip reservation/confirmation process				Funding Needed
Upgrade technology for scheduling and tracking of service				Funding Needed
2. Develop New Services				
Add weekday evening demand response service				New Funding Needed
Add weekend demand response service				New Funding Needed
Re-establish County connector services				Funding Needed
3. Enhance Regional Connectivity				
Coordinate and connect with regional service providers				New Funding Needed
Provide connectivity to major regional destinations				New Funding Needed
4. Strengthen Partnerships across the County				
Expand partnerships with social service agencies				Low/Neutral
Partner with major employers on access and service				New Funding Needed
5. Strengthen Operational and Financial Sustainability				
Diversify EATRAN fleet to include flexible, smaller vehicles				Funding Needed
Strengthen marketing and branding				Low/Neutral
Develop driver recruitment and retention strategy				Low/Neutral
Supplement local funding to match service needs				New Funding Needed

Service Goals and Actions

1. Improve Existing Services

1.1. Adjust trip booking and cancellation policies

Timeline:	Next 12 Months	1-2 Years	3+ years
Anticipated Cost:	Low/Neutral	Funding Needed	New Funding Needed

Overview

Currently, EATRAN recommends that customers make reservations for demand response service at least one day in advance. EATRAN has a lenient cancellation and no-show policy, allowing customers to cancel their rides without penalties up until the scheduled arrival window. As a result, customers can schedule rides up to a month ahead, and there are indications that many customers reserve trips just in case they are needed, only to cancel in the days leading up to the trip. Meanwhile, limited availability of vehicles and drivers can mean that EATRAN services appear to be unavailable for certain days, and late cancellations can add work for schedulers accommodating same-day scheduling. CATA's policy is stricter, requiring customers to cancel trips a day in advance and including more clearly defined no-show penalties, with chronic no-shows resulting in suspension from service or a fee. Between October 2022 and April 2023, EATRAN had an average of 104 cancellations and 10 no-shows per-day. While the leniency theoretically reduces no-shows, it poses challenges for demand-response route planning and results in lost fare revenue from canceled rides. Changing booking and cancellation policies can help EATRAN improve service efficiency, cut down on operating costs, and ensure better use of agency resources.

Options

EATRAN can update their policy to reduce passenger no-shows and cancellations. Rules that could be considered include:

- When a customer fails to show up for a scheduled trip, all their other scheduled trips that day could be cancelled, unless the customer calls EATRAN at least one hour in advance of their subsequent trips to communicate that they still require transportation.
- There could be a clearly defined penalty for chronic no-shows, which could include suspension from services or a fee.
- EATRAN could also strive to reduce cancellations by requiring customers to cancel their scheduled trip four hours prior to their scheduled trip. This is modelled after CATA Redi Ride's policy, which requires users to cancel their trips four hours before. If the cancellation happens after, customers should be subject to pay the full fare.

This approach highlights the importance of timely cancellations to allow for efficient trip management and optimize the demand-response service. Between October 2022 and April 2023, 25% of total scheduled EATRAN trips were cancelled, and 2% were no shows. Within that same period, 7% of scheduled CATA Redi-Ride trips were cancelled, 4% were no shows, and 14% were late cancellations (where the fare was still paid). If EATRAN maintained the number of trips scheduled but reduced cancellation rates from 25% to 7%, the agency could generate additional fares.⁴ However, the greater financial impact would likely be realized through time and efficiency savings for schedulers, dispatchers, and drivers.

⁴ Using EATRAN cancellation and no-show data averaged from October 2022-April 2023. Assuming a \$2.00 fare. Assuming that rather than cancelling without paying a fare, customers are now "cancelling late" and still paying the fare or are taking the ride.

1.2. Improve the trip reservation/confirmation process for customers

Timeline:	Next 12 Months	1-2 Years	3+ years
Anticipated Cost:	Low/Neutral	Funding Needed	New Funding Needed

Overview

To reserve a ride, riders must contact the EATRAN office by phone. Recently, QRyde software (formerly PCTrans) introduced a feature that sends notifications to confirm ride bookings, reducing the need for phone calls to confirm rides. It also includes a standby feature, allowing riders to be notified of available rides if a spot becomes available due to a cancellation. Those on standby can respond to indicate their interest in the ride and request placement on the schedule. The 2023 EATRAN Survey showed that the preferred method for reserving curb-to-curb service is a smartphone app (47% of respondents), followed by a phone call (31%). Additionally, 68% of respondents said implementing online or app-based scheduling was important or very important. Older respondents and those who ride EATRAN once a month or more prefer phone calls, while younger respondents and those who ride EATRAN less than once a month prefer smartphone reservations.

Options

EATRAN can develop a more user-friendly system for reserving rides, canceling rides, paying for rides, and communicating confirmations or reminders to customers. To accommodate seniors and long-term EATRAN users, phone service should be maintained. However, developing a system for reserving rides beyond phone calls would enable greater utilization of existing services and attract more ridership, particularly from younger residents and those who don't use EATRAN often. EATRAN has three primary options to improve the user experience:

- *Keep the current QRyde software:* EATRAN has recently expanded their use of QRyde to allow users to get text updates on the status of their reserved ride. There are additional features QRyde offers that EATRAN is not currently utilizing, including a service that allows users to book single or recurring trips through the "QRyde for Riders" mobile app or customer portal. This feature also allows riders to view and share their schedules through the mobile app or customer portal.
- *Switch from QRyde to Trapeze Software:* Aligning with CATA's system (Trapeze) may enhance the user experience for those who are familiar with CATA's system, helping to create a more integrated regional system. Using this software, CATA allows users to reserve and cancel rides by calling the office and using a smartphone app.
- *Pursue a new software system:* Following the same software-as-a-service (SaaS) model, EATRAN could acquire a new technological platform to facilitate services that allow riders to schedule trips through a mobile app while maintaining the ability to contact EATRAN directly by phone. EATRAN dispatchers and schedulers would remain, but technology would give staff more time to more effectively serve customers and support EATRAN. A new system would ideally include a feature that allows users to pay for service with cards and app-based payment methods. This is a feature that both QRyde and Trapeze seem to lack.

1.3. Upgrade technology for scheduling and tracking of service

Timeline:	Next 12 Months	1-2 Years	3+ years
Anticipated Cost:	Low/Neutral	Funding Needed	New Funding Needed

Overview

Currently, the scheduling process is conducted manually by EATRAN. Calls to the EATRAN office are taken by schedulers, who collect information about the client and the trip and then communicate this information to dispatchers, who assign trips to drivers. The greatest share of open comments in the 2023 EATRAN Survey expressed an appreciation for EATRAN service; however, some comments conveyed frustration with long phone wait times.

Options

Ideally, the scheduler and dispatcher software service can partially automate the dispatching process, automatically updating driver routes and communicating updates to drivers via smartphone or tablet. By allowing users to set up their own user profiles and schedule and cancel their own trips, updated or new software should also reduce the number of phone calls schedulers need to answer. These updates should free up more time for schedulers and dispatchers, enabling them to deliver better customer service and adapt their roles to better serve EATRAN, further enhancing efficiency and the rider experience. The software chosen for scheduling and dispatching must align with the user software.

- *Keep the current QRYde software:* EATRAN recently adopted a new QRYde feature that sends text updates to users about their trips, reducing calls into the office from users seeking to confirm their trips. QRYde appears to have some other unutilized features that could help automate dispatching and scheduling tasks, including real-time automated dispatching capabilities and continuous mode schedule optimization features.
- *Switch from QRYde to Trapeze software:* Together, EATRAN and CATA staff can work with Trapeze to make sure they are taking advantage of all the features the software has to offer and adapting to meet the region's needs.
- *Pursue a new software system:* An altered service with smartphone app capabilities would ideally allow clients to set up their own user profiles and enter information about their trips via smartphone app, reducing the number of calls into the office. It would also ideally have advanced automated dispatching and scheduling capabilities and be able to communicate arrival updates to users.

2. Develop New Services – Addressing Underserved Needs

2.1. Add weekday evening demand response service

Timeline:	Next 12 Months	1-2 Years	3+ years
Anticipated Cost:	Low/Neutral	Funding Needed	New Funding Needed

Overview

EATRAN currently provides demand response service from Monday to Friday from 6:30 a.m. to 6:00 p.m. Feedback gathered through the 2023 EATRAN Survey and the 2023 CATA Route 3 Extension Survey showed significant interest in extending weekday service hours to meet the needs of riders. Through the Route 3 Extension Survey, many employees in the Marketplace Shopping Center expressed a need for rides home from their service sector jobs after CATA bus service ends at 10:00 p.m. (6:00 p.m. on Sundays). In addition, new employment opportunities are coming to the County, including the Ultium Cells battery cell manufacturing facility.⁵ With the addition of new employment opportunities, the size of the late-shift workforce in Eaton County is expected to expand. Extended service is essential for expanding workforce opportunities and gives those who don't own a car the opportunity to participate in the expanding late-shift job market.⁶

Options

To accommodate workers that get off work shortly after 10:00 p.m., EATRAN could expand service until 11:00 p.m. This can help support those who may use CATA service to get to work but who cannot use it once CATA service ends at 10:00 p.m. Alternatively, if funding is limited, service could be extended until 9:00 p.m. These two scenarios were analyzed to create the cost estimates below.

Table 2: Extended Weekday Service Cost Estimates⁷

Scenario	Estimated Added Annual Operating Cost
Extended until 9:00 p.m.	\$400k – \$500k
Extended until 11:00 p.m.	\$650k – \$800k

⁵ Ultium Cells, "Lansing, MI," Accessed December 21, 2023, <https://www.ultiumcell.com/our-locations/lansing-mi>.

⁶ APTA, "Supporting Late-Shift Workers," September 2023, https://www.apta.com/wp-content/uploads/APTA_Late-Shift_Report.pdf.

⁷ The National Transit Database (NTD), "EATRAN 2022 Transit Agency Profile," <https://www.transit.dot.gov/ntd>. Calculated using 2022 operating expenses per vehicle revenue hour. Calculation assumes that EATRAN would be operating at 75% capacity during the extended hours.

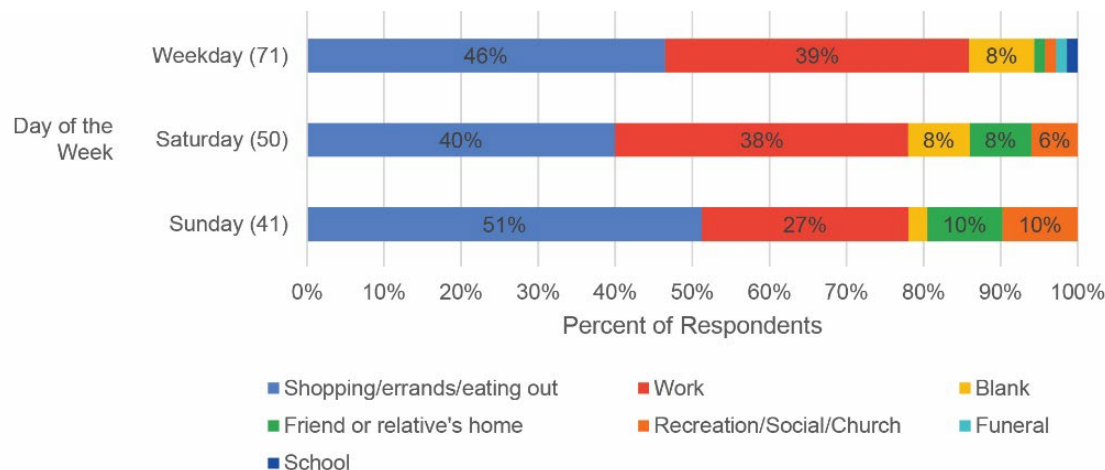
2.2. Add weekend demand response service

Timeline:	Next 12 Months	1-2 Years	3+ years
Anticipated Cost:	Low/Neutral	Funding Needed	New Funding Needed

Overview

EATRAN currently does not provide demand response service on the weekends. On the EATRAN 2023 Public Survey, 74% of respondents said providing weekend service was important or very important, with nine respondents leaving comments about the value of weekend service. The recent survey of CATA's Route 3 extension indicated that ridership needs are greatest along this corridor into Delta Township on the weekends, when EATRAN service is not available. Saturdays and Sundays along the CATA Route 3 corridor show a greater percentage of riders using the service for recreation, social, or church purposes and for visiting a friend or relative's home. Sunday had the highest proportion of those using the service for shopping, errands, or eating out.

Figure 7: 2023 CATA Route 3 Extension Survey Results: Trip Purpose by Day of the Week



Options

Significant demand for rides could be met by establishing limited service on the weekends. EATRAN could seek to add Saturday service as a base option or both Saturday and Sunday service in the longer term. Saturday and Sunday service can be implemented separately. Saturday service could run for 11.5 hours from 8:00 a.m. to 7:30 p.m., primarily aimed at serving shopping and recreational needs. Sunday service could run for 6 hours from 8:00 a.m. to 2:00 p.m., serving shopping and recreation needs and allowing users to use EATRAN to access Sunday morning worship activities. Maintaining a consistent start time of 8:00 a.m. across the days can help contribute to a more simplified and user-friendly system. Providing these services should be prioritized after implementing weekday evening service, which was found to be of higher priority in the 2023 EATRAN and CATA surveys. Cost estimates are calculated for Saturday and Sunday service. Saturday service could be provided in the next 1 to 2 years, and Sunday services in the next 3+ years.

Table 3: Weekend Service Cost Estimates⁸

Scenario	Estimated Added Annual Operating Cost
Saturday Service 8:00 a.m. to 7:30 p.m.	\$300k – \$350k
Sunday Service 8:00 a.m. to 2:00 p.m.	\$150k – \$200k

⁸ The National Transit Database (NTD), "EATRAN 2022 Transit Agency Profile," <https://www.transit.dot.gov/ntd>. Calculated using 2022 operating expenses per vehicle revenue hour. Calculation assumes that EATRAN would be operating at 75% capacity during the weekends, bringing the overall operating expenses per vehicle revenue hour down for each scenario.

2.3. Re-establish County connector services

Timeline:	Next 12 Months	1-2 Years	3+ years
Anticipated Cost:	Low/Neutral	Funding Needed	New Funding Needed

Overview

Between October 2015 and March 2020, Eaton County provided a service called the Eaton County Connector (The Connector), a fixed route service between Charlotte and Lansing. The Connector had the same fare as demand response service and was available Monday to Friday from 6:30 a.m. to 6:30 p.m. The route ran from the Charlotte Walmart to the Lansing Mall. It made one stop along the way at the Potterville Franks BP gas station near I-69. It was a deviated route that allowed the bus to go slightly off route to pick up ADA-compliant passengers. There was one vehicle that ran twice a day, once in the morning and once in the afternoon. The Connector was discontinued in April 2020 due to the COVID-19 pandemic. Throughout its five years of service, the Connector ridership levels fluctuated but generally showed a gradual increase.

Options

There is currently funding and political will to reestablish The Connector. EATRAN hopes to maintain the short ride time (30 minutes) and maintain the flex route capabilities, allowing the bus to steer off route for ADA-compliant passengers. The new Connector would replace the Downtown Lansing Express, with information about the Connector clearly communicated on the EATRAN website. EATRAN could consider the options presented in Table 4.

Table 4: Connector Service Origin and Destination Options

Ingham County Stop	Eaton County Stop	Estimated Distance and Drive Time (with Potterville stop)	Pros	Cons
Downtown Lansing CTC	Charlotte Courthouse Square Museum	21 miles 26 mins	- Easier for Charlotte residents to access without a car - Direct connection to Downtown Lansing	- Harder to find parking - Longer travel time
	Charlotte Walmart	20 miles 24 min	- Easier to find parking - Direct connection to Downtown Lansing	- Difficult to access without car - Longer travel time
Route 3 Terminus (Marketplace Walmart)	Charlotte Courthouse Square Museum	22 miles 22 min	- Easier for Charlotte residents to access without a car - Shorter travel time	- Harder to find parking - No direct connection to Downtown Lansing
	Charlotte Walmart	16 miles 20 min	- Easier to find parking - Shorter travel time	- Difficult to access without car - No direct connection to Downtown Lansing

The estimated cost and time differences between each of the four scenarios are minimal, and decisions should prioritize ease of use for EATRAN customers. In the long term, as funding resources allow, EATRAN could establish a connection to both Downtown Lansing and the Marketplace Shopping Center. A route that begins at the Charlotte Courthouse Square Museum would generally be easier to access for residents of Charlotte who cannot drive. Although there is not as much parking in this area compared with the Walmart, EATRAN could work with the City of Charlotte to provide designated spaces for EATRAN user vehicles, either on the street or in surface lots. EATRAN could work to provide bus stops and amenities at the selected origin and destination locations. An additional route connecting Eaton Rapids and Charlotte could be explored in the long term.

Whether The Connector drops users off somewhere in Downtown Lansing or at the Marketplace Shopping Center, CATA and EATLAN must coordinate to create a designated space for drop-off and align services to facilitate easier transfers to CATA fixed route services. Ideally, The Connector frequency would be raised above two round trips a day. The costing scenario below explores scenarios with eight, 10, and 16 round trips. The eight and 10 round trip scenarios could be considered in the short term, with more frequent service ramping up in the mid-term.

Table 5: Connector Route Cost Estimate⁹

Scenario	Estimated Annual Operating Cost
8 <u>non-consecutive</u> round trips 7:00 a.m. to 6:00 p.m.	\$130k – \$160k
10 round trips <u>every hour</u> 7:00 a.m. to 6:00 p.m.	\$160k – \$200k
16 round trips <u>every hour</u> 6:00 a.m. to 9:00 p.m.	\$260k – \$320k

⁹ The National Transit Database (NTD), “EATLAN 2022 Transit Agency Profile,” <https://www.transit.dot.gov/ntd>. Assumes an hourly round trip.

3. Enhance Regional Connectivity

3.1. Coordinate and connect with regional service providers

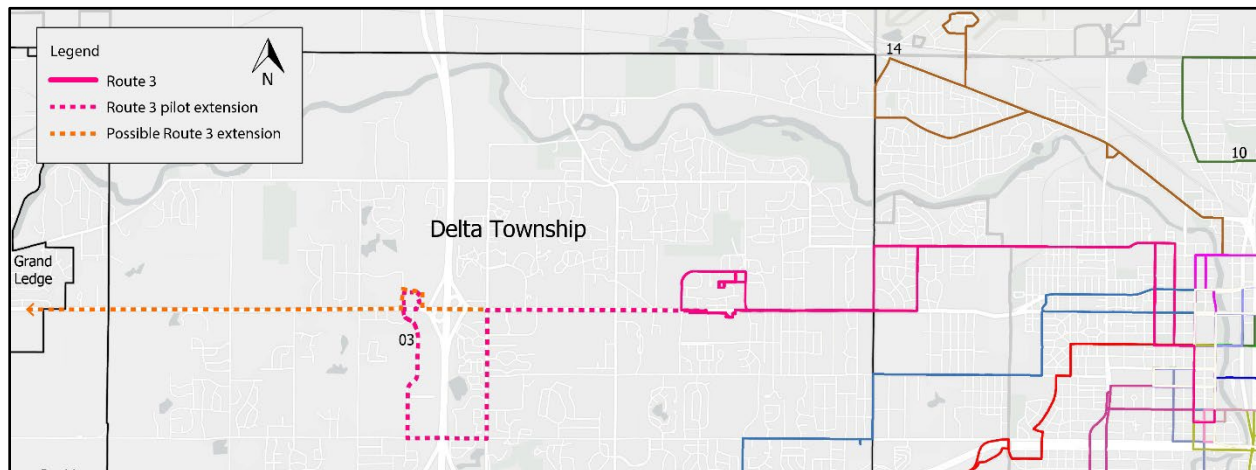
Timeline:	Next 12 Months	1-2 Years	3+ years
Anticipated Cost:	Low/Neutral	Funding Needed	New Funding Needed

Overview

Transportation in Eaton County is closely tied to transportation in the greater Tri-County Region, which comprises the three counties surrounding the Lansing metro area: Ingham, Clinton, and Eaton. The Tri-County Regional Planning Commission (TCRPC) has undertaken an initiative to coordinate transportation in the Region, in collaboration with the EATRAN, Clinton Area Transit System, and CATA.¹⁰ These agencies have convened a working group to coordinate on services and initiatives that can improve regional and cross-county trip making. The effort to further coordinate transit in the region comes as a priority to prepare and plan for present and coming economic development opportunities. Two of these opportunities include a new General Motors Ultium Battery Plant and a new Amazon distribution center in Delta Township.¹¹

Thus far, collaboration efforts have included expanding interlocal agreements between the agencies and shared management between CATA and EATRAN. Continued collaboration can increase the limited connections between EATRAN and CATA services. CATA service already extends into Eaton County with the recent Route 3 extension to Delta Township's Marketplace Shopping Center near I-96, which has been piloted since May 2023. Ridership activity along the extension has been growing. Some open comments gathered from the 2023 CATA Route 3 Extension Survey included customers mentioning a desire for service to Grand Ledge, with some customers getting off at the Marketplace Shopping center and continuing to walk the rest of the way to Grand Ledge.

Figure 8: Route 3 with Pilot Extension and Possible Extension to Grand Ledge



Options

EATRAN can work to connect with other service providers in the area, including potentially:

- *Aligning the Connector Route service with other services:* Ensure The Connector schedules align with CATA fixed bus route schedules so easy transfers can be made to other locations throughout the region.
- *Expanding out-of-county trips:* Currently, out-of-county trips on EATRAN's demand response service can only be made to access medical services. This could be expanded to allow out-of-county trips for certain customers (e.g., seniors, people with disabilities) to connect to locations in Ingham County or to CATA fixed route bus stops.
- *Extending the CATA Route 3 Pilot:* Due to the success of the Route 3 extension, extending this pilot should be prioritized. Sustainable funding sources would need to be identified and pursued to continue this route extension

¹⁰ "Tri-County public transit agencies launch unprecedented partnership to enhance regional mobility," CATA, September 14, 2022, <https://www.cata.org/About/News/tri-county-public-transit-agencies-launch-unprecedented-partnership-to-enhance-regional-mobility>.

¹¹ CATA, 2022

pilot. Further extension to Grand Ledge or a separate connector service to Grand Ledge could be considered. A redesign of the route extension to enhance eastbound access to Meijer or the implementation of enhanced non-motorized crossings across Waverly could improve pedestrian and transit-rider access throughout the corridor. Cost estimates for two scenarios are shown below. The scenario with the extension out to Grand Ledge assumes the connector would extend to Downtown Grand Ledge (S Bridge Street and E Scott Street) and would not extend down to W St Joseph Hwy as the current pilot does. Both scenarios assume the same frequencies and service levels of the current CATA Route 3. In the short term, the current Route 3 extension could be maintained (option A), with an additional hourly extension to Grand Ledge being added in the mid-term (option C).

Table 6: CATA Route 3 Extension Cost Estimate¹²

Scenario	Estimated <i>Added</i> Annual Operating Cost
Option A: Current Route 3 Extension Design	\$600k – \$730k
Option B: Route 3 extension to Grand Ledge (without St. Joseph Hwy segment)	\$750k – \$920k
Option C: <u>Additional</u> extension to Grand Ledge, <u>every-other bus</u> (from the Marketplace Stop to the Grand Ledge Meijer)	\$160k – \$200k

Additionally, EATRAN and its regional transportation partners (CATA, Clinton County, TCRPC) should continue to meet and coordinate on regional service offerings by continuing the working group that has been established and hosted by TCRPC since 2022.

¹² The National Transit Database (NTD), "EATRAN 2022 Transit Agency Profile," <https://www.transit.dot.gov/ntd>. Assumes same service level as current CATA Route 3.

3.2. Provide connectivity to major regional destinations

Timeline:	Next 12 Months	1-2 Years	3+ years
Anticipated Cost:	Low/Neutral	Funding Needed	New Funding Needed

Overview

EATRAN can better serve its customers by providing connectivity to major regional destinations, including downtown Lansing, the Capital Region International Airport, and hospitals. In the 2023 EATRAN Survey, 72% of respondents reported frequent travel outside of Eaton County. Survey findings highlight the importance of improving connectivity to Lansing shopping centers and medical facilities. EATRAN already provides a service that allows out-of-county medical trips for seniors and people with disabilities residing in Eaton County. Many of EATRAN's customers use the service to get to and from medical appointments, some of which require trips far beyond County lines. EATRAN can explore methods to open out-of-county travel to all residents for a wider variety of purposes and can explore additional services that could be provided through EATRAN or in partnership with CATA.

Options

EATRAN could expand out-of-county service, allowing EATRAN's customers to get to and from out-of-county medical trips, the Capital Regional International Airport, the CATA Transportation Center, and a connection to MSU and East Lansing. This would require service expansion and could be pursued in partnership with other service providers, enhancing Eaton County resident access and encouraging connections and economic development in Lansing and East Lansing. An example of this is connectivity to the CATA Route 3, which travels into downtown Lansing and the CATA Transportation Center, allowing for further transit connections across the region. Annual operating cost estimates for increased demand response capacity are provided below.

Additionally, EATRAN could set up a shuttle to allow Eaton County residents to access the Capital Regional International Airport (or other regional destinations). This would require establishing a shuttle service and a new bus for that service. EATRAN could consider the Marketplace Shopping Center as a potential hub for shuttle service to and from the airport due to its abundance of parking options and connections to other public transportation services.

Table 7: Regional Connection Cost Estimate

Scenario	Estimated Added Annual Operating Cost
Add two more vehicles to EATRAN demand response service (Weekday 6:30 a.m.-9:00 p.m.) so that more out-of-county destinations can be served. ¹³	\$470k – \$580k
Establish airport shuttle from Downtown Charlotte to Downtown Grand Ledge, and the Capital Regional International Airport. 10 round trips a day, 7 days a week. ¹⁴	\$150k – \$190k

¹³ The National Transit Database (NTD), "EATRAN 2022 Transit Agency Profile," <https://www.transit.dot.gov/ntd>. Calculated by considering the difference between the cost of 6:30 a.m. to 9:00 p.m. weekday demand service at current EATRAN service levels, and the cost of 6:30 a.m. to 9:00 p.m. weekday demand service with two additional demand response vehicles in operation.

¹⁴ The National Transit Database (NTD), "EATRAN 2019 Transit Agency Profile," <https://www.transit.dot.gov/ntd>. Calculated assuming 2019 County Connector operating costs while considering the inflation rate from 2019 to 2023. Assumes 10 round trips per day operating approximately between 7:00 a.m. and 8:30 p.m. A round trip is estimated to take 40 minutes.

4. Strengthen Partnerships across the County

4.1. Expand partnerships with social service agencies

Timeline:	Next 12 Months	1-2 Years	3+ years
Anticipated Cost:	Low/Neutral	Funding Needed	New Funding Needed

Overview

In the past, EATRAN served Community Mental Health as a contracted client. This agency used EATRAN services to serve their program's transportation needs. They no longer use EATRAN services because their funding was cut (before the COVID-19 pandemic), and they now have their own in-house transportation system. Partnerships like this one can be explored with other agencies to meet crucial transportation needs in the County and boost ridership. Back in 2016, contract clients made up 16% of total EATRAN riders. Currently, there are no active contract clients.

Options

EATRAN could use existing networks to seek out partnerships with local social service agencies. Some preliminary steps to take include:

- Creating space on website to advertise EATRAN partnership opportunities and highlight existing partnerships with local organizations.
- Meet with Eaton County social service agencies and the Barry-Eaton District Health Department to understand community and organizational needs and explore effective partnership methods.
- Reach out to agencies and organizations, providing informational materials about EATRAN services and partnership opportunities.
- Establish a county-level public transportation commission that convenes with interested agencies and municipal partners to review transportation service initiatives and County needs.

4.2. Partner with major employers on access and service

Timeline:	Next 12 Months	1-2 Years	3+ years
Anticipated Cost:	Low/Neutral	Funding Needed	New Funding Needed

Overview

EATRAN can explore ways to partner with existing employers that are already generating many demand response trips (Capital Area Michigan Works, Charlotte Walmart, Charlotte Meijer), as shown in Table 8. Additionally, new employment opportunities are coming to the county, including the Ultium Cells battery cell manufacturing facility, which is set to employ more than 1,700 people in 2025.¹⁵ EATRAN can explore methods to educate and partner with employers, communicating the economic development benefits of public transportation and the ways it can help attract potential employees. Many of the new employment centers will be located in Delta Township. Given this, it may be beneficial to partner with other regional transit providers so services can seamlessly cross county borders and better serve employee needs.

Table 8: EATRAN Top 10 Destinations, May 2023

Name	Jurisdiction	On	Off	Total
Capital Area Michigan Works – Peckham	City of Charlotte	278	302	580
Walmart	City of Charlotte	193	209	402
Island City Academy – K-8 Eaton Rapids Public School	Hamlin Township	268	123	391
Meijer	City of Charlotte	182	199	381
Greyhound Early Learning Center – Eaton Rapids Public Schools	City of Eaton Rapids	139	141	280
Lansing Mall	Delta Township	153	91	244
Creative Pulp – Eaton Resa Education Services	City of Charlotte	116	111	227
Olivet Middle & High School	City of Olivet	127	84	211
Meijer	Delta Township	73	123	196
St Gerard Catholic Church	Delta Township	168	12	180

Options

EATRAN could create a formalized framework to standardize the process for agency-private sector partnerships, to organize employers together and pool necessary resources for public transit investment, and to create ways for employers to subsidize late-shift public transportation.¹⁶ This framework could include the following partnership opportunities:

- *Integration with large employment center facilities:* Many employment centers have large footprints that make it difficult for employees to access the main facility without a car. Through partnership, agencies could work with these employers to create a designated drop off spot for those using public transportation to access the facility. Ideally, a spot to wait for pickup would include a shelter to protect users from the weather or a spot to wait inside the facility and see approaching vehicles. Additionally, this spot could include signage, informational materials, real-time arrival information, and bike storage.
- *Subsidize late-shift transportation:* Currently, EATRAN service ends at 6:00 p.m. and CATA fixed route service ends at 10:00 p.m. Weekday evening service may be extended, but this would still leave out many late-shift workers. EATRAN could create an after-hour demand response service that employers could contract out. The estimated annual operating cost of contracting out one EATRAN vehicle from 9:00 p.m. to 6:30 a.m. is \$155,000 to \$189,000.

¹⁵ Ultium Cells, "Lansing, MI," accessed December 12, 2023, <https://www.ultiumcell.com/our-locations/lansing-mi>.

¹⁶ APTA, "Supporting Late-Shift Workers: Their Transportation Needs and the Economy," September 2019, www.apta.com/wp-content/uploads/APTA_Late-Shift_Report.pdf.

- **Create a transit-supportive employer membership group:** Regional transit providers could explore the possibility of jointly creating a transit-supportive committee of representatives from major employers in Eaton County, Lansing, and East Lansing. Coordination with *Capital Area Michigan Works!* could be explored. This committee could gather needs and further explore partnership opportunities between the employers and transit agencies.
- **Additional Service – Microtransit zone:** A microtransit zone could be created to increase access from Lansing to the growing cluster of major employers just across the border in Delta Township including: Ultium Cells, GM Lansing Delta Assembly Plant, Amazon Warehouse, Amazon Fulfillment Center LAN2, and Meijer Distribution Center. This zone would connect nearby fixed route CATA service to these major employers. An annual operating cost estimate for this service is included below. This estimate assumes that CATA would be operating the micro-transit zone – which would run two vehicles and be operational 12 hours a day on weekdays and weekends.
- **Additional Service – Adding CATA extensions:** Future CATA route extensions, like an extension of Route 12, could be explored. EATRAN and CATA could work together to enhance bus stops in Eaton County, so customers have a designated, protected place to wait for the bus (or for EATRAN demand response service).

Figure 9: Employment Center Facility Access Issues



Table 9: Microtransit Zone Cost Estimate

Scenario	Estimated Annual Operating Cost
CATA operated microtransit zone: Two vehicles	\$730k – \$890k
Extension of Route 12 ¹⁷	\$470k – \$570k

¹⁷ The National Transit Database (NTD), “CATA 2022 Transit Agency Profile,” <https://www.transit.dot.gov/ntd>. Assumes Route 12 maintains current hours of operations and current frequencies. Assumes the extension adds a total of 30 mins (15 minutes outbound and 15 minutes inbound). Does not consider additional capital costs.

Figure 10: CATA Routes and Microtransit Zone General Area

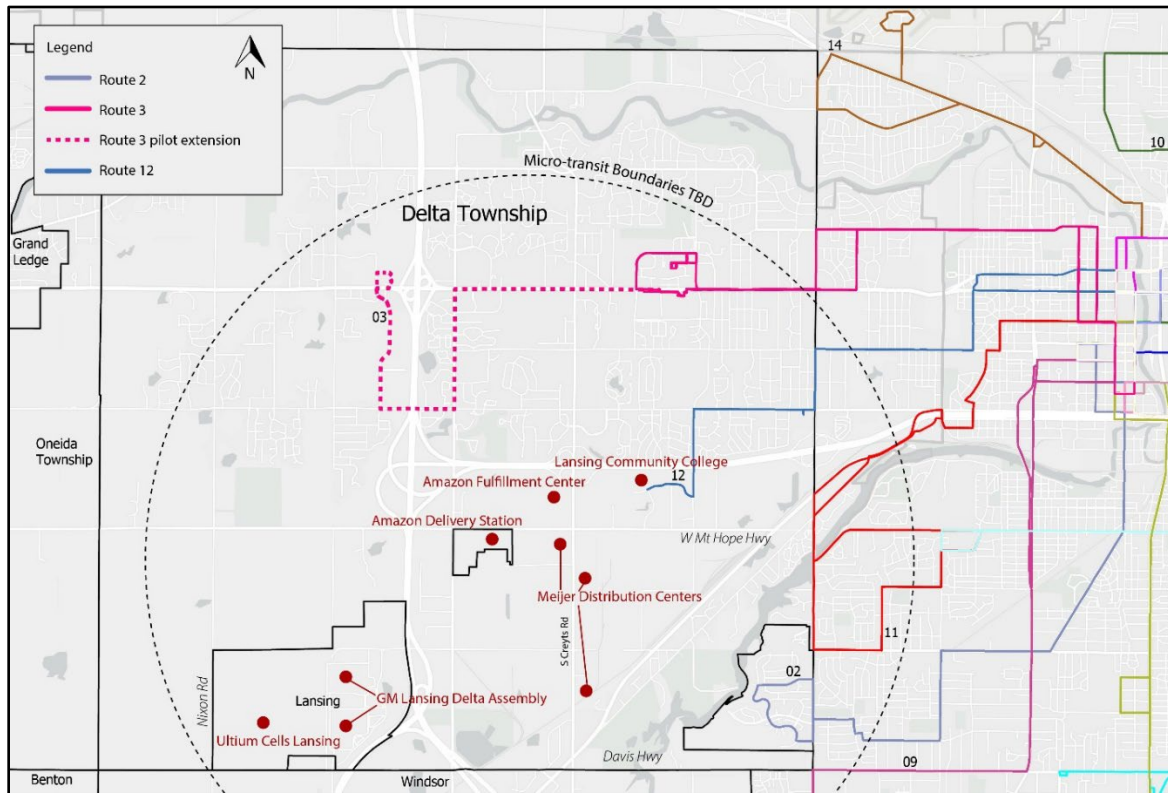
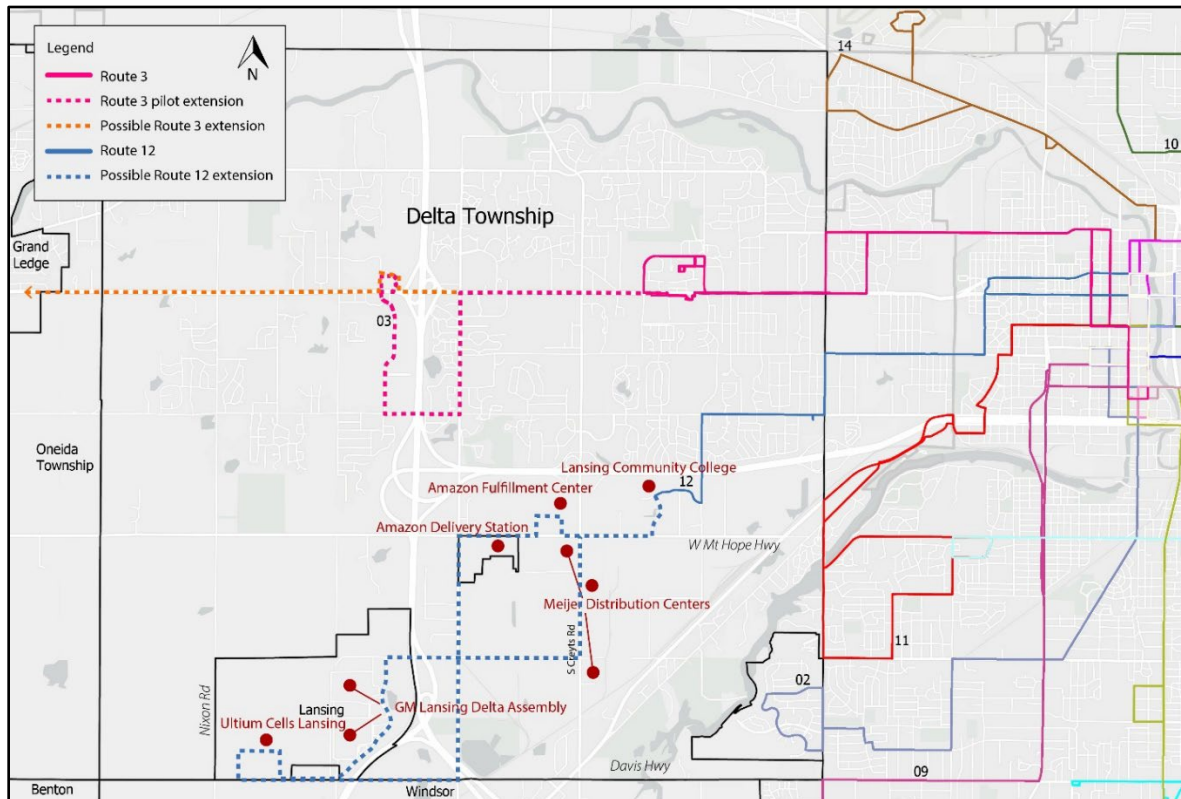


Figure 11: CATA Route 12 Extension



5. Strengthen Operational and Financial Sustainability

5.1. Diversify EATRAN fleet to include more flexible, smaller vehicles

Timeline:	Next 12 Months	1-2 Years	3+ years
Anticipated Cost:	Low/Neutral	Funding Needed	New Funding Needed

Overview

The current EATRAN fleet consists almost entirely of 16- to 25-seat vehicles, but the majority of EATRAN demand-response trips serve one passenger at a time. Right-sizing vehicles is a good first step when working towards sustainable fleet management. This includes working towards an optimal fleet, which consists of the fewest and most cost-efficient vehicles necessary to achieve agency operations.¹⁸ Michigan laws, regulations, and incentives can help inform fleet management decisions. Fleet management techniques include:

- Transitioning to smaller, more efficient engines to reduce operating costs and conserve fuel.
- Reducing vehicle size and/or weight.
- Transitioning to electric vehicles, vehicles that use alternative fuel, or vehicles that are more fuel efficient.

Options

Demand response or microtransit services have the flexibility to utilize vehicles of varying sizes, but it is advisable to opt for ADA-accessible vehicles within the range of approximately 6 to 10 seats, such as minivans or vans. Smaller vehicles are generally more cost-effective, and drivers of these vehicles may not require the same level of training and licensing.

As elements of this plan are implemented, EATRAN could adjust its fleet to include some smaller, more efficient vehicles that are better suited to single-occupancy trips. EATRAN currently has 12 light-duty cutaway buses, nine medium-duty cutaway buses, and four light-duty vans. As EATRAN starts to retire some of light-duty and medium-duty buses, they could consider replacing them with vans.

¹⁸ "Federal Best Practices: Core Principles of Sustainable Fleet Management, U.S. Department of Energy, November 2020, <https://www.energy.gov/sites/default/files/2020/11/f80/federal-best-practices-sustainable-fleet.pdf>.

5.2. Strengthen marketing and branding

Timeline:	Next 12 Months	1-2 Years	3+ years
Anticipated Cost:	Low/Neutral	Funding Needed	New Funding Needed

Overview

The EATRAN Survey results reveal that 15% of respondents are not familiar with EATRAN and around half of respondents have never used EATRAN. For those who don't use EATRAN often, one of the primary barriers to using service is not knowing how to use it. EATRAN is largely understood as being only for seniors and individuals with disabilities, with around 1/4 of trips taken by people who fit neither of those categories. Reaching out to businesses and employers, health organizations, and the public can help establish an understanding of how transit can meet a variety of needs and increase system utilization. Because many potential customers may be unfamiliar with the service as a form of public transit, it's important to educate them on how to book rides and utilize the service. This promotion can help inform and attract new customers and establish an ongoing awareness of the service.

Options

EATRAN could explore the following marketing and branding strategies:

- *Website Development:* EATRAN can update its website with essential new service details and a more user-friendly layout.
- *Media Outreach and Community Announcements:* EATRAN can publish news in local media and newspapers, informing readers about ways to access EATRAN service. Municipal channels, newsletters, and communications from local nonprofit organizations that cater to the transportation-disadvantaged can also be used to reach the community. EATRAN currently participates in many community events, including the Eaton County Fair and Delta Rocks!. Continuing these efforts and bringing informative materials will continue to allow EATRAN to engage with potential riders and raise awareness of services.
- *Targeted Outreach:* Focused outreach efforts, such as targeted emails or advertisements in print and social media with "how-to" instructions, can be particularly beneficial for seniors and those residing in retirement communities. This could include the production of a concise, informative video explaining how to use the service to be shared on the service website and various social media platforms.
- *Partnerships:* As noted in the sections above, EATRAN can collaborate with local stakeholders, including employers and social service organizations. These channels can be leveraged to efficiently distribute materials. Other partnerships could be formed with local unions, schools, businesses, and other community groups.

5.3. Develop driver recruitment and retention strategy

Timeline:	Next 12 Months	1-2 Years	3+ years
Anticipated Cost:	Low/Neutral	Funding Needed	New Funding Needed

Overview

Like many transit agencies, one of EATRAN's main barriers to providing services is recruiting and maintaining drivers. EATRAN recently raised driver salaries, which is expected to help with recruitment and retention. Knowing that this is a national issue, it is best practice to be proactive in creating a sustainable recruitment and retention strategy moving forward.

A recruitment and retention strategy contains a detailed plan that considers recruitment best practices and retention methods, including ways to adjust pay barriers and promotion structures, provide work-life balance support, accommodate a diverse labor pool, prioritize driver safety and well-being in the vehicles, and provide leadership and development opportunities.¹⁹ This strategy could also include efforts to partner with local schools and institutions to advertise career opportunities and meet potential candidates.

Options

Create a recruitment and retention strategy containing the following objectives:

- *Address driver needs:* To provide work-life balance support, EATRAN could ensure that drivers understand opportunities to adjust schedules. To prioritize driver safety and well-being, EATRAN could interview current drivers to understand common struggles, investigate solutions to help drivers feel safe and supported, and enable drivers to fulfill customer needs.
- *Retain Employees:* To accommodate a diverse labor pool, agencies should strive to meet a wide range of employee needs and desires. This could include creating flexible schedules, childcare assistance, and overtime opportunities. Many drivers leave due to low wages, difficult schedules, and limited opportunities to further their careers. By communicating an explicit promotional and pay increase structure during the hiring process, drivers can know what to anticipate and be better prepared to envision long-term career goals. Finally, providing leadership and development programs can help retain employees that desire career advancement and providing training and educational opportunities can raise driver confidence and improve service. These programs are ideally accompanied by pay raises or other incentives.
- *Improve Recruitment Strategies:* EATRAN could go out to local schools and work with Capital Area Michigan Works! to provide information about the process of obtaining and maintaining a valid Michigan Commercial Driver's License (CDL) and MDOT physical card and to identify potential candidates. They could also provide financial assistance to help drivers maintain their necessary licenses. Additionally, it is best practice to continually raise starting wages to appropriately compensate drivers as living expenses grow.

¹⁹ "Recruiting and Retaining Bus Operators," American Public Transportation Association, Accessed November 7, 2023, https://www.apta.com/wp-content/uploads/Team-1_Recruiting-and-Retaining-Bus-Operators.pdf.

5.4. Supplement local funding to match service needs

Timeline:	Next 12 Months	1-2 Years	3+ years
Anticipated Cost:	Low/Neutral	Funding Needed	New Funding Needed

Overview

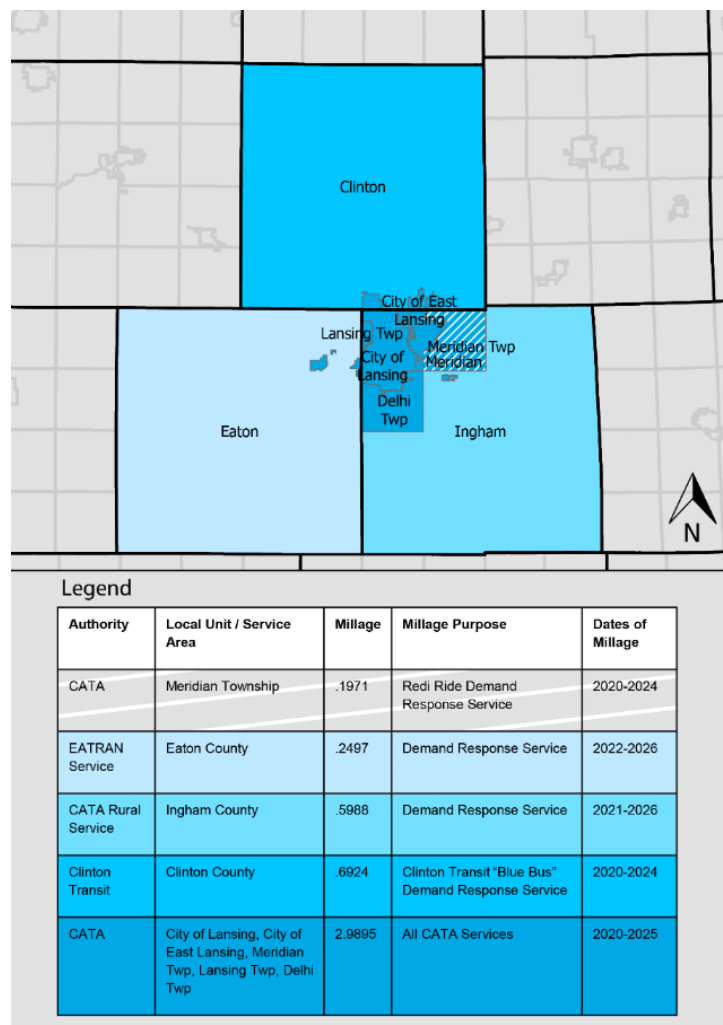
Eaton County's transit system has clear needs and has local support for additional service that better connects the County and the region. Growing service to meet these needs, as laid out in this report, would require additional local funding resources to pay for increased operations and facility costs. New local funding is required to meet many of the service goals, which include expansion of services into weekday evenings and during weekends, as well as re-establishment of fixed route connectors with CATA and into Ingham County.

Local funding sources (millage and farebox receipts) currently account for less than half of EATRAN's budget, typically making up between 40% to 45% of combined operating expenses. The remainder of EATRAN's funding is made up of state and federal funding programs. These formula-based programs are structured so that the level of support would increase as service and ridership increase. This means that additional local funding resources for EATRAN would likely be matched at a greater than 50% rate by additional state and federal funding support.

Options

Feasible options for Eaton County and its communities to consider for increasing local funding include those outlined below, generally organized from the most to the least impactful in terms of the potential revenue generated to support service needs.

Figure 12: Regional Transit Millages



Increase the County-wide millage (potential revenue impact: high)

The current 0.25-mill property tax within Eaton County generated a little below \$1 million in local funds in 2022. This local funding helped to sustain an annual operating budget of approximately \$2.5 million. Increasing this millage to be closer to or on par with other regional county peers such as Clinton County (0.69 mill) or the rural areas of Ingham County (0.6 mill) could generate substantial funding support for County-wide service. See Figure 12 for an overview of the current transit millage and funding rates in the Lansing region.

A millage increase from 0.25 to 0.4 could generate a 60% increase in local funding, translating to an operational budget of approximately \$4 million for local transit services. An increase of this magnitude could support the expansion of demand response service during weekday evenings and weekends, as well as the reestablishment of the Connector service to Charlotte.

A millage increase from 0.25 to 0.5 could generate a 100% increase in local funding, translating to an operational budget of approximately \$5 million for local transit services. An increase of this magnitude could significantly expand EATRAN service for the elements noted above, plus supply funding for continuation of the Route 3 pilot service.

Targeted Municipal or Township Funding (potential revenue impact: high)

Any municipality or township within the County with particular service needs could dedicate funding toward transit services, either by directing general funds or by establishing a standalone millage. These funds could be directed to a service provider such as EATTRAN or CATA to provide additional transit services within their jurisdiction. For example, Delta Township could establish a transit millage at the Township level that adds supplemental funds used to support CATA Route 3 service as well as additional demand response services within or to Township destinations. Or the City of Charlotte could provide funding to help sustain additional Connector fixed-route service traveling into Lansing and/or Delta Township. The rate and amount of funding generated at the local level could vary, and in the case of dollars provided via a general fund, could change year by year.

This type of approach would likely make the most sense (and be most impactful) within jurisdictions that have higher levels of development and thus higher transit needs compared to the remainder of the County. Such jurisdictions would also generate significantly more local tax revenue due to the size of their tax bases. For example, Delta Township alone represents 40% of the property tax base within Eaton County based on assessed values. The next largest jurisdictions based on taxable value are in the northern portion of the County, including Windsor Charter Township (7%), the City of Grand Ledge (6%) and the City of Charlotte (6%).

A separate transit millage supplied by Delta Township could be sized to focus on support for continued operation of the extended Route 3 as well as connectivity (via fixed route or demand response) to major employers in the Township. Separate millages by communities such as Grand Ledge or Charlotte could be sized to provide connector services to Lansing and/or CATA.

Service Partnerships and Agreements (potential revenue impact: medium)

Many potential new services within the County, potentially serving healthcare facilities or major new employment complexes, have institutional or employer partners that would have a clear interest and potentially a willingness to pay for an agreed-upon level of service. EATTRAN and its partners could explore funding and access agreements whereby individual entities driving ridership demand (e.g., factory, hospital system) would help provide the local portion of funding needed to sustain the additional service. Based on the transit funding model in place, such contributions may need to account for between 30%-50% of the cost of providing service and could help expand targeted services to key locations.

Increased Fare Revenues (potential revenue impact: low)

Fare revenues currently account for between 5%-10% of EATTRAN's operating budget. Additionally, EATTRAN's fare rates (\$2 regular fares, \$1 reduced fares within the County) are generally consistent with other fares from other providers in the region. While higher fares could provide some revenue boost for EATTRAN, they are unlikely to be a source that allow for expansion of service. Increasing fares may also impact demand for additional services.

Ultimately, the options presented above are not mutually exclusive, and some combination of added County, Municipal or other funding resources could be combined to stand behind the levels of service that would be needed to meet all County needs. The options to be explored also do not correspond with a particular operational or governance model.

Implementation

Eaton County has numerous transportation needs, and these will continue to evolve over time. This report lays out a series of transit services and other actions that could enhance the connectivity and effectiveness of public transportation in the County and connect the larger region. But not all actions can be advanced simultaneously.

The table below indicates the likely implementation timeframe for each action based on consideration of priority (as expressed by the public and assessment of needs), costs (including whether additional funding would be required) and the likely lead time needed to plan and implement each action.

Table 10: Action Implementation Timeframe

	Priority	Cost	Timeframe	Possible Interagency Coordination*
1. Improve the efficiency and usability of current EATRAN services				
Adjust trip booking and cancellation policies to improve system efficiency	Lower	\$	Short-term	
Improve the trip reservation / confirmation process for customers	Medium	\$\$	Mid-term	
Upgrade technology for scheduling and tracking of service	Medium	\$\$	Mid-term	Maybe
2. Develop new EATRAN services that respond to underserved needs				
Add weekday evening service options for dial-a-ride	High	\$\$\$	Mid-term	
Add weekend (Saturday / Sunday) service for dial-a-ride	Medium	\$\$\$	Long-term	
Re-establish County connector services	High	\$\$	Short-term	Maybe
3. Enhance regional connectivity				
Coordinate and provide connections to the services of other providers within the greater Lansing area	High	\$\$\$	Mid-term	Yes
Provide connectivity to major regional destinations (downtown, hospitals, airport)	Medium	\$\$\$	Long-term	Yes
4. Collaborate and strengthen partnerships across the County				
Expand partnerships with social service agencies	Lower	\$	Short-term	Maybe
Partner with major employers (existing and new) on access and service	Medium	\$\$\$	Mid-term	Yes
5. Strengthen operational and financial sustainability				
Diversify EATRAN fleet to include more flexible smaller vehicles (cars/vans)	Lower	\$\$	Mid-term	Yes
Strengthen marketing and branding	Lower	\$	Short-term	Maybe
Develop driver recruitment and retention strategy	High	\$	Short-term	
Supplement local funding to match service needs	High	\$\$\$	Long-term	Maybe

\$ - Low cost or cost-neutral

\$\$ - Funding needed; potentially or partially accomplished without new funding

\$\$\$ - Significant new funding resources needed

Short-term – Could be advanced immediately or in next 12 months

Mid-term – Likely to require 1-2 years

Long-term – May take 3 or more years to accomplish

*EATRAN/CATA/Canton/Private Carriers/etc.

Appendix A Existing Conditions Report

Appendix B Survey Summary Report



Via Email

October 5, 2023

Chad Powers
Director
Eaton County Physical Plant
1045 Independence Boulevard
Charlotte, MI 48813

Re: **Semi-Annual Groundwater Monitoring – September 2023**
Eaton County Landfill

Dear Mr. Powers:

This letter has been prepared in association with the second semi-annual groundwater and surface water sampling event of 2023 at the referenced site. Sampling was conducted on September 19 through 22, 2023. During this sampling event, static water levels were measured in 16 monitoring wells, groundwater samples were collected from 14 monitoring wells (MW-2s, MW-2d, MW-3, MW-7r, MW-8s, MW-8dr, MW-10s, MW-10d, MW-15sr, MW-15dr, MW-17sr, MW-17dr, MW-18s, and MW-19s), and two surface water samples (SW-1 and SW-2) were obtained. A groundwater sample was not collected from MW-16 because the well has deteriorated and does not recharge sufficiently during the sampling event to allow for the collection of a representative sample. Monitor well MW-12 was not sampled because this well does not appear to be part of the same hydrogeologic units being monitored throughout the site. The water level at this location is significantly lower than the wells located hydraulically downgradient from it.

Strata personnel obtained static water level measurements from 16 monitoring wells on September 19, 2023. A summary of the groundwater elevation data is presented in Table 1 (Attachment 1). Prior to sampling, a volume of groundwater was purged from each monitoring well. Monitoring wells were purged until a minimum of 3 casing volumes of groundwater were removed from each well, field parameters (temperature, specific conductance, and pH) generally stabilized to within 5% of successive readings, or until monitoring wells had bailed dry at least 3 times and field parameters generally stabilized. Temperature, specific conductance, and pH measurements were obtained using a Hanna Instruments combination meter. This information is included on the "Groundwater Monitoring Field Data Sheets" included as Attachment 2. All groundwater samples submitted for metal analyses were field filtered with Geotech, in-line, 0.45-micron membrane filters. Following collection, the samples were stored in a cooler on ice until being delivered to the lab following chain-of-custody protocol. Samples were submitted for analysis of the semi-annual suite of parameters. The analytical reports and chain-of-custody records are included as Attachment 3.

Groundwater surface elevation data (Attachment 1) for the shallow and deep wells were plotted on a site map and contoured using the computer code SURFER®. The resultant groundwater surface elevation contour maps are presented as Figure 1 (shallow wells) and Figure 2 (deep wells). Examination of the elevation data/contours on these figures indicates groundwater migrates toward the north/northwest, which is consistent with historic data.

Table 2 (Attachment 4) is a summary of the analytical results from the monitor well and surface water samples and a comparison to applicable Generic Residential Cleanup Criteria (GRCC). In general, results are similar to previous sampling events. Volatile organic compounds (VOCs) were only detected at or above their compound-specific reporting limits in the groundwater samples from MW-7r, MW-15sr, MW-17sr, and MW-17dr. The groundwater sample from MW-7r contained vinyl chloride at a concentration of 1.2 µg/L. MW-15sr contained 1,1-dichloroethane (4.8 µg/L), 1,2-dichloroethane (1.2 µg/L) cis-1,2-dichloroethene (69 µg/L), diethyl ether (19 µg/L), and vinyl chloride (1.6 µg/L). Of these concentrations, diethyl ether is the only compound that exceeded its Drinking Water (DW) GRCC of 10 µg/L.

The sample from MW-17sr contained vinyl chloride at a concentration of 2.0 µg/L. Monitor well MW-17dr contained dichlorodifluoromethane (6.3 µg/L), diethyl ether (14 µg/L), and vinyl chloride (11 µg/L). Both the diethyl ether and vinyl chloride concentrations are in excess of their respective DW GRCC. It should be noted that both MW-17sr and MW-17dr are located hydraulically downgradient from MW-15sr.

Inorganic and metal analytical results for groundwater samples indicate that the reported concentrations of all parameters, except iron, manganese, and total dissolved solids (TDS), are either below their respective reporting limits and/or GRCC, if published. Iron was detected in all groundwater samples (except the samples from MW-8s and MW-8dr) at concentrations that range from 260 µg/L (MW-3) to 5,900 µg/L (MW-17dr). The reported iron concentrations exceed its DW GRCC (300 µg/L) in all the monitor well samples in which it was detected except for MW-3 (260 µg/L). It should be noted that the 300 µg/L DW GRCC for iron is an aesthetic criterion; the health based DW GRCC for iron is 2,000 µg/L. Magnesium was detected in all groundwater samples above its reporting limit, however no concentration exceeded its DW GRCC of 400,000 µg/L. Manganese was present in MW-2s, MW-7r, MW-8dr, MW-17sr, MW-17dr, and MW-19s at concentrations that range from 51 µg/L (MW-19s) to 240 µg/L (MW-8dr). All reported manganese concentrations in the groundwater samples exceed its aesthetic DW GRCC of 50 µg/L. The health based DW GRCC for manganese is 860 µg/L. All groundwater water samples contained TDS at concentrations that range from 330,000 µg/L (MW-8s) to 600,000 µg/L (MW-10s and MW-17dr). The TDS concentrations in MW-10s and MW-17dr exceed their DW and Groundwater/Surface Water Interface (GSI) GRCC of 500,000 µg/L.

Surface water quality results indicate that no VOCs were detected this event. Both surface water samples (SW-1 and SW-2) contain inorganic and metal analytes at concentrations above compound-specific reporting limits. The reported surface water concentrations were compared to Rule 57 criteria. Because the surface water traversing across the site is not used as a drinking water source, Strata compared the results to the Non-Drink (ND) Human Noncancer Value (HNV) and the Human Cancer Value (HCV), as well as the Wildlife Value (WV). A comparison was not made to the Aquatic Life Values. Of the metals analyzed, only the concentration of arsenic from SW-1 (15 µg/L) exceeds the ND HCV of 10 µg/L for arsenic. None of the other reported concentrations in SW-1 and SW-2 exceed ND HNV, ND HCV, or WV.

The next semi-annual sampling event is scheduled for March 2024. The aforementioned wells and two surface water locations will be included in the monitoring.

Should you have any questions or comments, please do not hesitate to contact our office at (517) 676-6900.

Sincerely,

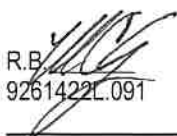
STRATA ENVIRONMENTAL SERVICES, INC.



Sophia V. Serafini
Environmental Professional

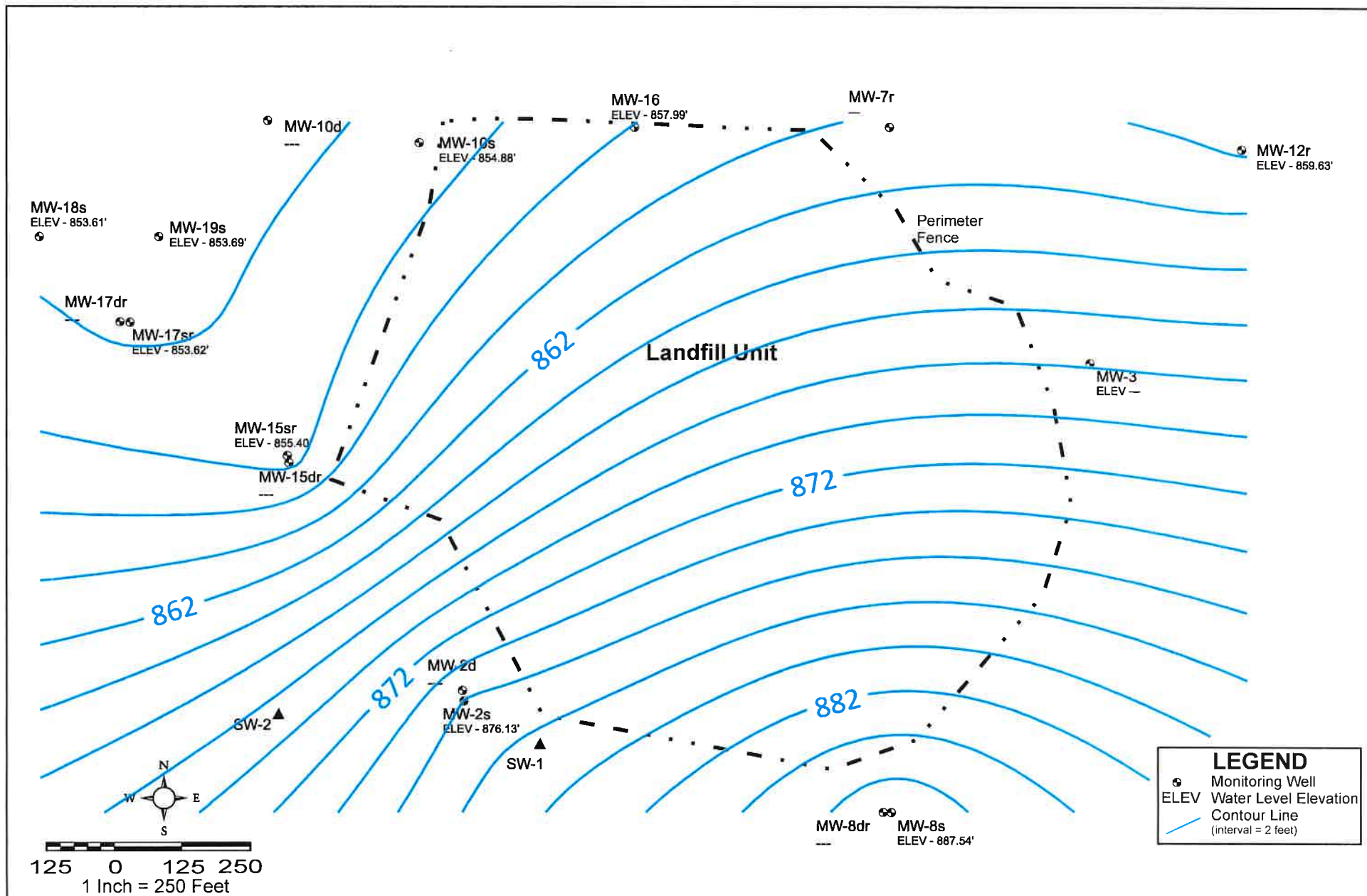
Encls.

Cc: Mr. Evin Maguire (EGLE)



R.B. Maguire
9261422L091

FIGURES

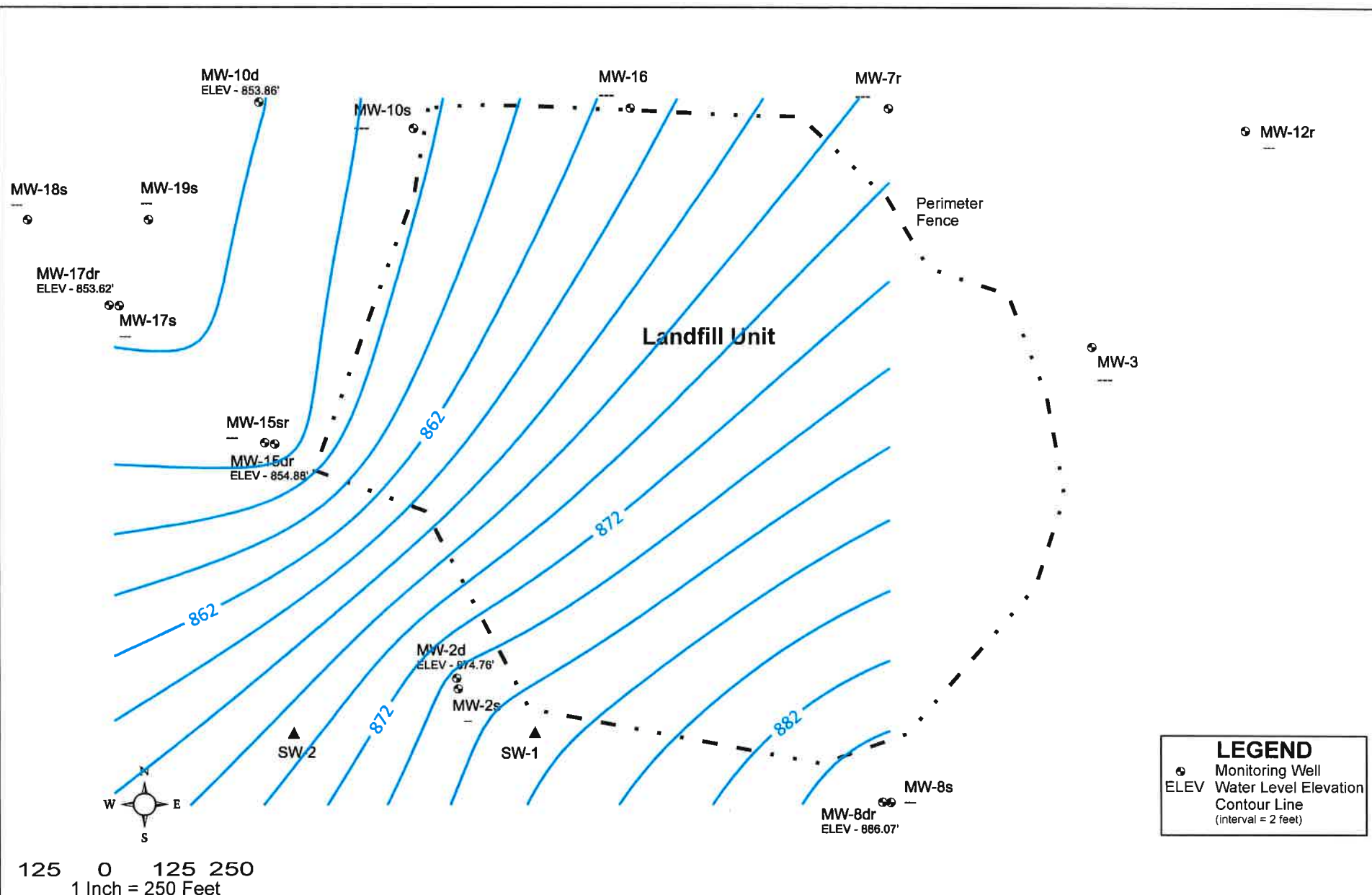


SEMI-ANNUAL GROUNDWATER MONITORING

Eaton County Landfill
Section 20, Benton Township
Eaton County, Michigan

STRATA ENVIRONMENTAL
SERVICES, INC.

FIGURE 1
Groundwater Surface Elevation
Shallow Wells
September 19, 2023



LEGEND

- Monitoring Well
- ELEV Water Level Elevation
- Contour Line
(Interval = 2 feet)

SEMI-ANNUAL GROUNDWATER MONITORING
 Eaton County Landfill
 Section 20, Benton Township
 Eaton County, Michigan



FIGURE 2
 Groundwater Surface Elevation
 Deep Wells
 September 19, 2023

ATTACHMENT 1

TABLE 1. Groundwater Elevation Data

Project Name: Eaton County Landfill
Project Number: 926-1422

Well I.D.	Date of Measurement	Ground Elevation	Measuring Point	Measuring Point Above G.L.	Measuring Point Elevation	Depth to Water	Water Level Elevation	Comments
MW-2s	9/19/2023	---	TOC	---	882.65	6.52	876.13	
MW-2d	9/19/2023	---	TOC	---	882.62	7.86	874.76	
MW-3	9/19/2023	---	TOC	---	912.92	11.22	901.70	
MW-7r	9/19/2023	---	TOC	---	889.91	15.44	874.47	
MW-8s	9/19/2023	---	TOC	---	902.75	15.21	887.54	
MW-8dr	9/19/2023	---	TOC	---	902.52	16.45	886.07	
MW-10s	9/19/2023	---	TOC	---	867.69	12.81	854.88	
MW-10d	9/19/2023	---	TOC	---	863.04	9.18	853.86	
MW-12r	9/19/2023	---	TOC	---	911.07	51.44	859.63	
MW-15sr	9/19/2023	---	TOC	---	869.61	14.21	855.40	
MW-15dr	9/19/2023	---	TOC	---	870.16	15.28	854.88	
MW-16	9/19/2023	---	TOC	---	876.51	18.52	857.99	
MW-17sr	9/19/2023	---	TOC	---	860.41	6.79	853.62	
MW-17dr	9/19/2023	---	TOC	---	860.53	6.91	853.62	
MW-18s	9/19/2023	---	TOC	---	871.00	17.39	853.61	
MW-19s	9/19/2023	---	TOC	---	860.87	7.18	853.69	

All measurements in feet unless otherwise noted

--- = Not Available

ATTACHMENT 2

GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: Eaton County Landfill

Well Number: **MW-2s**

Period of Sampling: Sep-23

Facility: Eaton County

Address: 1045 Independence Blvd
Street Number (PO Box)

Charlotte
City

MI
State

48813
Zip

Contact: Chad Powers
Name

(517) 543-7500
Telephone:

Personnel Present: SVS/NP

WELL DATA:

Well Secure Upon Arrival: Yes ☒ No ☐

TOC Survey Mark: North

Well Conditions: Good ☒ Fair ☐ Poor ☐

Casing Material: Galvanized

Casing Diameter: 2"

Concrete Pad: Yes ☒ No ☐

Screen: Yes ☐ No ☒

Frost Heave: Yes ☐ No ☒

TOC Elevation: 882.65

Static Water Level (ft.): 6.52

Ground Water Elevation: 876.13 feet

Well Depth: TOC Reference 29.00

Standing Water: Yes ☐ No ☒

Secured Upon Departure: Yes ☒ No ☐

Well ID Present/Readable: Yes ☒ No ☐

PURGING DATA:

Date of Purge: 9-20-23 9-22-23

Time of Purge: 0845, 1115 0825 0900

Volume of Water in Casing: 3.75 gals.

Purge Volume 3X ☒ 5X ☐ Other ☐ 11.24 gals.

Purge Water Appearance: light brown + cloudy

Fate of Purge Water: ☒ ☐ ☐

Purge Method: ☐

Purge Method: ☒

Purge Method: ☐

Decon: ☐

Type: ☐

☐ Disposable Bailer

☒ S.S. Submersible Pump

☐ Peristaltic Pump

Yes ☒ No ☐

Liquinox & Water Wash ☒

Water Rinse ☒ Distilled Rinse ☐

Ground 10'+ Contained

SAMPLING DATA:

Date of Sampling: 9-22-23

Time of Sampling: 0905

Field Filtration? Inline Yes ☒ No ☐

Weather: filter sunny 63°F

Sample Appearance: faintly cloudy

Sampling Method: ☒ Bailer ☒ Pump

Decon?: Yes ☒ No ☐

Sp. Conductance: 513 umhos/cm

Temperature °C: 14.6

pH: 7.04

PURGE DATA:

Volume Removed pH

Temperature °C

Specific Conductance
micro siemens

①	2.00 gal.	6.86	13.8	626
	3.75 gal. dry	6.75	13.4	565
	7.00 gal. dry	6.64	13.4	575
②	8.50 gal.	6.90	13.0	599
	10.00 gal. dry	6.90	13.4	611
③	10.50 gal.	7.04	14.6	513
	gal.			
	gal.			

COMMENTS:

sample # 11

GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: Eaton County Landfill

Well Number: MW-2d Period of Sampling: Sep-23

Facility: Eaton County

Address: 1045 Independence Blvd Charlotte MI 48813

Street Number (PO Box) City State Zip

Contact: Chad Powers (517) 543-7500

Name Telephone:

Personnel Present: SVS/NP

WELL DATA:

Well Secure Upon Arrival: Yes ☒ No ☐

TOC Survey Mark: North

Well Conditions: Good ☒ Fair ☐ Poor ☐

Casing Material: Galvanized

Casing Diameter: 2"

Concrete Pad: Yes ☒ No ☐

Screen: Yes ☐ No ☒

Frost Heave: Yes ☐ No ☒

TOC Elevation: 882.62

Static Water Level (ft.): 7.86

Ground Water Elevation: 874.76 feet

Well Depth: 51.90

Standing Water: Yes ☐ No ☒

Secured Upon Departure: Yes ☒ No ☐

Well ID Present/Readable: Yes ☒ No ☐

PURGING DATA:

Date of Purge: 09-20-23 09-22-23

Time of Purge: 0850, 1105 0830 0915

Volume of Water in Casing: 7.34 gals.

Purge Volume 3X ☒ 5X ☐ Other ☐ 22.02 gals.

Purge Water Appearance: faintly cloudy

Fate of Purge Water: ☒ ☐

Purge Method: ☐ Disposable Bailer

Purge Method: ☒ S.S. Submersible Pump

Purge Method: ☐ Peristaltic Pump

Decon: Yes ☒ No ☐

Type: ☒ Liquinox & Water Wash

Water Rinse ☒ Distilled Rinse ☐

Ground 10'+ Contained

SAMPLING DATA:

Date of Sampling: 09-22-23

Time of Sampling: 0920

Field Filtration?: inline Yes ☒ No ☐

Weather: filter sunny 64°F

Sample Appearance: clear

Sampling Method: ☒ Bailer ☒ Pump

Decon?: Yes ☒ No ☐

Sp. Conductance: 598 umhos/cm

Temperature °C: 13.4

pH: 6.97

PURGE DATA:

	Volume Removed	pH	Temperature °C	Specific Conductance micro siemens
①	3.0 gal.	6.71	12.6	576
	6.0 gal. dry @ 7.0	6.68	12.7	578
	9.0 gal. dry	6.66	14.4	691
②	12.0 gal.	6.90	12.6	602
	15.0 gal. dry	6.89	12.6	603
③	17.0 gal.	6.97	13.4	598
	gal.			
	gal.			

COMMENTS:

sample # 12



GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: Eaton County Landfill

Well Number: MW-3

Period of Sampling: Sep-23

Facility: Eaton County

Address: 1045 Independence Blvd

Charlotte

MI

48813

Street Number (PO Box)

City

State

Zip

Contact: Chad Powers

Name

(517) 543-7500

Telephone:

Personnel Present: SVS/ NP

WELL DATA:

Well Secure Upon Arrival: Yes ☒ No ☐

TOC Survey Mark: North

Well Conditions: Good ☒ Fair ☐ Poor ☐

Casing Material: Galvanized

Casing Diameter: 2"

Concrete Pad: Yes ☒ No ☐

Screen: ---

Frost Heave: Yes ☐ No ☒

TOC Elevation: 912.92

Static Water Level (ft.) 11.22

Ground Water Elevation: 901.70 feet

Well Depth: TOC Reference 17.20

Standing Water: Yes ☐ No ☐

Secured Upon Departure: Yes ☐ No ☐

Well ID Present/Readable: Yes ☐ No ☐

PURGING DATA:

Date of Purge: 9-20-23

Time of Purge: 1000

Volume of Water in Casing: 1.00 gals.

Purge Volume 3X ☒ 5X ☐ Other ☐ 2.99 gals.

Purge Water Appearance: faintly cloudy

Fate of Purge Water: ☒ Ground 10'+ Contained

Purge Method: ☒

Purge Method: ☐

Purge Method: ☐

Decon: ☐

Type: ☐

☒ Disposable Bailer

☐ S.S. Submersible Pump

☐ Peristaltic Pump

Yes ☐ No ☒

Liquinox & Water Wash ☐

Water Rinse ☐ Distilled Rinse ☐

SAMPLING DATA:

Date of Sampling: 9-20-23

Time of Sampling: 1015

Field Filtration?: Inline filter Yes ☒ No ☐

Weather: overcast 64°F

Sample Appearance: faintly cloudy

Sampling Method: ☒ Bailer ☒ Pump-peristaltic

Decon?: Yes ☐ No ☒

Sp. Conductance: 660 umhos/cm

Temperature °C: 12.4

pH: 6.56

PURGE DATA:

Volume Removed

pH

Temperature °C

Specific Conductance

micro siemens

0.5 gal.

6.58

12.8

650

1.0 gal.

6.57

12.8

655

1.5 gal.

6.57

12.6

658

2.0 gal.

6.57

12.4

659

2.5 gal.

6.57

12.3

659

3.0 gal.

6.56

12.4

660

COMMENTS:

sample #3



GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: **Eaton County Landfill**

Well Number: **MW-7r** Period of Sampling: **Sep-23**

Facility: **Eaton County**

Address: **1045 Independence Blvd** **Charlotte** **MI** **48813**
Street Number (PO Box) City State Zip

Contact: **Chad Powers** **(517) 543-7500**
Name Telephone:

Personnel Present: SVS/NP

WELL DATA:

Well Secure Upon Arrival: Yes ☒ No ☐ TOC Elevation: **889.91**
TOC Survey Mark: North Static Water Level (ft.) **15.44**
Well Conditions: Good ☒ Fair ☐ Poor ☐ Ground Water Elevation: **874.47** feet
Casing Material: Galvanized Well Depth: TOC Reference **27'**
Casing Diameter: 2" Standing Water: Yes ☐ No ☒
Concrete Pad: Yes ☒ No ☐ Secured Upon Departure: Yes ☒ No ☐
Screen: --- Well ID Present/Readable: Yes ☒ No ☐
Frost Heave: Yes ☐ No ☒

PURGING DATA:

Date of Purge: **9-21-23** Purge Method: ☐ Disposable Bailer
Time of Purge: **0905** Purge Method: ☒ S.S. Submersible Pump
Volume of Water in Casing: **1.93** gals. Purge Method: ☐ Peristaltic Pump
Purge Volume 3X ☒ 5X ☐ Other ☐ **5.78** gals. Decon: Yes ☒ No ☐
Purge Water Appearance: **faintly brown + cloudy** Type: Liquinox & Water Wash ☒
Fate of Purge Water: ☒ Ground 10'+ Contained Water Rinse ☒ Distilled Rinse ☐

SAMPLING DATA:

Date of Sampling: **9-21-23** Sampling Method: ☒ Bailer ☒ Pump
Time of Sampling: **0915** Decon?: Yes ☒ No ☐
Field Filtration?: **Inline** Weather: **sun, clouds, 61°F** Sp. Conductance: **767** umhos/cm
Sample Appearance: **clear** Temperature °C: **10.9**
pH: **6.79**

PURGE DATA:

Volume Removed	pH	Temperature °C	Specific Conductance micro siemens
2.0 gal.	6.80	12.4	757
4.0 gal.	6.80	11.7	762
6.0 gal.	6.79	11.0	768
8.0 gal.	6.79	10.9	766
10.0 gal.	6.79	10.9	767
gal.			
gal.			
gal.			

COMMENTS:

sample # 5



GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: **Eaton County Landfill**

Well Number: **MW-8s**

Period of Sampling: **Sep-23**

Facility: **Eaton County**

Address: **1045 Independence Blvd**
Street Number (PO Box)

Charlotte
City

MI
State

48813
Zip

Contact: **Chad Powers**
Name

(517) 543-7500
Telephone

Personnel Present:

SVS/NP

WELL DATA:

Well Secure Upon Arrival: Yes ☒ No ☐

TOC Survey Mark: North

Well Conditions: Good ☒ Fair ☐ Poor ☐

Casing Material: Galvanized

Casing Diameter: 2"

Concrete Pad: Yes ☒ No ☐

Screen: ---

Frost Heave: Yes ☐ No ☒

TOC Elevation:

902.75

Static Water Level (ft.)

15.21

Ground Water Elevation:

887.54 feet

Well Depth: TOC Reference

16.85

Standing Water:

Yes ☐ No ☐

Secured Upon Departure:

Yes ☐ No ☐

Well ID Present/Readable:

Yes ☐ No ☐

PURGING DATA:

Date of Purge: **9-20-23**

Time of Purge:

1020

Volume of Water in Casing:

0.27 gals.

Purge Volume 3X ☒ 5X ☐ Other ☐ **0.82** gals.

Purge Water Appearance:

clear

Fate of Purge Water:

☒ ☐

Purge Method:

☒

Purge Method:

☐

Purge Method:

☐

Decon:

Yes ☐ No ☒

Type:

Liquinox & Water Wash ☐

Water Rinse ☐ Distilled Rinse ☐

Disposable Bailer

S.S. Submersible Pump

Peristaltic Pump

Ground 10'+ Contained

SAMPLING DATA:

Date of Sampling: **9-20-23**

Time of Sampling:

1030

Field Filtration?: **inline filter**

Yes ☒ No ☐

Weather: **overcast 65°F**

Sample Appearance:

clear

Sampling Method: ☒ Bailer

☒ Pump - peristaltic

Decon?:

Yes ☐ No ☒

Sp. Conductance: **536**

umhos/cm

Temperature °C: **10.8**

pH: **6.56**

PURGE DATA:

Volume Removed

pH

Temperature °C

Specific Conductance

micro siemens

0.25 gal.

6.54

11.4

531

0.50 gal.

6.54

11.0

537

0.75 gal.

6.54

10.9

537

1.00 gal.

6.55

10.8

538

1.25 gal.

6.56

10.8

536

gal.

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GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: Eaton County Landfill

Well Number: MW-8dr

Period of Sampling: Sep-23

Facility: Eaton County

Address: 1045 Independence Blvd

Charlotte

MI

48813

Street Number (PO Box)

City

State

Zip

Contact: Chad Powers

Name

(517) 543-7500

Telephone:

Personnel Present: SVS/NP

WELL DATA:

Well Secure Upon Arrival: Yes ☒ No ☐

TOC Survey Mark: North

Well Conditions: Good ☒ Fair ☐ Poor ☐

Casing Material: PVC

Casing Diameter: 2"

Concrete Pad: Yes ☒ No ☐

Screen: Yes ☐ No ☒

Frost Heave: Yes ☐ No ☒

TOC Elevation: 902.52

Static Water Level (ft.) 16.45

Ground Water Elevation: 886.07 feet

Well Depth: TOC Reference 59'

Standing Water: Yes ☐ No ☒

Secured Upon Departure: Yes ☒ No ☐

Well ID Present/Readable: Yes ☒ No ☐

PURGING DATA:

Time of Purge: 0920

Volume of Water in Casing: 7.09 gals.

Purge Volume 3X ☒ 5X ☐ Other ☐ 21.28 gals.

Purge Water Appearance: clear

Fate of Purge Water: ☒ Ground 10'+ Contained

Purge Method: ☐ Disposable Bailer

Purge Method: ☒ S.S. Submersible Pump

Purge Method: ☐ Peristaltic Pump

Decon: Yes ☒ No ☐

Type: ☒ Liquinox & Water Wash

Water Rinse ☒ Distilled Rinse ☐

SAMPLING DATA:

Time of Sampling: 0940

Field Filtration?: Inline Yes ☒ No ☐

Weather: filter sun, clouds 62°F

Sample Appearance: clear

Sampling Method: ☒ Bailer ☒ Pump

Decon?: Yes ☒ No ☐

Sp. Conductance: 741 umhos/cm

Temperature °C: 10.5

pH: 6.77

PURGE DATA:

Volume Removed

pH

Temperature °C

Specific Conductance

micro siemens

5.0 gal. 6.76

10.0 gal. 6.74

15.0 gal. 6.76

20.0 gal. 6.77

25.0 gal. 6.77

30.0 gal. 6.77

10.9

10.7

10.6

10.6

10.5

10.5

738

742

740

742

741

741

COMMENTS:

sample # 6



GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: **Eaton County Landfill**

Well Number: **MW-10d**

Period of Sampling: **Sep-23**

Facility: **Eaton County**

Address: **1045 Independence Blvd**
Street Number (PO Box)

Charlotte
City

MI
State

48813
Zip

Contact: **Chad Powers**
Name

(517) 543-7500
Telephone:

Personnel Present: SVS/NP

WELL DATA:

Well Secure Upon Arrival: Yes ☒ No ☐

TOC Survey Mark: North

Well Conditions: Good ☒ Fair ☐ Poor ☐

Casing Material: PVC

Casing Diameter: 2"

Concrete Pad: Yes ☒ No ☐

Screen: ---

Frost Heave: Yes ☐ No ☒

TOC Elevation: **863.04**

Static Water Level (ft.) **9.18**

Ground Water Elevation: **853.86** feet

Well Depth: TOC Reference **45.40**

Standing Water: Yes ☐ No ☒

Secured Upon Departure: Yes ☒ No ☐

Well ID Present/Readable: Yes ☒ No ☐

PURGING DATA:

Date of Purge: **09-20-23** **09-22-23**

Time of Purge: **0945, 1045** **0850** **01035**

Volume of Water in Casing: **6.04** gals.

Purge Volume 3X ☒ 5X ☐ Other ☐ **18.11** gals.

Purge Water Appearance: **dark grey + cloudy**

Fate of Purge Water: ☒ ☐

Purge Method: ☐

Purge Method: ☒

Purge Method: ☐

Decon: ☐

Type: ☐

☐

Disposable Bailer

☒

S.S. Submersible Pump

☐

Peristaltic Pump

Yes ☒

No ☐

Liquinox & Water Wash ☒

Water Rinse ☒

Distilled Rinse ☐

Ground 10'+ Contained

SAMPLING DATA:

Date of Sampling: **9-22-23**

Time of Sampling: **1040**

Field Filtration? **inline** Yes ☒ No ☐

Weather: **filter sunny 70 F**

Sample Appearance: **faintly cloudy**

Sampling Method: ☒ Bailer ☒ Pump

Decon?: Yes ☒ No ☐

Sp. Conductance: **630** umhos/cm

Temperature °C: **12.0**

pH: **6.99**

PURGE DATA:

Volume Removed pH

Temperature °C

Specific Conductance
micro siemens

① 3.0 gal. **6.60**

11.3

616

6.0 gal. dry **6.60**

11.3

626

12.0 gal. dry **6.52**

11.6

636

② 15.0 gal. **6.87**

11.6

643

18.0 gal. dry @ 19.0 **6.85**

11.7

644

③ 21.0 gal. **6.99**

12.0

630

gal.

gal.

gal.

COMMENTS:

sample # 16



GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: **Eaton County Landfill**

Well Number:

MW-15sr

Period of Sampling:

Sep-23

Facility: **Eaton County**

Address: **1045 Independence Blvd**

Charlotte

MI

48813

Street Number (PO Box)

City

State

Zip

Contact:

Chad Powers

Name

(517) 543-7500

Telephone:

Personnel Present:

SVS/NP

WELL DATA:

Well Secure Upon Arrival: Yes ☒ No ☐

TOC Survey Mark: North

Well Conditions: Good ☒ Fair ☐ Poor ☐

Casing Material: Galvanized

Casing Diameter: 2"

Concrete Pad: Yes ☒ No ☐

Screen: Yes ☐ No ☒

Frost Heave: Yes ☐ No ☒

TOC Elevation:

869.61

Static Water Level (ft.)

14.21

Ground Water Elevation:

855.40 feet

Well Depth: TOC Reference

43.00

Standing Water:

Yes ☐ No ☒

Secured Upon Departure:

Yes ☒ No ☐

Well ID Present/Readable:

Yes ☒ No ☐

PURGING DATA:

Date of Purge: **9-21-23**

Purge Method:

Time of Purge: **0915, 1055 00840 00930**

Purge Method:

Volume of Water in Casing: **4.79** gals.

Purge Method:

Purge Volume 3X ☒ 5X ☐ Other ☐ **4.40** gals.

Decon:

Purge Water Appearance: **dark grey, egg smelt** Type:

Fate of Purge Water: ☒ Ground 10'+ Contained

☐

Disposable Bailer

☒

S.S. Submersible Pump

☐

Peristaltic Pump

Yes ☒ No ☐

Liquinox & Water Wash ☒

Water Rinse ☒

Distilled Rinse ☐

SAMPLING DATA:

Date of Sampling: **9-22-23**

Time of Sampling: **0935**

Sampling Method:

☒ Bailer ☒ Pump

Field Filtration? **inline** Yes ☒ No ☐

Decon?:

Yes ☒ No ☐

Weather: **filter sunny 65°F**

Sp. Conductance: **8105**

umhos/cm

Sample Appearance: **dark grey + murky**

Temperature °C: **14.9**

pH: **7.00**

PURGE DATA:

Volume Removed

pH

Temperature °C

Specific Conductance

micro siemens

① **2.0** gal.

6.70

13.7

996

4.0 gal. dry

6.63

11.7

840

6.0 gal. dry

6.58

14.5

860

② **8.0** gal.

6.78

12.3

691

10.0 gal. dry

6.83

11.8

735

③ **11.0** gal.

7.00

14.9

865

gal.

gal.

COMMENTS:

sample # 13



GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: Eaton County Landfill

Well Number: MW-15dr Period of Sampling: Sep-23

Facility: Eaton County

Address: 1045 Independence Blvd Charlotte MI 48813

Street Number (PO Box) City State Zip

Contact: Chad Powers (517) 543-7500

Name Telephone:

Personnel Present: SVS/NP

WELL DATA:

Well Secure Upon Arrival: Yes ☒ No ☐

TOC Survey Mark: North

Well Conditions: Good ☒ Fair ☐ Poor ☐

Casing Material: Galvanized

Casing Diameter: 2"

Concrete Pad: Yes ☒ No ☐

Screen: ---

Frost Heave: Yes ☐ No ☒

TOC Elevation: 870.16

Static Water Level (ft.): 15.28

Ground Water Elevation: 854.88 feet

Well Depth: TOC Reference 58.00

Standing Water: Yes ☐ No ☒

Secured Upon Departure: Yes ☒ No ☐

Well ID Present/Readable: Yes ☒ No ☐

PURGING DATA:

Date of Purge: 9-22-23 Purge Method: ☐ Disposable Bailer

Time of Purge: 0940 Purge Method: ☒ S.S. Submersible Pump

Volume of Water in Casing: 7.12 gals. Purge Method: ☐ Peristaltic Pump

Purge Volume 3X ☒ 5X ☐ Other ☐ 21.36 gals. Decon: Yes ☒ No ☐

Purge Water Appearance: clear to dark grey Type: Liquinox & Water Wash ☒

Fate of Purge Water: n/egg smell ☒ ☐ Water Rinse ☒ Distilled Rinse ☐

Ground 10'+ Contained

SAMPLING DATA:

Date of Sampling: 9-22-23

Time of Sampling: 1000

Field Filtration?: Inline Yes ☒ No ☐

Weather: sunny 65°F

Sample Appearance: clear

Sampling Method: ☒ Bailer ☒ Pump

Decon?: Yes ☒ No ☐

Sp. Conductance: 633 umhos/cm

Temperature °C: 12.0

pH: 7.09

PURGE DATA:

Volume Removed	pH	Temperature °C	Specific Conductance micro siemens
<u>5.0</u> gal.	<u>7.10</u>	<u>12.9</u>	<u>599</u>
<u>10.0</u> gal.	<u>7.09</u>	<u>12.3</u>	<u>651</u>
<u>15.0</u> gal.	<u>7.09</u>	<u>12.2</u>	<u>641</u>
<u>20.0</u> gal.	<u>7.09</u>	<u>12.1</u>	<u>640</u>
<u>25.0</u> gal.	<u>7.09</u>	<u>12.0</u>	<u>636</u>
<u>30.0</u> gal.	<u>7.09</u>	<u>12.0</u>	<u>633</u>
_____ gal.	_____	_____	_____
_____ gal.	_____	_____	_____

COMMENTS:

sample # 14



GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: Eaton County Landfill

Well Number: **MW-17sr** Period of Sampling: Sep-23

Facility: Eaton County

Address: 1045 Independence Blvd Charlotte MI 48813

Street Number (PO Box) City State Zip

Contact: Chad Powers (517) 543-7500

Name Telephone

Personnel Present: SVS/NP

WELL DATA:

Well Secure Upon Arrival: Yes ☒ No ☐

TOC Survey Mark: North

Well Conditions: Good ☒ Fair ☐ Poor ☐

Casing Material: Galvanized

Casing Diameter: 2"

Concrete Pad: Yes ☒ No ☐

Screen: Yes ☐ No ☒

Frost Heave: Yes ☐ No ☒

TOC Elevation: 860.41

Static Water Level (ft.): 6.79

Ground Water Elevation: 853.62 feet

Well Depth: TOC Reference 43.00

Standing Water: Yes ☐ No ☒

Secured Upon Departure: Yes ☒ No ☐

Well ID Present/Readable: Yes ☒ No ☐

PURGING DATA:

Date of Purge: 9-21-23 Purge Method: ☐ Disposable Bailer

Time of Purge: 1010 Purge Method: ☒ S.S. Submersible Pump

Volume of Water in Casing: 6.04 gals. Purge Method: ☐ Peristaltic Pump

Purge Volume 3X ☒ 5X ☐ Other ☐ 18.11 gals. Decon: Yes ☒ No ☐

Purge Water Appearance: faint rust to milky Type: ☒ Liquinox & Water Wash ☒

Fate of Purge Water: grey ☒ Ground 10'+ Contained ☐ Water Rinse ☒ Distilled Rinse ☐

SAMPLING DATA:

Date of Sampling: 9-21-23 Sampling Method: ☒ Bailer ☒ Pump

Time of Sampling: 1025 Decon?: Yes ☒ No ☐

Field Filtration?: inline Weather: filter sun, clouds 67F Sp. Conductance: 708 umhos/cm

Sample Appearance: clear Temperature °C: 11.7

pH: 6.78

PURGE DATA:

Volume Removed	pH	Temperature °C	Specific Conductance micro siemens
<u>5.0</u> gal.	<u>6.77</u>	<u>13.5</u>	<u>733</u>
<u>10.0</u> gal.	<u>6.77</u>	<u>12.3</u>	<u>720</u>
<u>15.0</u> gal.	<u>6.77</u>	<u>11.9</u>	<u>716</u>
<u>20.0</u> gal.	<u>6.78</u>	<u>11.8</u>	<u>711</u>
<u>25.0</u> gal.	<u>6.78</u>	<u>11.7</u>	<u>708</u>
_____ gal.	_____	_____	_____
_____ gal.	_____	_____	_____
_____ gal.	_____	_____	_____

COMMENTS:

sample #7



GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: Eaton County Landfill

Well Number: MW-17dr Period of Sampling: Sep-23

Facility: Eaton County

Address: 1045 Independence Blvd Charlotte MI 48813

Street Number (PO Box) City State Zip

Contact: Chad Powers (517) 543-7500

Name Telephone:

Personnel Present: SVS/NP

WELL DATA:

Well Secure Upon Arrival: Yes ☒ No ☐

TOC Survey Mark: North

Well Conditions: Good ☒ Fair ☐ Poor ☐

Casing Material: Galvanized

Casing Diameter: 2"

Concrete Pad: Yes ☒ No ☐

Screen: ---

Frost Heave: Yes ☐ No ☒

TOC Elevation: 860.53

Static Water Level (ft.): 6.91

Ground Water Elevation: 853.102 feet

Well Depth: TOC Reference 59.00

Standing Water: Yes ☐ No ☒

Secured Upon Departure: Yes ☒ No ☐

Well ID Present/Readable: Yes ☒ No ☐

PURGING DATA:

Date of Purge: 9-21-23 Purge Method: ☐ Disposable Bailer

Time of Purge: 1025 Purge Method: ☒ S.S. Submersible Pump

Volume of Water in Casing: 8.68 gals. Purge Method: ☐ Peristaltic Pump

Purge Volume 3X ☒ 5X ☐ Other ☐ 26.05 gals. Decon: Yes ☒ No ☐

Purge Water Appearance: light rust to faintly type

Fate of Purge Water: cloudy to dark murky grey ☒ Ground 10'+ Contained

Liquinox & Water Wash ☒

Water Rinse ☒ Distilled Rinse ☐

SAMPLING DATA:

Date of Sampling: 9-21-23

Time of Sampling: 1045

Field Filtration?: Inline Yes ☒ No ☐

Weather: filter sun, clouds 67°F

Sample Appearance: clear

Sampling Method: ☒ Bailer ☒ Pump

Decon?: Yes ☒ No ☐

Sp. Conductance: 847 umhos/cm

Temperature °C: 11.8

pH: 6.83

PURGE DATA:

Volume Removed	pH	Temperature °C	Specific Conductance micro siemens
<u>10.0</u> gal.	<u>6.82</u>	<u>12.2</u>	<u>849</u>
<u>20.0</u> gal.	<u>6.85</u>	<u>11.9</u>	<u>850</u>
<u>30.0</u> gal.	<u>6.82</u>	<u>11.7</u>	<u>846</u>
<u>40.0</u> gal.	<u>6.83</u>	<u>11.8</u>	<u>847</u>
_____ gal.	_____	_____	_____
_____ gal.	_____	_____	_____
_____ gal.	_____	_____	_____
_____ gal.	_____	_____	_____

COMMENTS:

sample # 8

pump rate @ ~175



GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: **Eaton County Landfill**

Well Number: **MW-18s**

Period of Sampling: **Sep-23**

Facility: **Eaton County**

Address: **1045 Independence Blvd**
Street Number (PO Box)

Charlotte
City

MI
State

48813
Zip

Contact: **Steve Barnett**
Name

(517) 543-2552
Telephone

Personnel Present: SJS/NP

WELL DATA:

Well Secure Upon Arrival: Yes ☒ No ☐

TOC Survey Mark: North

Well Conditions: Good ☒ Fair ☐ Poor ☐

Casing Material: Galvanized

Casing Diameter: 2"

Concrete Pad: Yes ☒ No ☐

Screen:

Frost Heave: Yes ☐ No ☒

TOC Elevation: **871.00**

Static Water Level (ft.) **17.39**

Ground Water Elevation: **853.61** feet

Well Depth: TOC Reference **60.20**

Standing Water: Yes ☐ No ☒

Secured Upon Departure: Yes ☒ No ☐

Well ID Present/Readable: Yes ☒ No ☐

PURGING DATA:

Time of Purge: **1110**

Volume of Water in Casing: **7.14** gals.

Purge Volume 3X ☒ 5X ☐ Other ☐ **21.41** gals.

Purge Water Appearance: **clear to dark grey**

Fate of Purge Water: **milky**

Ground 10'+ Contained

Purge Method: ☐

Purge Method: ☒

Purge Method: ☐

Decon:

☐

Disposable Bailer

☒

S.S. Submersible Pump

☐

Peristaltic Pump

Yes ☒

No ☐

Liquinox & Water Wash

Water Rinse ☒

Distilled Rinse ☐

SAMPLING DATA:

Time of Sampling: **1125-1130**

Field Filtration? **inline** Yes ☒ No ☐

Weather: **Filter sunny 70°F**

Sample Appearance: **clear**

Sampling Method: ☒ Bailer ☒ Pump

Decon?: Yes ☒ No ☐

Sp. Conductance: **679** umhos/cm

Temperature °C: **11.9**

pH: **6.83**

PURGE DATA:

Volume Removed pH

5.0 gal. **6.94**

10.0 gal. **6.90**

25.0 gal. **6.88**

20.0 gal. **6.85**

25.0 gal. **6.83**

30.0 gal. **6.83**

gal.

gal.

gal.

Temperature °C

12.7

12.1

12.2

12.1

11.9

Specific Conductance

micro siemens

688

685

680

683

679

COMMENTS:

sample # 10

pump rate @ ~175



GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: Eaton County Landfill

Well Number: **MW-19s**

Period of Sampling: Sep-23

Facility: Eaton County

Address: 1045 Independence Blvd
Street Number (PO Box)

Charlotte
City

MI
State

48813
Zip

Contact: Chad Powers
Name

(517) 543-7500
Telephone

Personnel Present: SVS/NP

WELL DATA:

Well Secure Upon Arrival: Yes ☒ No ☐

TOC Survey Mark: North

Well Conditions: Good ☒ Fair ☐ Poor ☐

Casing Material: Galvanized

Casing Diameter: 2"

Concrete Pad: Yes ☒ No ☐

Screen: ---

Frost Heave: Yes ☐ No ☒

TOC Elevation:

Static Water Level (ft.)

Ground Water Elevation:

Well Depth: TOC Reference

860.87

7.18

853.69 feet

39.20

Standing Water:

Secured Upon Departure:

Well ID Present/Readable:

Yes ☐ No ☒

Yes ☒ No ☐

Yes ☒ No ☐

PURGING DATA:

Time of Purge: 1050

Volume of Water in Casing: 5.34 gals.

Purge Volume 3X ☒ 5X ☐ Other ☐ 16.01 gals.

Purge Water Appearance: milky gray

Fate of Purge Water: ☒ ☐ ☐

Date of Purge: 9-21-23

Purge Method:

Purge Method:

Purge Method:

Decon:

Type:

☐

☒

☐

Yes ☒ No ☐

Liquinox & Water Wash ☒

Water Rinse ☒ Distilled Rinse ☐

Disposable Bailer

S.S. Submersible Pump

Peristaltic Pump

SAMPLING DATA:

Time of Sampling: 1105

Field Filtration?: Yes ☒ No ☐

Weather: sunny 69°F

Sample Appearance: clear

Date of Sampling: 9-21-23

Sampling Method:

Decon?:

Sp. Conductance: 819

Temperature °C: 12.1

pH: 6.86

☒ Bailer ☒ Pump

Yes ☒ No ☐

umhos/cm

PURGE DATA:

Volume Removed

pH

Temperature °C

Specific Conductance

micro siemens

5.0 gal.

6.82

13.1

873

10.0 gal.

6.83

12.3

837

15.0 gal.

6.84

12.2

819

20.0 gal.

6.86

12.1

819

COMMENTS:

sample # 9



GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: Eaton County Landfill

Well Number: SW-1

Period of Sampling: Sep-23

Facility: Eaton County

Address: 1045 Independence Blvd

Charlotte

MI

48813

Street Number (PO Box)

City

State

Zip

Contact: Chad Powers
Name

(517) 543-7500
Telephone:

Personnel Present: SVS/NP

SAMPLING DATA:

Date of Sampling: 9-20-23

Time of Sampling: 0905

Sampling Method: Dip bottles into water

Field Filtration?: Yes ☐ No ☒

Decon?: Yes ☐ No ☐

Weather: rain 60°F

Sp. Conductance: 698 uS

Sample Appearance: particulate, floating sheen

Temperature °C: 14.2

pH: 6.70

COMMENTS:

sample # 1



GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: Eaton County Landfill

Well Number:

SW-2

Period of Sampling:

Sep-23

Facility: Eaton County

Address: 1045 Independence Blvd

Charlotte

MI

48813

Street Number (PO Box)

City

State

Zip

Contact: Chad Powers

Name

(517) 543-7500

Telephone:

Personnel Present:

SVS/NP

SAMPLING DATA:

Date of Sampling: 9-20-23

Time of Sampling:

0930

Sampling Method:

Dip bottles into water

Field Filtration?:

Yes ☐

No ☒

Decon?:

Yes ☐

No ☐

Weather:

rain 62°F

Sp. Conductance: 553

uS

Sample Appearance:

fewer particulate,
dark grey

Temperature °C: 13.7

pH: 6.73

COMMENTS:

sample # 2

ATTACHMENT 3



Wednesday, September 27, 2023

Fibertec Project Number: A17296
Project Identification: Eaton County (926-1422) /926-1422
Submittal Date: 09/20/2023

Mr. Mike Serafini
Strata Environmental Services, Inc.
538 W. Ash Street
Mason, MI 48854

Dear Mr. Serafini,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

By Bailey Welch at 11:01 AM, Sep 27, 2023

For Heather L. Smith
Director of Laboratory Operations

Enclosures

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Analytical Laboratory Report
Laboratory Project Number: A17296
Laboratory Sample Number: A17296-001

Order: A17296
Date: 09/27/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	SW-1	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:	1	Collect Date:	09/20/23
Client Project No:	926-1422	Sample Matrix:	Surface Water	Collect Time:	09:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable I: Parameter not included in NELAC Scope of Analysis.

Trace Elements by ICP/MS, Total Recoverable
Method: EPA 0200.8 (Total Recoverable)/EPA 0200.8

Aliquot ID: A17296-001D **Matrix: Surface Water**
Description: SW-1

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	15		µg/L	5.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
2. Barium	U		µg/L	100	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
3. Cadmium	U		µg/L	1.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
4. Calcium	120000		µg/L	1200	50	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
5. Chromium	U		µg/L	10	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
6. Copper	U		µg/L	4.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
7. Iron	13000		µg/L	200	50	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
8. Lead	U		µg/L	3.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
9. Magnesium	29000		µg/L	400	50	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
10. Manganese	270		µg/L	50	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
11. Nickel	U		µg/L	20	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
12. Potassium	6300		µg/L	1000	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
13. Selenium	U		µg/L	5.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
14. Sodium	14000		µg/L	1000	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
15. Zinc	U		µg/L	50	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM

Inorganic Anions by IC
Method: EPA 0300.0

Aliquot ID: A17296-001 **Matrix: Surface Water**
Description: SW-1

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Chloride	17000		µg/L	10000	1.0	09/20/23	PW23I20G	09/20/23	W423I20A	RJM
2. Nitrate-N	1500		µg/L	23	1.0	09/20/23 21:24	PW23I20G	09/20/23 21:24	W423I20A	RJM
3. Nitrate-N + Nitrite-N	1500		µg/L	53	1.0	09/20/23	PW23I20G	09/20/23	W423I20A	RJM
4. Nitrite-N	U		µg/L	30	1.0	09/20/23 21:24	PW23I20G	09/20/23 21:24	W423I20A	RJM
5. Sulfate	6500		µg/L	1000	1.0	09/20/23	PW23I20G	09/20/23	W423I20A	RJM

Phosphorus, Total
Method: EPA 0365.3

Aliquot ID: A17296-001A **Matrix: Surface Water**
Description: SW-1

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Phosphorus	77		µg/L	10	1.0	NA	NA	09/21/23	W323I21A	EZ

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Analytical Laboratory Report
Laboratory Project Number: A17296
Laboratory Sample Number: A17296-001

Order: A17296
Date: 09/27/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	SW-1	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:	1	Collect Date:	09/20/23
Client Project No:	926-1422	Sample Matrix:	Surface Water	Collect Time:	09:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Phenolics, Total Aliquot ID: A17296-001B Matrix: Surface Water
Method: EPA 0420.1 Description: SW-1

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Phenolics	U		µg/L	50	1.0	NA	NA	09/21/23	W223121A	MJS

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: A17296-001E Matrix: Surface Water
Method: EPA 0624.1 Description: SW-1

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50.0	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
2. Acrylonitrile	U		µg/L	2.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
3. Benzene	U		µg/L	1.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
‡ 4. Bromobenzene	U		µg/L	1.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
‡ 5. Bromochloromethane	U		µg/L	1.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
6. Bromodichloromethane	U		µg/L	1.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
‡ 7. Bromoform (SIM)	U		µg/L	1.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
8. Bromomethane	U		µg/L	5.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
9. 2-Butanone	U		µg/L	25.0	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
‡ 10. n-Butylbenzene	U		µg/L	1.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
‡ 11. sec-Butylbenzene	U		µg/L	1.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
‡ 12. tert-Butylbenzene	U		µg/L	1.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
‡ 13. Carbon Disulfide	U	V+	µg/L	5.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
14. Carbon Tetrachloride	U		µg/L	1.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
15. Chlorobenzene	U		µg/L	1.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
16. Chloroethane	U		µg/L	5.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
17. Chloroform	U		µg/L	1.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
18. Chloromethane	U		µg/L	5.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
‡ 19. 2-Chlorotoluene	U		µg/L	5.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
21. Dibromochloromethane	U		µg/L	5.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
‡ 22. Dibromomethane	U		µg/L	5.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
‡ 26. Dichlorodifluoromethane	U		µg/L	5.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
27. 1,1-Dichloroethane	U		µg/L	1.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
28. 1,2-Dichloroethane	U		µg/L	1.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
29. 1,1-Dichloroethene	U		µg/L	1.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM
30. cis-1,2-Dichloroethene	U		µg/L	1.00	1.0	09/20/23	VB23120A	09/20/23 17:20	VB23120A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17296
Laboratory Sample Number: A17296-001

Order: A17296
Date: 09/27/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	SW-1	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:	1	Collect Date:	09/20/23
Client Project No:	926-1422	Sample Matrix:	Surface Water	Collect Time:	09:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: **A17296-001E**

Matrix: **Surface Water**

Method: **EPA 0624.1**

Description: **SW-1**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
31. trans-1,2-Dichloroethene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
32. 1,2-Dichloropropane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
± 33. 1,3-Dichloropropane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
± 34. 1,1-Dichloropropene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.500	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.500	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
± 37. Diethyl Ether	U		µg/L	10.0	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
38. Ethylbenzene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
± 39. 2-Hexanone	U	V+	µg/L	50.0	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
± 40. Isopropylbenzene	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
± 41. 4-Methyl-2-pentanone	U		µg/L	50.0	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
42. Methylene Chloride	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
± 43. Methyl Iodide	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
± 44. 2-Methylnaphthalene	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
45. MTBE	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
46. Naphthalene	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
± 47. n-Propylbenzene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
± 48. Styrene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
± 49. 1,1,1,2-Tetrachloroethane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
50. 1,1,2,2-Tetrachloroethane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
51. Tetrachloroethene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
52. Toluene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
± 53. 1,2,3-Trichlorobenzene	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
± 54. 1,2,4-Trichlorobenzene	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
55. 1,1,1-Trichloroethane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
56. 1,1,2-Trichloroethane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
57. Trichloroethene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
58. Trichlorofluoromethane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
± 59. 1,2,3-Trichloropropane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
± 60. 1,2,4-Trimethylbenzene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
± 61. 1,3,5-Trimethylbenzene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
62. Vinyl Chloride	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
63. m&p-Xylene	U		µg/L	2.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
64. o-Xylene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM
65. Xylenes	U		µg/L	3.00	1.0	09/20/23	VB23I20A	09/20/23 17:20	VB23I20A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17296
Laboratory Sample Number: A17296-001

Order: A17296
Date: 09/27/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	SW-1	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:	1	Collect Date:	09/20/23
Client Project No:	926-1422	Sample Matrix:	Surface Water	Collect Time:	09:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Chemical Oxygen Demand (COD) Aliquot ID: **A17296-001A** Matrix: **Surface Water**
Method: HACH 8000 Description: **SW-1**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. COD	15000		µg/L	5000	1.0	09/20/23	PW23I20D	09/20/23	W223I20A	EZ

Alkalinity by Titrimetry Aliquot ID: **A17296-001** Matrix: **Surface Water**
Method: SM 2320 B-2011 Description: **SW-1**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
± 1. Bicarbonate Alkalinity	410000		µg CaCO ₃ /L	20000	1.0	NA	NA	09/21/23	W123I21A	EZ
± 2. Carbonate Alkalinity	U		µg CaCO ₃ /L	20000	1.0	NA	NA	09/21/23	W123I21A	EZ
± 3. Hydroxide Alkalinity	U		µg CaCO ₃ /L	20000	1.0	NA	NA	09/21/23	W123I21A	EZ

Residue, Filterable (TDS) Aliquot ID: **A17296-001** Matrix: **Surface Water**
Method: SM 2540 C-2015 Description: **SW-1**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	470000	*	µg/L	13000	1.3	NA	NA	09/21/23	WH23I21B	CM

Nitrogen, Ammonia (Auto Analyzer) Aliquot ID: **A17296-001A** Matrix: **Surface Water**
Method: SM 4500-NH₃ G-2011 Description: **SW-1**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	0.35		mg/L	0.010	1.0	09/20/23	PW23I20F	09/20/23	WU23I20A	MJS

Total Organic Carbon (TOC) Aliquot ID: **A17296-001C** Matrix: **Surface Water**
Method: SM 5310 B-2014 Description: **SW-1**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Organic Carbon	4600		µg/L	1000	1.0	09/21/23	PW23I21E	09/23/23	WS23I21A	AVC

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Analytical Laboratory Report
Laboratory Project Number: A17296
Laboratory Sample Number: A17296-002

Order: A17296
Date: 09/27/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	SW-2	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:	2	Collect Date:	09/20/23
Client Project No:	926-1422	Sample Matrix:	Surface Water	Collect Time:	09:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Trace Elements by ICP/MS, Total Recoverable
Method: EPA 0200.8 (Total Recoverable)/EPA 0200.8

Aliquot ID: A17296-002D **Matrix: Surface Water**
Description: SW-2

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		µg/L	5.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
2. Barium	U		µg/L	100	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
3. Cadmium	U		µg/L	1.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
4. Calcium	98000		µg/L	1200	50	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
5. Chromium	U		µg/L	10	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
6. Copper	U		µg/L	4.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
7. Iron	2500		µg/L	100	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
8. Lead	U		µg/L	3.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
9. Magnesium	27000		µg/L	400	50	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
10. Manganese	360		µg/L	50	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
11. Nickel	U		µg/L	20	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
12. Potassium	1700		µg/L	1000	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
13. Selenium	U		µg/L	5.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
14. Sodium	3700		µg/L	1000	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
15. Zinc	U		µg/L	50	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM

Inorganic Anions by IC
Method: EPA 0300.0

Aliquot ID: A17296-002 **Matrix: Surface Water**
Description: SW-2

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	U		µg/L	10000	1.0	09/20/23	PW23I20G	09/20/23	W423I20A	RJM
2. Nitrate-N	100		µg/L	23	1.0	09/20/23 21:45	PW23I20G	09/20/23 21:45	W423I20A	RJM
3. Nitrate-N + Nitrite-N	100		µg/L	53	1.0	09/20/23	PW23I20G	09/20/23	W423I20A	RJM
4. Nitrite-N	U		µg/L	30	1.0	09/20/23 21:45	PW23I20G	09/20/23 21:45	W423I20A	RJM
5. Sulfate	23000		µg/L	1000	1.0	09/20/23	PW23I20G	09/20/23	W423I20A	RJM

Phosphorus, Total
Method: EPA 0365.3

Aliquot ID: A17296-002A **Matrix: Surface Water**
Description: SW-2

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Phosphorus	93		µg/L	10	1.0	NA	NA	09/21/23	W323I21A	EZ

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Analytical Laboratory Report
Laboratory Project Number: A17296
Laboratory Sample Number: A17296-002

Order: A17296
Date: 09/27/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	SW-2	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:	2	Collect Date:	09/20/23
Client Project No:	926-1422	Sample Matrix:	Surface Water	Collect Time:	09:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Phenolics, Total Aliquot ID: A17296-002B Matrix: Surface Water
Method: EPA 0420.1 Description: SW-2

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Phenolics	U		µg/L	50	1.0	NA	NA	09/21/23	W223I21A	MJS

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: A17296-002E Matrix: Surface Water
Method: EPA 0624.1 Description: SW-2

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50.0	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
2. Acrylonitrile	U		µg/L	2.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
3. Benzene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
‡ 4. Bromobenzene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
‡ 5. Bromochloromethane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
6. Bromodichloromethane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
‡ 7. Bromoform (SIM)	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
8. Bromomethane	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
9. 2-Butanone	U		µg/L	25.0	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
‡ 10. n-Butylbenzene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
‡ 11. sec-Butylbenzene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
‡ 12. tert-Butylbenzene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
‡ 13. Carbon Disulfide	U	V+	µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
14. Carbon Tetrachloride	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
15. Chlorobenzene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
16. Chloroethane	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
17. Chloroform	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
18. Chloromethane	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
‡ 19. 2-Chlorotoluene	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
21. Dibromochloromethane	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
‡ 22. Dibromomethane	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
‡ 26. Dichlorodifluoromethane	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
27. 1,1-Dichloroethane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
28. 1,2-Dichloroethane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
29. 1,1-Dichloroethene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
30. cis-1,2-Dichloroethene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17296
Laboratory Sample Number: A17296-002

Order: A17296
Date: 09/27/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	SW-2	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:	2	Collect Date:	09/20/23
Client Project No:	926-1422	Sample Matrix:	Surface Water	Collect Time:	09:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17296-002E

Matrix: Surface Water

Method: EPA 0624.1

Description: SW-2

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
31. trans-1,2-Dichloroethene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
32. 1,2-Dichloropropane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
± 33. 1,3-Dichloropropane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
± 34. 1,1-Dichloropropene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.500	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.500	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
± 37. Diethyl Ether	U		µg/L	10.0	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
38. Ethylbenzene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
± 39. 2-Hexanone	U	V+	µg/L	50.0	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
± 40. Isopropylbenzene	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
± 41. 4-Methyl-2-pentanone	U		µg/L	50.0	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
42. Methylene Chloride	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
± 43. Methyl Iodide	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
± 44. 2-Methylnaphthalene	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
45. MTBE	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
46. Naphthalene	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
± 47. n-Propylbenzene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
± 48. Styrene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
± 49. 1,1,1,2-Tetrachloroethane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
50. 1,1,2,2-Tetrachloroethane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
51. Tetrachloroethene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
52. Toluene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
± 53. 1,2,3-Trichlorobenzene	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
± 54. 1,2,4-Trichlorobenzene	U		µg/L	5.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
55. 1,1,1-Trichloroethane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
56. 1,1,2-Trichloroethane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
57. Trichloroethene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
58. Trichlorofluoromethane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
± 59. 1,2,3-Trichloropropane	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
± 60. 1,2,4-Trimethylbenzene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
± 61. 1,3,5-Trimethylbenzene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
62. Vinyl Chloride	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
63. m&p-Xylene	U		µg/L	2.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
64. o-Xylene	U		µg/L	1.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM
65. Xylenes	U		µg/L	3.00	1.0	09/20/23	VB23I20A	09/20/23 17:47	VB23I20A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17296
Laboratory Sample Number: A17296-002

Order: A17296
Date: 09/27/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	SW-2	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:	2	Collect Date:	09/20/23
Client Project No:	926-1422	Sample Matrix:	Surface Water	Collect Time:	09:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Chemical Oxygen Demand (COD) Aliquot ID: **A17296-002A** Matrix: **Surface Water**
Method: HACH 8000 Description: **SW-2**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. COD	8300		µg/L	5000	1.0	09/20/23	PW23I20D	09/20/23	W223I20A	EZ

Alkalinity by Titrimetry Aliquot ID: **A17296-002** Matrix: **Surface Water**
Method: SM 2320 B-2011 Description: **SW-2**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Bicarbonate Alkalinity	350000		µg CaCO3/L	20000	1.0	NA	NA	09/21/23	W123I21A	EZ
‡ 2. Carbonate Alkalinity	U		µg CaCO3/L	20000	1.0	NA	NA	09/21/23	W123I21A	EZ
‡ 3. Hydroxide Alkalinity	U		µg CaCO3/L	20000	1.0	NA	NA	09/21/23	W123I21A	EZ

Residue, Filterable (TDS) Aliquot ID: **A17296-002** Matrix: **Surface Water**
Method: SM 2540 C-2015 Description: **SW-2**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	360000		µg/L	13000	1.3	NA	NA	09/21/23	WH23I21B	CM

Nitrogen, Ammonia (Auto Analyzer) Aliquot ID: **A17296-002A** Matrix: **Surface Water**
Method: SM 4500-NH3 G-2011 Description: **SW-2**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Ammonia-N	0.023		mg/L	0.010	1.0	09/20/23	PW23I20F	09/20/23	WU23I20A	MJS

Total Organic Carbon (TOC) Aliquot ID: **A17296-002C** Matrix: **Surface Water**
Method: SM 5310 B-2014 Description: **SW-2**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Organic Carbon	4500		µg/L	1000	1.0	09/21/23	PW23I21E	09/23/23	WS23I21A	AVC

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Analytical Laboratory Report
Laboratory Project Number: A17296
Laboratory Sample Number: A17296-003

Order: A17296
Date: 09/27/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-3	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:	3	Collect Date:	09/20/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Phosphorus, Total Aliquot ID: **A17296-003A** Matrix: **Ground Water**
Method: EPA 0365.3 Description: **MW-3**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Phosphorus	16		µg/L	10	1.0	NA	NA	09/21/23	W323I121A	EZ

Trace Elements by ICP/MS, Dissolved Aliquot ID: **A17296-003D** Matrix: **Ground Water**
Method: EPA 3005A (Dissolved)/EPA 6020A Description: **MW-3**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		µg/L	5.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
2. Barium	U		µg/L	100	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
3. Cadmium	U		µg/L	1.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
4. Calcium	100000		µg/L	1200	50	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
5. Chromium	U		µg/L	10	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
6. Copper	U		µg/L	4.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
7. Iron	260		µg/L	100	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
8. Lead	U		µg/L	3.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
9. Magnesium	30000		µg/L	400	50	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
10. Manganese	U		µg/L	50	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
11. Nickel	U		µg/L	20	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
12. Potassium	1300		µg/L	1000	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
13. Selenium	U		µg/L	5.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
14. Sodium	7200		µg/L	1000	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
15. Zinc	120		µg/L	50	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **A17296-003E** Matrix: **Ground Water**
Method: EPA 5030C/EPA 8260D Description: **MW-3**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
3. Benzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
9. 2-Butanone	U		µg/L	25	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17296
Laboratory Sample Number: A17296-003

Order: A17296
Date: 09/27/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-3	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:	3	Collect Date:	09/20/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17296-003E

Matrix: Ground Water

Method: EPA 5030C/EPA 8260D

Description: MW-3

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. n-Butylbenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
13. Carbon Disulfide	U	V+	µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
16. Chloroethane	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
17. Chloroform	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
18. Chloromethane	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
± 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
33. 1,3-Dichloropropane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
± 34. 1,1-Dichloropropene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
37. Diethyl Ether	U		µg/L	10	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
38. Ethylbenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
39. 2-Hexanone	U	V+	µg/L	50	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
40. Isopropylbenzene	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
41. 4-Methyl-2-pentanone	U		µg/L	50	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
42. Methylene Chloride	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
± 43. Methyl Iodide	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
± 44. 2-Methylnaphthalene	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
45. MTBE	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17296
Laboratory Sample Number: A17296-003

Order: A17296
Date: 09/27/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-3	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:	3	Collect Date:	09/20/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: **A17296-003E**

Matrix: **Ground Water**

Method: **EPA 5030C/EPA 8260D**

Description: **MW-3**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
46. Naphthalene	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
47. n-Propylbenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
48. Styrene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
49. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
50. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
51. Tetrachloroethene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
52. Toluene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
53. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
54. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
55. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
‡ 56. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
57. Trichloroethene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
58. Trichlorofluoromethane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
59. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
60. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
61. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
62. Vinyl Chloride	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
63. m&p-Xylene	U		µg/L	2.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
64. o-Xylene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM
‡ 65. Xylenes	U		µg/L	3.0	1.0	09/20/23	VB23I20A	09/20/23 18:14	VB23I20A	JLM

Inorganic Anions by IC

Aliquot ID: **A17296-003**

Matrix: **Ground Water**

Method: **EPA 9056A**

Description: **MW-3**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	2600		µg/L	1000	1.0	09/20/23	PW23I20G	09/20/23	W423I20A	RJM
2. Nitrate-N	U		µg/L	23	1.0	09/20/23 22:45	PW23I20G	09/20/23 22:45	W423I20A	RJM
3. Nitrate-N + Nitrite-N	U		µg/L	53	1.0	09/20/23	PW23I20G	09/20/23	W423I20A	RJM
4. Nitrite-N	U		µg/L	30	1.0	09/20/23 22:45	PW23I20G	09/20/23 22:45	W423I20A	RJM
5. Sulfate	46000		µg/L	1000	1.0	09/20/23	PW23I20G	09/20/23	W423I20A	RJM

Carbon, Total Organic (TOC)

Aliquot ID: **A17296-003C**

Matrix: **Ground Water**

Method: **EPA 9060A**

Description: **MW-3**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17296
Laboratory Sample Number: A17296-003

Order: A17296
Date: 09/27/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-3	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:	3	Collect Date:	09/20/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Carbon, Total Organic (TOC)						Aliquot ID: A17296-003C		Matrix: Ground Water		
Method: EPA 9060A						Description: MW-3				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Organic Carbon	2200		µg/L	1000	1.0	09/21/23	PW23I21G	09/23/23	WS23I21A	AVC

Phenolics, Total						Aliquot ID: A17296-003B		Matrix: Ground Water		
Method: EPA 9065						Description: MW-3				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Phenolics	U		µg/L	50	1.0	NA	NA	09/21/23	W223I21A	MJS

Chemical Oxygen Demand (COD)						Aliquot ID: A17296-003A		Matrix: Ground Water		
Method: HACH 8000						Description: MW-3				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. COD	16000		µg/L	5000	1.0	09/20/23	PW23I20D	09/20/23	W223I20A	EZ

Alkalinity by Titrimetry						Aliquot ID: A17296-003		Matrix: Ground Water		
Method: SM 2320 B-2011						Description: MW-3				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
± 1. Bicarbonate Alkalinity	370000	F-	µg CaCO ₃ /L	20000	1.0	NA	NA	09/21/23	W123I21A	EZ
± 2. Carbonate Alkalinity	U	F-	µg CaCO ₃ /L	20000	1.0	NA	NA	09/21/23	W123I21A	EZ
± 3. Hydroxide Alkalinity	U	F-	µg CaCO ₃ /L	20000	1.0	NA	NA	09/21/23	W123I21A	EZ

Residue, Filterable (TDS)						Aliquot ID: A17296-003		Matrix: Ground Water		
Method: SM 2540 C-2015						Description: MW-3				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	410000		µg/L	50000	1.3	NA	NA	09/21/23	WH23I21B	CM

Nitrogen, Ammonia (Auto Analyzer)						Aliquot ID: A17296-003A		Matrix: Ground Water		
Method: SM 4500-NH ₃ G-2011						Description: MW-3				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17296
Laboratory Sample Number: A17296-003

Order: A17296
Date: 09/27/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-3	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:	3	Collect Date:	09/20/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Nitrogen, Ammonia (Auto Analyzer)
Method: SM 4500-NH3 G-2011

Aliquot ID: A17296-003A Matrix: Ground Water
Description: MW-3

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	U		µg/L	50	1.0	09/20/23	PW23I20F	09/20/23	WU23I20A	MJS

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Analytical Laboratory Report
Laboratory Project Number: A17296
Laboratory Sample Number: A17296-004

Order: A17296
Date: 09/27/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-8s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:	4	Collect Date:	09/20/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Phosphorus, Total Aliquot ID: **A17296-004A** Matrix: **Ground Water**
Method: EPA 0365.3 Description: **MW-8s**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Phosphorus	42		µg/L	10	1.0	NA	NA	09/21/23	W323I21A	EZ

Trace Elements by ICP/MS, Dissolved Aliquot ID: **A17296-004D** Matrix: **Ground Water**
Method: EPA 3005A (Dissolved)/EPA 6020A Description: **MW-8s**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
2. Barium	U		µg/L	100	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
3. Cadmium	U		µg/L	1.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
4. Calcium	89000		µg/L	1200	50	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
5. Chromium	U		µg/L	10	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
6. Copper	U		µg/L	4.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
7. Iron	U		µg/L	100	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
8. Lead	U		µg/L	3.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
9. Magnesium	20000		µg/L	300	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
10. Manganese	U		µg/L	50	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
11. Nickel	U		µg/L	20	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
12. Potassium	1100		µg/L	1000	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
13. Selenium	U		µg/L	5.0	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
14. Sodium	2800		µg/L	1000	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM
15. Zinc	340		µg/L	50	5.0	09/25/23	PT23I25C	09/25/23	T423I25A	RJM

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **A17296-004E** Matrix: **Ground Water**
Method: EPA 5030C/EPA 8260D Description: **MW-8s**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
3. Benzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
9. 2-Butanone	U		µg/L	25	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17296
Laboratory Sample Number: A17296-004

Order: A17296
Date: 09/27/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-8s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:	4	Collect Date:	09/20/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17296-004E

Matrix: Ground Water

Method: EPA 5030C/EPA 8260D

Description: MW-8s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. n-Butylbenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
13. Carbon Disulfide	U	V+	µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
16. Chloroethane	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
17. Chloroform	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
18. Chloromethane	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
† 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
33. 1,3-Dichloropropane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
† 34. 1,1-Dichloropropene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
37. Diethyl Ether	U		µg/L	10	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
38. Ethylbenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
39. 2-Hexanone	U	V+	µg/L	50	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
40. Isopropylbenzene	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
41. 4-Methyl-2-pentanone	U		µg/L	50	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
42. Methylene Chloride	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
† 43. Methyl Iodide	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
† 44. 2-Methylnaphthalene	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
45. MTBE	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17296
Laboratory Sample Number: A17296-004

Order: A17296
Date: 09/27/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-8s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:	4	Collect Date:	09/20/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: **A17296-004E**

Matrix: **Ground Water**

Method: **EPA 5030C/EPA 8260D**

Description: **MW-8s**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
46. Naphthalene	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
47. n-Propylbenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
48. Styrene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
49. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
50. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
51. Tetrachloroethene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
52. Toluene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
53. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
54. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
55. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
‡ 56. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
57. Trichloroethene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
58. Trichlorofluoromethane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
59. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
60. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
61. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
62. Vinyl Chloride	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
63. m&p-Xylene	U		µg/L	2.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
64. o-Xylene	U		µg/L	1.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM
‡ 65. Xylenes	U		µg/L	3.0	1.0	09/20/23	VB23I20A	09/20/23 18:41	VB23I20A	JLM

Inorganic Anions by IC

Aliquot ID: **A17296-004**

Matrix: **Ground Water**

Method: **EPA 9056A**

Description: **MW-8s**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	1900		µg/L	1000	1.0	09/20/23	PW23I20G	09/20/23	W423I20A	RJM
2. Nitrate-N	94		µg/L	23	1.0	09/20/23 23:05	PW23I20G	09/20/23 23:05	W423I20A	RJM
3. Nitrate-N + Nitrite-N	94		µg/L	53	1.0	09/20/23	PW23I20G	09/20/23	W423I20A	RJM
4. Nitrite-N	U		µg/L	30	1.0	09/20/23 23:05	PW23I20G	09/20/23 23:05	W423I20A	RJM
5. Sulfate	5400		µg/L	1000	1.0	09/20/23	PW23I20G	09/20/23	W423I20A	RJM

Carbon, Total Organic (TOC)

Aliquot ID: **A17296-004C**

Matrix: **Ground Water**

Method: **EPA 9060A**

Description: **MW-8s**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17296
Laboratory Sample Number: A17296-004

Order: A17296
Date: 09/27/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-8s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:	4	Collect Date:	09/20/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Carbon, Total Organic (TOC)						Aliquot ID: A17296-004C		Matrix: Ground Water		
Method: EPA 9060A						Description: MW-8s				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Organic Carbon	U		µg/L	1000	1.0	09/21/23	PW23121G	09/23/23	WS23121A	AVC

Phenolics, Total						Aliquot ID: A17296-004B		Matrix: Ground Water		
Method: EPA 9065						Description: MW-8s				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Phenolics	U		µg/L	50	1.0	NA	NA	09/21/23	W223121A	MJS

Chemical Oxygen Demand (COD)						Aliquot ID: A17296-004A		Matrix: Ground Water		
Method: HACH 8000						Description: MW-8s				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. COD	U		µg/L	5000	1.0	09/20/23	PW23120D	09/20/23	W223120A	EZ

Alkalinity by Titrimetry						Aliquot ID: A17296-004		Matrix: Ground Water		
Method: SM 2320 B-2011						Description: MW-8s				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
± 1. Bicarbonate Alkalinity	310000		µg CaCO ₃ /L	20000	1.0	NA	NA	09/21/23	W123121A	EZ
± 2. Carbonate Alkalinity	U		µg CaCO ₃ /L	20000	1.0	NA	NA	09/21/23	W123121A	EZ
± 3. Hydroxide Alkalinity	U		µg CaCO ₃ /L	20000	1.0	NA	NA	09/21/23	W123121A	EZ

Residue, Filterable (TDS)						Aliquot ID: A17296-004		Matrix: Ground Water		
Method: SM 2540 C-2015						Description: MW-8s				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	330000		µg/L	50000	1.3	NA	NA	09/21/23	WH23121B	CM

Nitrogen, Ammonia (Auto Analyzer)						Aliquot ID: A17296-004A		Matrix: Ground Water		
Method: SM 4500-NH ₃ G-2011						Description: MW-8s				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17296
Laboratory Sample Number: A17296-004

Order: A17296
Date: 09/27/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-8s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:	4	Collect Date:	09/20/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Nitrogen, Ammonia (Auto Analyzer)

Allquot ID: A17296-004A

Matrix: Ground Water

Method: SM 4500-NH3 G-2011

Description: MW-8s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	U		µg/L	50	1.0	09/20/23	PW23120F	09/20/23	WU23120A	MJS

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Definitions/ Qualifiers:

- A:** Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
M: Modified Method
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
***:** Value reported is outside QC limits

Exception Summary:

- *** : Duplicate analysis not within control limits.
F- : Recovery from the spiked aliquot exceeds the lower control limit (matrix spike or matrix spike duplicate).
V+ : Recovery in the associated continuing calibration verification sample (CCV) exceeds the upper control limit. Results may be biased high.

Analysis Locations:

All analyses performed in Holt.



Accreditation Number(s):

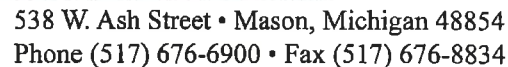
T104704518-23-15 (TX)

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Sampling Personnel: SVS / NP

Air	A
Drinking Water	D
Groundwater	W
Soil	S
Sludge	L
Oil	O
Other	X

SURFACE WATER

CHAIN OF CUSTODY

[illegible]

Relinquished by Signature: 	Date 9-20-23	Time 12/5	Received by: (Signature) 	Date 9/20/23	Time 12/5	Relinquished by Signature: 	Date	Time	Received by: (Signature)	Date	Time
Relinquished by Signature:	Date	Time	Received by: (Signature)	Date	Time	Method of Shipment:	Bill of Lading:				
Received for Laboratory by:	Date	Time	Data Package Relinquished by:	Date	Time	Data Received by:	Date	Time			

Friday, September 29, 2023

Fibertec Project Number: A17318
Project Identification: Eaton County (926-1422) /926-1422
Submittal Date: 09/21/2023

Mr. Mike Serafini
Strata Environmental Services, Inc.
538 W. Ash Street
Mason, MI 48854

Dear Mr. Serafini,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

Please note that samples were received at 7.8°C which exceeds the maximum criteria of 6°C, however the samples were on ice and in the process of cooling.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,



By Bailey Welch at 10:20 AM, Sep 29, 2023

For Heather L. Smith
Director of Laboratory Operations

Enclosures

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-001

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-7r	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Phosphorus, Total Aliquot ID: **A17318-001C** Matrix: **Ground Water**
Method: EPA 0365.3 Description: **MW-7r**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Phosphorus	U		µg/L	10	1.0	NA	NA	09/22/23	W323122A	CM

Trace Elements by ICP/MS, Dissolved Aliquot ID: **A17318-001D** Matrix: **Ground Water**
Method: EPA 3005A (Dissolved)/EPA 6020A Description: **MW-7r**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		µg/L	5.0	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
2. Barium	U		µg/L	100	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
3. Cadmium	U		µg/L	1.0	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
4. Calcium	120000		µg/L	1200	50	09/26/23	PT23126B	09/26/23	T423126B	RJM
5. Chromium	U		µg/L	10	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
6. Copper	U		µg/L	4.0	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
7. Iron	1300		µg/L	100	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
8. Lead	U		µg/L	3.0	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
9. Magnesium	39000		µg/L	400	50	09/26/23	PT23126B	09/26/23	T423126B	RJM
10. Manganese	220		µg/L	50	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
11. Nickel	U		µg/L	20	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
12. Potassium	U		µg/L	1000	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
13. Selenium	U		µg/L	5.0	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
14. Sodium	3400		µg/L	1000	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
15. Zinc	U		µg/L	50	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **A17318-001E** Matrix: **Ground Water**
Method: EPA 5030C/EPA 8260D Description: **MW-7r**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	09/25/23	VB23125C	09/25/23 19:08	VB23125C	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	09/25/23	VB23125C	09/25/23 19:08	VB23125C	JLM
3. Benzene	U		µg/L	1.0	1.0	09/25/23	VB23125C	09/25/23 19:08	VB23125C	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	09/25/23	VB23125C	09/25/23 19:08	VB23125C	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	09/25/23	VB23125C	09/25/23 19:08	VB23125C	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	09/25/23	VB23125C	09/25/23 19:08	VB23125C	JLM
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	09/25/23	VB23125C	09/25/23 19:08	VB23125C	JLM
8. Bromomethane	U		µg/L	5.0	1.0	09/25/23	VB23125C	09/25/23 19:08	VB23125C	JLM
9. 2-Butanone	U		µg/L	25	1.0	09/25/23	VB23125C	09/25/23 19:08	VB23125C	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-001

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-7r	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17318-001E

Matrix: Ground Water

Method: EPA 5030C/EPA 8260D

Description: MW-7r

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. n-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
13. Carbon Disulfide	U	V+	µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
16. Chloroethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
17. Chloroform	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
18. Chloromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
33. 1,3-Dichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
‡ 34. 1,1-Dichloropropene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
37. Diethyl Ether	U		µg/L	10	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
38. Ethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
39. 2-Hexanone	U		µg/L	50	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
40. Isopropylbenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
41. 4-Methyl-2-pentanone	U		µg/L	50	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
42. Methylene Chloride	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
‡ 43. Methyl Iodide	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
‡ 44. 2-Methylnaphthalene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
45. MTBE	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-001

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-7r	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17318-001E

Matrix: Ground Water

Method: EPA 5030C/EPA 8260D

Description: MW-7r

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
46. Naphthalene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
47. n-Propylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
48. Styrene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
49. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
50. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
51. Tetrachloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
52. Toluene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
53. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
54. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
55. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
† 56. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
57. Trichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
58. Trichlorofluoromethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
59. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
60. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
61. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
62. Vinyl Chloride	1.2		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
63. m&p-Xylene	U		µg/L	2.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
64. o-Xylene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM
† 65. Xylenes	U		µg/L	3.0	1.0	09/25/23	VB23I25C	09/25/23 19:08	VB23I25C	JLM

Inorganic Anions by IC

Aliquot ID: A17318-001

Matrix: Ground Water

Method: EPA 9056A

Description: MW-7r

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	1900		µg/L	1000	1.0	09/22/23	PW23I21F	09/22/23	W423I21A	RJM
2. Nitrate-N	U		µg/L	23	1.0	09/22/23 00:17	PW23I21F	09/22/23 00:17	W423I21A	RJM
3. Nitrate-N + Nitrite-N	U		µg/L	53	1.0	09/22/23	PW23I21F	09/22/23	W423I21A	RJM
4. Nitrite-N	U		µg/L	30	1.0	09/22/23 00:17	PW23I21F	09/22/23 00:17	W423I21A	RJM
5. Sulfate	9300		µg/L	1000	1.0	09/22/23	PW23I21F	09/22/23	W423I21A	RJM

Carbon, Total Organic (TOC)

Aliquot ID: A17318-001A

Matrix: Ground Water

Method: EPA 9060A

Description: MW-7r

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-001

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-7r	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Carbon, Total Organic (TOC)

Method: EPA 9060A

Aliquot ID: A17318-001A

Matrix: Ground Water

Description: MW-7r

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Organic Carbon	1700		µg/L	1000	1.0	09/25/23	PW23I25D	09/26/23	WS23I25A	EZ

Phenolics, Total

Method: EPA 9065

Aliquot ID: A17318-001B

Matrix: Ground Water

Description: MW-7r

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Phenolics	U		µg/L	50	1.0	NA	NA	09/25/23	W223I25B	CM

Chemical Oxygen Demand (COD)

Method: HACH 8000

Aliquot ID: A17318-001C

Matrix: Ground Water

Description: MW-7r

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. COD	U		µg/L	5000	1.0	09/25/23	PW23I25A	09/25/23	W223I25A	EZ

Alkalinity by Titrimetry

Method: SM 2320 B-2011

Aliquot ID: A17318-001

Matrix: Ground Water

Description: MW-7r

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
‡ 1. Bicarbonate Alkalinity	530000		µg CaCO ₃ /L	20000	1.0	NA	NA	09/26/23	W123I26A	ARC
‡ 2. Carbonate Alkalinity	U		µg CaCO ₃ /L	20000	1.0	NA	NA	09/26/23	W123I26A	ARC
‡ 3. Hydroxide Alkalinity	U		µg CaCO ₃ /L	20000	1.0	NA	NA	09/26/23	W123I26A	ARC

Residue, Filterable (TDS)

Method: SM 2540 C-2015

Aliquot ID: A17318-001

Matrix: Ground Water

Description: MW-7r

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	490000		µg/L	50000	1.3	NA	NA	09/21/23	WH23I21B	CM

Nitrogen, Ammonia (Auto Analyzer)

Method: SM 4500-NH₃ G-2011

Aliquot ID: A17318-001C

Matrix: Ground Water

Description: MW-7r

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-001

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-7r	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Nitrogen, Ammonia (Auto Analyzer)

Aliquot ID: A17318-001C

Matrix: Ground Water

Method: SM 4500-NH3 G-2011

Description: MW-7r

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	U		µg/L	50	1.0	09/21/23	PW23I21A	09/21/23	WU23I21A	CM

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-002

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-8dr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Phosphorus, Total Aliquot ID: A17318-002C Matrix: Ground Water
Method: EPA 0365.3 Description: MW-8dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Phosphorus	U		µg/L	10	1.0	NA	NA	09/22/23	W323122A	CM

Trace Elements by ICP/MS, Dissolved Aliquot ID: A17318-002D Matrix: Ground Water
Method: EPA 3005A (Dissolved)/EPA 6020A Description: MW-8dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		µg/L	5.0	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
2. Barium	U		µg/L	100	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
3. Cadmium	U		µg/L	1.0	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
4. Calcium	100000		µg/L	1200	50	09/26/23	PT23126B	09/26/23	T423126B	RJM
5. Chromium	U		µg/L	10	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
6. Copper	U		µg/L	4.0	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
7. Iron	U		µg/L	100	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
8. Lead	U		µg/L	3.0	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
9. Magnesium	28000		µg/L	400	50	09/26/23	PT23126B	09/26/23	T423126B	RJM
10. Manganese	240		µg/L	50	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
11. Nickel	U		µg/L	20	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
12. Potassium	1300		µg/L	1000	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
13. Selenium	U		µg/L	5.0	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
14. Sodium	22000		µg/L	1000	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM
15. Zinc	U		µg/L	50	5.0	09/26/23	PT23126B	09/26/23	T423126B	RJM

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: A17318-002E Matrix: Ground Water
Method: EPA 5030C/EPA 8260D Description: MW-8dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	09/25/23	VB23125C	09/25/23 19:35	VB23125C	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	09/25/23	VB23125C	09/25/23 19:35	VB23125C	JLM
3. Benzene	U		µg/L	1.0	1.0	09/25/23	VB23125C	09/25/23 19:35	VB23125C	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	09/25/23	VB23125C	09/25/23 19:35	VB23125C	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	09/25/23	VB23125C	09/25/23 19:35	VB23125C	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	09/25/23	VB23125C	09/25/23 19:35	VB23125C	JLM
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	09/25/23	VB23125C	09/25/23 19:35	VB23125C	JLM
8. Bromomethane	U		µg/L	5.0	1.0	09/25/23	VB23125C	09/25/23 19:35	VB23125C	JLM
9. 2-Butanone	U		µg/L	25	1.0	09/25/23	VB23125C	09/25/23 19:35	VB23125C	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-002

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-8dr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A17318-002E **Matrix: Ground Water**
Description: MW-8dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. n-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
13. Carbon Disulfide	U	V+	µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
16. Chloroethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
17. Chloroform	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
18. Chloromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
33. 1,3-Dichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
‡ 34. 1,1-Dichloropropene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
37. Diethyl Ether	U		µg/L	10	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
38. Ethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
39. 2-Hexanone	U		µg/L	50	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
40. Isopropylbenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
41. 4-Methyl-2-pentanone	U		µg/L	50	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
42. Methylene Chloride	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
‡ 43. Methyl Iodide	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
‡ 44. 2-Methylnaphthalene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
45. MTBE	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-002

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-8dr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A17318-002E **Matrix: Ground Water**
Description: MW-8dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
46. Naphthalene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
47. n-Propylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
48. Styrene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
49. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
50. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
51. Tetrachloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
52. Toluene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
53. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
54. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
55. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
† 56. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
57. Trichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
58. Trichlorofluoromethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
59. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
60. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
61. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
62. Vinyl Chloride	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
63. m&p-Xylene	U		µg/L	2.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
64. o-Xylene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM
† 65. Xylenes	U		µg/L	3.0	1.0	09/25/23	VB23I25C	09/25/23 19:35	VB23I25C	JLM

Inorganic Anions by IC
Method: EPA 9056A

Aliquot ID: A17318-002 **Matrix: Ground Water**
Description: MW-8dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	70000		µg/L	1000	1.0	09/22/23	PW23I21F	09/22/23	W423I21A	RJM
2. Nitrate-N	U		µg/L	23	1.0	09/22/23 00:38	PW23I21F	09/22/23 00:38	W423I21A	RJM
3. Nitrate-N + Nitrite-N	U		µg/L	53	1.0	09/22/23	PW23I21F	09/22/23	W423I21A	RJM
4. Nitrite-N	U		µg/L	30	1.0	09/22/23 00:38	PW23I21F	09/22/23 00:38	W423I21A	RJM
5. Sulfate	54000		µg/L	1000	1.0	09/22/23	PW23I21F	09/22/23	W423I21A	RJM

Carbon, Total Organic (TOC)
Method: EPA 9060A

Aliquot ID: A17318-002A **Matrix: Ground Water**
Description: MW-8dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-002

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-8dr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Carbon, Total Organic (TOC) Aliquot ID: **A17318-002A** Matrix: **Ground Water**
Method: EPA 9060A Description: **MW-8dr**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Organic Carbon	U		µg/L	1000	1.0	09/25/23	PW23125D	09/26/23	WS23125A	EZ

Phenolics, Total Aliquot ID: **A17318-002B** Matrix: **Ground Water**
Method: EPA 9065 Description: **MW-8dr**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Phenolics	U		µg/L	50	1.0	NA	NA	09/25/23	W223125B	CM

Chemical Oxygen Demand (COD) Aliquot ID: **A17318-002C** Matrix: **Ground Water**
Method: HACH 8000 Description: **MW-8dr**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. COD	U		µg/L	5000	1.0	09/26/23	PW23126C	09/26/23	W223126A	EZ

Alkalinity by Titrimetry Aliquot ID: **A17318-002** Matrix: **Ground Water**
Method: SM 2320 B-2011 Description: **MW-8dr**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
† 1. Bicarbonate Alkalinity	300000		µg CaCO ₃ /L	20000	1.0	NA	NA	09/26/23	W123126A	ARC
† 2. Carbonate Alkalinity	U		µg CaCO ₃ /L	20000	1.0	NA	NA	09/26/23	W123126A	ARC
† 3. Hydroxide Alkalinity	U		µg CaCO ₃ /L	20000	1.0	NA	NA	09/26/23	W123126A	ARC

Residue, Filterable (TDS) Aliquot ID: **A17318-002** Matrix: **Ground Water**
Method: SM 2540 C-2015 Description: **MW-8dr**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	500000		µg/L	50000	1.3	NA	NA	09/21/23	WH23121B	CM

Nitrogen, Ammonia (Auto Analyzer) Aliquot ID: **A17318-002C** Matrix: **Ground Water**
Method: SM 4500-NH3 G-2011 Description: **MW-8dr**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-002

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-8dr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Nitrogen, Ammonia (Auto Analyzer)

Aliquot ID: A17318-002C

Matrix: Ground Water

Method: SM 4500-NH3 G-2011

Description: MW-8dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Ammonia-N	U		ug/L	50	1.0	09/21/23	PW23021A	09/21/23	WU23021A	CM

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-003

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-17sr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:25

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Phosphorus, Total						Aliquot ID: A17318-003C		Matrix: Ground Water		
Method: EPA 0365.3						Description: MW-17sr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Phosphorus	20		µg/L	10	1.0	NA	NA	09/22/23	W323I22A	CM

Trace Elements by ICP/MS, Dissolved						Aliquot ID: A17318-003D		Matrix: Ground Water		
Method: EPA 3005A (Dissolved)/EPA 6020A						Description: MW-17sr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	9.6		µg/L	5.0	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
2. Barium	210		µg/L	100	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
3. Cadmium	U		µg/L	1.0	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
4. Calcium	110000		µg/L	1200	50	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
5. Chromium	U		µg/L	10	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
6. Copper	U		µg/L	4.0	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
7. Iron	3600		µg/L	100	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
8. Lead	U		µg/L	3.0	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
9. Magnesium	30000		µg/L	400	50	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
10. Manganese	52		µg/L	50	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
11. Nickel	U		µg/L	20	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
12. Potassium	1300		µg/L	1000	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
13. Selenium	U		µg/L	5.0	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
14. Sodium	8200		µg/L	1000	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
15. Zinc	U		µg/L	50	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM

Volatile Organic Compounds (VOCs) by GC/MS						Aliquot ID: A17318-003E		Matrix: Ground Water		
Method: EPA 5030C/EPA 8260D						Description: MW-17sr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
3. Benzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
8. Bromomethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
9. 2-Butanone	U		µg/L	25	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-003

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-17sr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:25

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17318-003E

Matrix: Ground Water

Method: EPA 5030C/EPA 8260D

Description: MW-17sr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. n-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
13. Carbon Disulfide	U	V+	µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
16. Chloroethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
17. Chloroform	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
18. Chloromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
33. 1,3-Dichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
‡ 34. 1,1-Dichloropropene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
37. Diethyl Ether	U		µg/L	10	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
38. Ethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
39. 2-Hexanone	U		µg/L	50	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
40. Isopropylbenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
41. 4-Methyl-2-pentanone	U		µg/L	50	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
42. Methylene Chloride	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
‡ 43. Methyl Iodide	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
‡ 44. 2-Methylnaphthalene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
45. MTBE	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-003

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-17sr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:25

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A17318-003E **Matrix: Ground Water**
Description: MW-17sr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
46. Naphthalene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
47. n-Propylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
48. Styrene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
49. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
50. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
51. Tetrachloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
52. Toluene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
53. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
54. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
55. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
‡ 56. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
57. Trichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
58. Trichlorofluoromethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
59. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
60. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
61. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
62. Vinyl Chloride	2.0		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
63. m&p-Xylene	U		µg/L	2.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
64. o-Xylene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM
‡ 65. Xylenes	U		µg/L	3.0	1.0	09/25/23	VB23I25C	09/25/23 20:03	VB23I25C	JLM

Inorganic Anions by IC
Method: EPA 9056A

Aliquot ID: A17318-003 **Matrix: Ground Water**
Description: MW-17sr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	9800		µg/L	1000	1.0	09/22/23	PW23I21F	09/22/23	W423I21A	RJM
2. Nitrate-N	U		µg/L	23	1.0	09/22/23 00:58	PW23I21F	09/22/23 00:58	W423I21A	RJM
3. Nitrate-N + Nitrite-N	U		µg/L	53	1.0	09/22/23	PW23I21F	09/22/23	W423I21A	RJM
4. Nitrite-N	U		µg/L	30	1.0	09/22/23 00:58	PW23I21F	09/22/23 00:58	W423I21A	RJM
5. Sulfate	37000		µg/L	1000	1.0	09/22/23	PW23I21F	09/22/23	W423I21A	RJM

Carbon, Total Organic (TOC)
Method: EPA 9060A

Aliquot ID: A17318-003A **Matrix: Ground Water**
Description: MW-17sr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-003

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-17sr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:25

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Carbon, Total Organic (TOC)					Aliquot ID:	A17318-003A	Matrix: Ground Water			
Method: EPA 9060A					Description:	MW-17sr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Organic Carbon	U		ug/L	1000	1.0	09/25/23	PW23I25D	09/26/23	WS23I25A	EZ

Phenolics, Total						Aliquot ID:	A17318-003B		Matrix: Ground Water	
Method: EPA 9065						Description:	MW-17sr			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init
						P. Date	P. Batch	A. Date	A. Batch	
1. Phenolics	U		µg/L	50	1.0	NA	NA	09/25/23	W223I25B	CM

Chemical Oxygen Demand (COD)					Aliquot ID:	A17318-003C		Matrix: Ground Water		
Method: HACH 8000					Description:	MW-17sr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init
1. COD	U		µg/L	5000	1.0	09/25/23	PW23I25A	09/25/23	W223I25A	EZ

Alkalinity by Titrimetry					Aliquot ID:	A17318-003	Matrix: Ground Water				
Method: SM 2320 B-2011					Description:	MW-17sr					
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init
							P. Date	P. Batch	A. Date	A. Batch	
±	1. Bicarbonate Alkalinity	410000		µg CaCO3/L	20000	1.0	NA	NA	09/26/23	W123I26A	ARC
±	2. Carbonate Alkalinity	U		µg CaCO3/L	20000	1.0	NA	NA	09/26/23	W123I26A	ARC
±	3. Hydroxide Alkalinity	U		µg CaCO3/L	20000	1.0	NA	NA	09/26/23	W123I26A	ARC

Residue, Filterable (TDS)					Aliquot ID:	A17318-003		Matrix: Ground Water		
Method: SM 2540 C-2015					Description:	MW-17sr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	490000		µg/L	50000	1.3	NA	NA	09/21/23	WH23I21B	CM

Nitrogen, Ammonia (Auto Analyzer)						Aliquot ID:	A17318-003C		Matrix: Ground Water	
Method: SM 4500-NH3 G-2011						Description:	MW-17sr			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-003

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-17sr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:25

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Nitrogen, Ammonia (Auto Analyzer)

Aliquot ID: A17318-003C

Matrix: Ground Water

Method: SM 4500-NH3 G-2011

Description: MW-17sr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Ammonia-N	87		µg/L	50	1.0	09/21/23	PW23I21A	09/21/23	WU23I21A	CM

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-004

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-17dr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Phosphorus, Total Aliquot ID: A17318-004C Matrix: Ground Water
Method: EPA 0365.3 Description: MW-17dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Phosphorus	23		µg/L	10	1.0	NA	NA	09/22/23	W323I22A	CM

Trace Elements by ICP/MS, Dissolved Aliquot ID: A17318-004D Matrix: Ground Water
Method: EPA 3005A (Dissolved)/EPA 6020A Description: MW-17dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	9.2		µg/L	5.0	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
2. Barium	260		µg/L	100	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
3. Cadmium	U		µg/L	1.0	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
4. Calcium	140000		µg/L	1200	50	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
5. Chromium	U		µg/L	10	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
6. Copper	U		µg/L	4.0	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
7. Iron	5900		µg/L	100	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
8. Lead	U		µg/L	3.0	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
9. Magnesium	34000		µg/L	400	50	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
10. Manganese	86		µg/L	50	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
11. Nickel	U		µg/L	20	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
12. Potassium	1700		µg/L	1000	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
13. Selenium	U		µg/L	5.0	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
14. Sodium	12000		µg/L	1000	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
15. Zinc	U		µg/L	50	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: A17318-004E Matrix: Ground Water
Method: EPA 5030C/EPA 8260D Description: MW-17dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
3. Benzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
8. Bromomethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
9. 2-Butanone	U		µg/L	25	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-004

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-17dr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: **A17318-004E**

Matrix: **Ground Water**

Method: **EPA 5030C/EPA 8260D**

Description: **MW-17dr**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. n-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
13. Carbon Disulfide	U	V+	µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
16. Chloroethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
17. Chloroform	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
18. Chloromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
26. Dichlorodifluoromethane	6.3		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
33. 1,3-Dichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
‡ 34. 1,1-Dichloropropene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
37. Diethyl Ether	14		µg/L	10	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
38. Ethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
39. 2-Hexanone	U		µg/L	50	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
40. Isopropylbenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
41. 4-Methyl-2-pentanone	U		µg/L	50	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
42. Methylene Chloride	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
‡ 43. Methyl Iodide	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
‡ 44. 2-Methylnaphthalene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
45. MTBE	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-004

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-17dr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17318-004E

Matrix: Ground Water

Method: EPA 5030C/EPA 8260D

Description: MW-17dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
46. Naphthalene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
47. n-Propylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
48. Styrene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
49. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
50. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
51. Tetrachloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
52. Toluene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
53. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
54. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
55. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
‡ 56. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
57. Trichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
58. Trichlorofluoromethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
59. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
60. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
61. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
62. Vinyl Chloride	11		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
63. m&p-Xylene	U		µg/L	2.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
64. o-Xylene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM
‡ 65. Xylenes	U		µg/L	3.0	1.0	09/25/23	VB23I25C	09/25/23 20:30	VB23I25C	JLM

Inorganic Anions by IC

Aliquot ID: A17318-004

Matrix: Ground Water

Method: EPA 9056A

Description: MW-17dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	14000		µg/L	1000	1.0	09/22/23	PW23I21F	09/22/23	W423I21A	RJM
2. Nitrate-N	U		µg/L	23	1.0	09/22/23 01:58	PW23I21F	09/22/23 01:58	W423I21A	RJM
3. Nitrate-N + Nitrite-N	U		µg/L	53	1.0	09/22/23	PW23I21F	09/22/23	W423I21A	RJM
4. Nitrite-N	U		µg/L	30	1.0	09/22/23 01:58	PW23I21F	09/22/23 01:58	W423I21A	RJM
5. Sulfate	28000		µg/L	1000	1.0	09/22/23	PW23I21F	09/22/23	W423I21A	RJM

Carbon, Total Organic (TOC)

Aliquot ID: A17318-004A

Matrix: Ground Water

Method: EPA 9060A

Description: MW-17dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-004

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-17dr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Carbon, Total Organic (TOC)						Aliquot ID: A17318-004A	Matrix: Ground Water			
Method: EPA 9060A						Description: MW-17dr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Organic Carbon	1500		µg/L	1000	1.0	09/25/23	PW23125D	09/26/23	WS23125A	EZ

Phenolics, Total						Aliquot ID: A17318-004B	Matrix: Ground Water			
Method: EPA 9065						Description: MW-17dr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Phenolics	U		µg/L	50	1.0	NA	NA	09/25/23	W223125B	CM

Chemical Oxygen Demand (COD)						Aliquot ID: A17318-004C	Matrix: Ground Water			
Method: HACH 8000						Description: MW-17dr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. COD	U		µg/L	5000	1.0	09/25/23	PW23125A	09/25/23	W223125A	EZ

Alkalinity by Titrimetry						Aliquot ID: A17318-004	Matrix: Ground Water			
Method: SM 2320 B-2011						Description: MW-17dr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
± 1. Bicarbonate Alkalinity	520000		µg CaCO ₃ /L	20000	1.0	NA	NA	09/26/23	W123126A	ARC
± 2. Carbonate Alkalinity	U		µg CaCO ₃ /L	20000	1.0	NA	NA	09/26/23	W123126A	ARC
± 3. Hydroxide Alkalinity	U		µg CaCO ₃ /L	20000	1.0	NA	NA	09/26/23	W123126A	ARC

Residue, Filterable (TDS)						Aliquot ID: A17318-004	Matrix: Ground Water			
Method: SM 2540 C-2015						Description: MW-17dr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	600000		µg/L	50000	1.3	NA	NA	09/21/23	WH23121B	CM

Nitrogen, Ammonia (Auto Analyzer)						Aliquot ID: A17318-004C	Matrix: Ground Water			
Method: SM 4500-NH₃ G-2011						Description: MW-17dr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-004

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-17dr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Nitrogen, Ammonia (Auto Analyzer)

Aliquot ID: **A17318-004C**

Matrix: **Ground Water**

Method: **SM 4500-NH3 G-2011**

Description: **MW-17dr**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	110		µg/L	50	1.0	09/21/23	PW23121A	09/21/23	WU23121A	CM

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-005

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-19s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	11:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Phosphorus, Total Aliquot ID: **A17318-005C** Matrix: **Ground Water**
Method: EPA 0365.3 Description: **MW-19s**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Phosphorus	U		µg/L	10	1.0	NA	NA	09/22/23	W323I22A	CM

Trace Elements by ICP/MS, Dissolved Aliquot ID: **A17318-005D** Matrix: **Ground Water**
Method: EPA 3005A (Dissolved)/EPA 6020A Description: **MW-19s**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	7.3		µg/L	5.0	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
2. Barium	190		µg/L	100	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
3. Cadmium	U		µg/L	1.0	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
4. Calcium	120000		µg/L	1200	50	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
5. Chromium	U		µg/L	10	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
6. Copper	U		µg/L	4.0	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
7. Iron	2900		µg/L	100	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
8. Lead	U		µg/L	3.0	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
9. Magnesium	36000		µg/L	400	50	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
10. Manganese	51		µg/L	50	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
11. Nickel	U		µg/L	20	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
12. Potassium	1600		µg/L	1000	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
13. Selenium	U		µg/L	5.0	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
14. Sodium	27000		µg/L	1000	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM
15. Zinc	640		µg/L	50	5.0	09/26/23	PT23I26B	09/26/23	T423I26B	RJM

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **A17318-005E** Matrix: **Ground Water**
Method: EPA 5030C/EPA 8260D Description: **MW-19s**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
3. Benzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
8. Bromomethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
9. 2-Butanone	U		µg/L	25	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-005

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-19s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	11:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17318-005E

Matrix: Ground Water

Method: EPA 5030C/EPA 8260D

Description: MW-19s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. n-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
13. Carbon Disulfide	U	V+	µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
16. Chloroethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
17. Chloroform	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
18. Chloromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
± 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
33. 1,3-Dichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
± 34. 1,1-Dichloropropene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
37. Diethyl Ether	U		µg/L	10	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
38. Ethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
39. 2-Hexanone	U		µg/L	50	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
40. Isopropylbenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
41. 4-Methyl-2-pentanone	U		µg/L	50	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
42. Methylene Chloride	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
± 43. Methyl Iodide	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
± 44. 2-Methylnaphthalene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
45. MTBE	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-005

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-19s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	11:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: **A17318-005E**

Matrix: **Ground Water**

Method: **EPA 5030C/EPA 8260D**

Description: **MW-19s**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
46. Naphthalene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
47. n-Propylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
48. Styrene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
49. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
50. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
51. Tetrachloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
52. Toluene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
53. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
54. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
55. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
± 56. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
57. Trichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
58. Trichlorofluoromethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
59. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
60. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
61. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
62. Vinyl Chloride	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
63. m&p-Xylene	U		µg/L	2.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
64. o-Xylene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM
± 65. Xylenes	U		µg/L	3.0	1.0	09/25/23	VB23I25C	09/25/23 20:58	VB23I25C	JLM

Inorganic Anions by IC

Aliquot ID: **A17318-005**

Matrix: **Ground Water**

Method: **EPA 9056A**

Description: **MW-19s**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	39000		µg/L	1000	1.0	09/22/23	PW23I21F	09/22/23	W423I21A	RJM
2. Nitrate-N	U		µg/L	23	1.0	09/22/23 02:19	PW23I21F	09/22/23 02:19	W423I21A	RJM
3. Nitrate-N + Nitrite-N	U		µg/L	53	1.0	09/22/23	PW23I21F	09/22/23	W423I21A	RJM
4. Nitrite-N	U		µg/L	30	1.0	09/22/23 02:19	PW23I21F	09/22/23 02:19	W423I21A	RJM
5. Sulfate	37000		µg/L	1000	1.0	09/22/23	PW23I21F	09/22/23	W423I21A	RJM

Carbon, Total Organic (TOC)

Aliquot ID: **A17318-005A**

Matrix: **Ground Water**

Method: **EPA 9060A**

Description: **MW-19s**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-005

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-19s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	11:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Carbon, Total Organic (TOC) Aliquot ID: A17318-005A Matrix: Ground Water
Method: EPA 9060A Description: MW-19s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Organic Carbon	2200		µg/L	1000	1.0	09/25/23	PW23125D	09/26/23	WS23125A	EZ

Phenolics, Total Aliquot ID: A17318-005B Matrix: Ground Water
Method: EPA 9065 Description: MW-19s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Phenolics	U		µg/L	50	1.0	NA	NA	09/25/23	W223125B	CM

Chemical Oxygen Demand (COD) Aliquot ID: A17318-005C Matrix: Ground Water
Method: HACH 8000 Description: MW-19s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. COD	U		µg/L	5000	1.0	09/25/23	PW23125A	09/25/23	W223125A	EZ

Alkalinity by Titrimetry Aliquot ID: A17318-005 Matrix: Ground Water
Method: SM 2320 B-2011 Description: MW-19s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
± 1. Bicarbonate Alkalinity	460000		µg CaCO ₃ /L	20000	1.0	NA	NA	09/26/23	W123126A	ARC
± 2. Carbonate Alkalinity	U		µg CaCO ₃ /L	20000	1.0	NA	NA	09/26/23	W123126A	ARC
± 3. Hydroxide Alkalinity	U		µg CaCO ₃ /L	20000	1.0	NA	NA	09/26/23	W123126A	ARC

Residue, Filterable (TDS) Aliquot ID: A17318-005 Matrix: Ground Water
Method: SM 2540 C-2015 Description: MW-19s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	460000		µg/L	50000	1.3	NA	NA	09/21/23	WH23121B	CM

Nitrogen, Ammonia (Auto Analyzer) Aliquot ID: A17318-005C Matrix: Ground Water
Method: SM 4500-NH₃ G-2011 Description: MW-19s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-005

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-19s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	11:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Nitrogen, Ammonia (Auto Analyzer)

Aliquot ID: A17318-005C

Matrix: Ground Water

Method: SM 4500-NH3 G-2011

Description: MW-19s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Ammonia-N	79		µg/L	50	1.0	09/21/23	PW23121A	09/21/23	WU23121A	CM

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-006

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-18s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Phosphorus, Total					Aliquot ID: A17318-006C	Matrix: Ground Water				
Method: EPA 0365.3					Description: MW-18s					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Phosphorus	34		µg/L	10	1.0	NA	NA	09/22/23	W323I22A	CM

Trace Elements by ICP/MS, Dissolved					Aliquot ID: A17318-006D	Matrix: Ground Water				
Method: EPA 3005A (Dissolved)/EPA 6020A					Description: MW-18s					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	6.8		µg/L	5.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
2. Barium	160		µg/L	100	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
3. Cadmium	U		µg/L	1.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
4. Calcium	100000		µg/L	1200	50	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
5. Chromium	U		µg/L	10	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
6. Copper	U		µg/L	4.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
7. Iron	1500		µg/L	100	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
8. Lead	U		µg/L	3.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
9. Magnesium	31000		µg/L	400	50	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
10. Manganese	U		µg/L	50	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
11. Nickel	U		µg/L	20	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
12. Potassium	1300		µg/L	1000	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
13. Selenium	U		µg/L	5.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
14. Sodium	12000		µg/L	1000	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
15. Zinc	240		µg/L	50	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM

Volatile Organic Compounds (VOCs) by GC/MS					Aliquot ID: A17318-006E	Matrix: Ground Water				
Method: EPA 5030C/EPA 8260D					Description: MW-18s					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
3. Benzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
8. Bromomethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
9. 2-Butanone	U		µg/L	25	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-006

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-18s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17318-006E

Matrix: Ground Water

Method: EPA 5030C/EPA 8260D

Description: MW-18s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. n-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
13. Carbon Disulfide	U	V+	µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
16. Chloroethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
17. Chloroform	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
18. Chloromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
† 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
33. 1,3-Dichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
† 34. 1,1-Dichloropropene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
37. Diethyl Ether	U		µg/L	10	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
38. Ethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
39. 2-Hexanone	U		µg/L	50	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
40. Isopropylbenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
41. 4-Methyl-2-pentanone	U		µg/L	50	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
42. Methylene Chloride	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
† 43. Methyl Iodide	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
† 44. 2-Methylnaphthalene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
45. MTBE	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-006

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-18s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: **A17318-006E**

Matrix: **Ground Water**

Method: **EPA 5030C/EPA 8260D**

Description: **MW-18s**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
46. Naphthalene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
47. n-Propylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
48. Styrene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
49. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
50. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
51. Tetrachloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
52. Toluene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
53. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
54. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
55. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
† 56. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
57. Trichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
58. Trichlorofluoromethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
59. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
60. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
61. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
62. Vinyl Chloride	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
63. m&p-Xylene	U		µg/L	2.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
64. o-Xylene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM
† 65. Xylenes	U		µg/L	3.0	1.0	09/25/23	VB23I25C	09/25/23 21:26	VB23I25C	JLM

Inorganic Anions by IC

Aliquot ID: **A17318-006**

Matrix: **Ground Water**

Method: **EPA 9056A**

Description: **MW-18s**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	17000		µg/L	1000	1.0	09/22/23	PW23I21F	09/22/23	W423I21A	RJM
2. Nitrate-N	U		µg/L	23	1.0	09/22/23 02:39	PW23I21F	09/22/23 02:39	W423I21A	RJM
3. Nitrate-N + Nitrite-N	U		µg/L	53	1.0	09/22/23	PW23I21F	09/22/23	W423I21A	RJM
4. Nitrite-N	U		µg/L	30	1.0	09/22/23 02:39	PW23I21F	09/22/23 02:39	W423I21A	RJM
5. Sulfate	39000		µg/L	1000	1.0	09/22/23	PW23I21F	09/22/23	W423I21A	RJM

Carbon, Total Organic (TOC)

Aliquot ID: **A17318-006A**

Matrix: **Ground Water**

Method: **EPA 9060A**

Description: **MW-18s**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-006

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-18s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Carbon, Total Organic (TOC)					Aliquot ID: A17318-006A	Matrix: Ground Water				
Method: EPA 9060A					Description: MW-18s					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Organic Carbon	1500		µg/L	1000	1.0	09/25/23	PW23125D	09/26/23	WS23125A	EZ

Phenolics, Total						Aliquot ID:	A17318-006B		Matrix: Ground Water	
Method: EPA 9065						Description:	MW-18s			
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Phenolics	U		µg/L	50	1.0	NA	NA	09/25/23	W223125B	CM

Chemical Oxygen Demand (COD)					Aliquot ID:	A17318-006C		Matrix: Ground Water		
Method: HACH 8000					Description:	MW-18s				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. COD	U		µg/L	5000	1.0	09/25/23	PW23I25A	09/25/23	W223I25A	EZ

Alkalinity by Titrimetry					Aliquot ID:	A17318-006		Matrix: Ground Water		
Method: SM 2320 B-2011					Description:	MW-18s				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Bicarbonate Alkalinity	380000		µg CaCO3/L	20000	1.0	NA	NA	09/26/23	W123126A	ARC
‡ 2. Carbonate Alkalinity	U		µg CaCO3/L	20000	1.0	NA	NA	09/26/23	W123126A	ARC
‡ 3. Hydroxide Alkalinity	U		µg CaCO3/L	20000	1.0	NA	NA	09/26/23	W123126A	ARC

Residue, Filterable (TDS)					Aliquot ID:	A17318-006		Matrix: Ground Water		
Method: SM 2540 C-2015					Description:	MW-18s				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	430000		µg/L	50000	1.3	NA	NA	09/21/23	WH23121B	CM

Nitrogen, Ammonia (Auto Analyzer)					Aliquot ID:	A17318-006C		Matrix: Ground Water		
Method: SM 4500-NH3 G-2011					Description:	MW-18s				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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A METIRI GROUP COMPANY

Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-006

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-18s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	11:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Nitrogen, Ammonia (Auto Analyzer)

Aliquot ID: A17318-006C

Matrix: Ground Water

Method: SM 4500-NH3 G-2011

Description: MW-18s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	110		µg/L	50	1.0	09/21/23	PW23121A	09/21/23	WU23121A	CM

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-007

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	Trip Blank	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Blank: Trip	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17318-007

Matrix: Blank: Trip

Method: EPA 5030C/EPA 8260D

Description: Trip Blank

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
± 2. Acrylonitrile	U		µg/L	2.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
3. Benzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
± 7. Bromoform (SIM)	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
8. Bromomethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
9. 2-Butanone	U		µg/L	25	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
10. n-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
13. Carbon Disulfide	U	V+	µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
16. Chloroethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
17. Chloroform	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
18. Chloromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
± 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
33. 1,3-Dichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
± 34. 1,1-Dichloropropene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17318
Laboratory Sample Number: A17318-007

Order: A17318
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	Trip Blank	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/21/23
Client Project No:	926-1422	Sample Matrix:	Blank: Trip	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17318-007

Matrix: Blank: Trip

Method: EPA 5030C/EPA 8260D

Description: Trip Blank

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
37. Diethyl Ether	U		µg/L	10	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
38. Ethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
39. 2-Hexanone	U		µg/L	50	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
40. Isopropylbenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
41. 4-Methyl-2-pentanone	U		µg/L	50	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
42. Methylene Chloride	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
‡ 43. Methyl Iodide	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
‡ 44. 2-Methylnaphthalene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
45. MTBE	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
46. Naphthalene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
47. n-Propylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
48. Styrene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
49. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
50. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
51. Tetrachloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
52. Toluene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
53. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
54. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
55. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
‡ 56. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
57. Trichloroethene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
58. Trichlorofluoromethane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
59. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
60. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
61. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
62. Vinyl Chloride	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
63. m&p-Xylene	U		µg/L	2.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
64. o-Xylene	U		µg/L	1.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM
‡ 65. Xylenes	U		µg/L	3.0	1.0	09/25/23	VB23I25C	09/25/23 17:19	VB23I25C	JLM

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F: (231) 775-8584

Definitions/Qualifiers:

- A:** Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
M: Modified Method
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
***:** Value reported is outside QC limits

Exception Summary:

- V+** Recovery in the associated continuing calibration verification sample (CCV) exceeds the upper control limit. Results may be biased high.

Analysis Locations:

All analyses performed in Holt.



Accreditation Number(s):

T104704518-23-15 (TX)

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Air	A
Drinking Water	D
Groundwater	W
Soil	S
Sludge	L
Oil	O
Other	X

Client: EATON CO.

Project Name: ECLF

Project #: 926-1422

Send Results to: MCS

Sampling Personnel: SVS/NP

CHAIN OF CUSTODY

Lab Use		Sample Information				Preservative							Analysis Requested											
Lab Sample ID #	Date	Time	Sample Description and Location (e.g. MW-1)	PID	MATRIX	None	H2SO4	FHNO3	HC1	NaOH	Other	SEE ATTACHED LIST												
5	9-21-23	0915	MW-7r		W	2	2	1	4			X												
6		0940	MW-8dr		W	2	2	1	4			X												
7		1025	MW-17sr		W	2	2	1	4			X												
8		1045	MW-17dr		W	2	2	1	4			X												
9		1105	MW-19s		W	2	2	1	4			X												
10		1130	MW-18s		W	2	2	1	4			X												
			TRIP BLANK		X				3			X												

Received By Lab

SEP 21 2023

Initials: SV

Comments: PO # 6204

QUOTE # 00001518

Project # A17318
Temp: 7.8°C

Received
On Ice

Relinquished by Signature: <u>[Signature]</u>	Date: <u>9-21-23</u> Time: <u>12:15</u>	Received by: (Signature) <u>[Signature]</u>	Date: _____ Time: _____	Relinquished by Signature: _____	Date: _____ Time: _____	Received by: (Signature) _____	Date: _____ Time: _____
Relinquished by Signature: _____	Date: _____ Time: _____	Received by: (Signature) _____	Date: _____ Time: _____	Method of Shipment: _____		Bill of Lading: _____	
Received for Laboratory by: _____	Date: _____ Time: _____	Data Package Relinquished by: _____	Date: _____ Time: _____	Data Received by: _____	Date: _____ Time: _____		



Friday, September 29, 2023

Fibertec Project Number: A17353
Project Identification: Eaton County (926-1422) /926-1422
Submittal Date: 09/22/2023

Mr. Mike Serafini
Strata Environmental Services, Inc.
538 W. Ash Street
Mason, MI 48854

Dear Mr. Serafini,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

By Bailey Welch at 3:47 PM, Sep 29, 2023

For Heather L. Smith
Director of Laboratory Operations

Enclosures

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-001

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-2s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Phosphorus, Total Aliquot ID: **A17353-001C** Matrix: **Ground Water**
Method: EPA 0365.3 Description: **MW-2s**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Phosphorus	20		µg/L	10	1.0	NA	NA	09/25/23	W323I25A	CM

Trace Elements by ICP/MS, Dissolved Aliquot ID: **A17353-001D** Matrix: **Ground Water**
Method: EPA 3005A (Dissolved)/EPA 6020A Description: **MW-2s**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	U		µg/L	5.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
2. Barium	U		µg/L	100	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
3. Cadmium	U		µg/L	1.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
4. Calcium	110000		µg/L	1200	50	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
5. Chromium	U		µg/L	10	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
6. Copper	U		µg/L	4.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
7. Iron	430		µg/L	100	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
8. Lead	U		µg/L	3.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
9. Magnesium	34000		µg/L	400	50	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
10. Manganese	120		µg/L	50	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
11. Nickel	U		µg/L	20	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
12. Potassium	1500		µg/L	1000	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
13. Selenium	U		µg/L	5.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
14. Sodium	20000		µg/L	1000	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
15. Zinc	1200		µg/L	50	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **A17353-001E** Matrix: **Ground Water**
Method: EPA 5030C/EPA 8260D Description: **MW-2s**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
3. Benzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
9. 2-Butanone	U		µg/L	25	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-001

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-2s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17353-001E

Matrix: Ground Water

Method: EPA 5030C/EPA 8260D

Description: MW-2s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. n-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
13. Carbon Disulfide	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
16. Chloroethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
17. Chloroform	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
18. Chloromethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
† 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
33. 1,3-Dichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
† 34. 1,1-Dichloropropene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
37. Diethyl Ether	U		µg/L	10	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
38. Ethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
39. 2-Hexanone	U	V+	µg/L	50	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
40. Isopropylbenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
41. 4-Methyl-2-pentanone	U		µg/L	50	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
42. Methylene Chloride	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
† 43. Methyl Iodide	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
† 44. 2-Methylnaphthalene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
45. MTBE	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-001

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-2s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A17353-001E **Matrix: Ground Water**
Description: MW-2s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
46. Naphthalene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
47. n-Propylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
48. Styrene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
49. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
50. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
51. Tetrachloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
52. Toluene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
53. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
54. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
55. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
† 56. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
57. Trichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
58. Trichlorofluoromethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
59. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
60. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
61. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
62. Vinyl Chloride	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
63. m&p-Xylene	U		µg/L	2.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
64. o-Xylene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM
† 65. Xylenes	U		µg/L	3.0	1.0	09/28/23	VB23I28A	09/28/23 13:45	VB23I28A	JLM

Inorganic Anions by IC
Method: EPA 9056A

Aliquot ID: A17353-001 **Matrix: Ground Water**
Description: MW-2s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	6600		µg/L	1000	1.0	09/22/23	PW23I22B	09/22/23	W423I22A	RJM
2. Nitrate-N	U		µg/L	23	1.0	09/22/23 17:20	PW23I22B	09/22/23 17:20	W423I22A	RJM
3. Nitrate-N + Nitrite-N	U		µg/L	53	1.0	09/22/23	PW23I22B	09/22/23	W423I22A	RJM
4. Nitrite-N	U		µg/L	30	1.0	09/22/23 17:20	PW23I22B	09/22/23 17:20	W423I22A	RJM
5. Sulfate	36000		µg/L	1000	1.0	09/22/23	PW23I22B	09/22/23	W423I22A	RJM

Carbon, Total Organic (TOC)
Method: EPA 9060A

Aliquot ID: A17353-001A **Matrix: Ground Water**
Description: MW-2s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-001

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-2s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Carbon, Total Organic (TOC)					Aliquot ID: A17353-001A	Matrix: Ground Water				
Method: EPA 9060A					Description: MW-2s					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Organic Carbon	1300		µg/L	1000	1.0	09/25/23	PW23125D	09/26/23	WS23125A	EZ

Phenolics, Total						Aliquot ID:	A17353-001B		Matrix: Ground Water		
Method: EPA 9065						Description:	MW-2s				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis			
						P. Date	P. Batch	A. Date	A. Batch	Init.	
1. Phenolics	U		µg/L	50	1.0	NA	NA	09/27/23	W223127A	MJS	

Chemical Oxygen Demand (COD)					Aliquot ID:	A17353-001C		Matrix: Ground Water		
Method: HACH 8000					Description:	MW-2s				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. COD	U		µg/L	5000	1.0	09/25/23	PW23125A	09/25/23	W223125A	EZ

Alkalinity by Titrimetry						Aliquot ID:	A17353-001		Matrix: Ground Water		
Method: SM 2320 B-2011						Description:	MW-2s				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis			
						P. Date	P. Batch	A. Date	A. Batch	Init.	
± 1. Bicarbonate Alkalinity	350000		µg CaCO3/L	20000	1.0	NA	NA	09/26/23	W123I26A	ARC	
± 2. Carbonate Alkalinity	U		µg CaCO3/L	20000	1.0	NA	NA	09/26/23	W123I26A	ARC	
± 3. Hydroxide Alkalinity	U		µg CaCO3/L	20000	1.0	NA	NA	09/26/23	W123I26A	ARC	

Residue, Filterable (TDS)					Aliquot ID: A17353-001	Matrix: Ground Water				
Method: SM 2540 C-2015					Description: MW-2s					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	410000		µg/L	50000	1.3	NA	NA	09/22/23	WH23122C	ARC

Nitrogen, Ammonia (Auto Analyzer)					Aliquot ID:	A17353-001C		Matrix: Ground Water		
Method: SM 4500-NH3 G-2011					Description:	MW-2s				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-001

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-2s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:05

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Nitrogen, Ammonia (Auto Analyzer)

Aliquot ID: A17353-001C

Matrix: Ground Water

Method: SM 4500-NH3 G-2011

Description: MW-2s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	U		µg/L	50	1.0	09/25/23	PW23I25B	09/25/23	WU23I25A	AVC

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-002

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-2d	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Phosphorus, Total Aliquot ID: **A17353-002C** Matrix: **Ground Water**
Method: EPA 0365.3 Description: **MW-2d**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Phosphorus	U		µg/L	10	1.0	NA	NA	09/25/23	W323I25A	CM

Trace Elements by ICP/MS, Dissolved Aliquot ID: **A17353-002D** Matrix: **Ground Water**
Method: EPA 3005A (Dissolved)/EPA 6020A Description: **MW-2d**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		µg/L	5.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
2. Barium	U		µg/L	100	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
3. Cadmium	U		µg/L	1.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
4. Calcium	94000		µg/L	1200	50	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
5. Chromium	U		µg/L	10	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
6. Copper	U		µg/L	4.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
7. Iron	680		µg/L	100	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
8. Lead	U		µg/L	3.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
9. Magnesium	25000		µg/L	400	50	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
10. Manganese	U		µg/L	50	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
11. Nickel	U		µg/L	20	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
12. Potassium	1000		µg/L	1000	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
13. Selenium	U		µg/L	5.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
14. Sodium	4200		µg/L	1000	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
15. Zinc	1700		µg/L	50	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **A17353-002E** Matrix: **Ground Water**
Method: EPA 5030C/EPA 8260D Description: **MW-2d**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
† 2. Acrylonitrile	U		µg/L	2.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
3. Benzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
† 7. Bromoform (SIM)	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
9. 2-Butanone	U		µg/L	25	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-002

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-2d	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:20
Sample Comments:					
Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.					

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A17353-002E **Matrix: Ground Water**
Description: MW-2d

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. n-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
13. Carbon Disulfide	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
16. Chloroethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
17. Chloroform	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
18. Chloromethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
± 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
33. 1,3-Dichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
± 34. 1,1-Dichloropropene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
37. Diethyl Ether	U		µg/L	10	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
38. Ethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
39. 2-Hexanone	U	V+	µg/L	50	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
40. Isopropylbenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
41. 4-Methyl-2-pentanone	U		µg/L	50	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
42. Methylene Chloride	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
± 43. Methyl Iodide	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
± 44. 2-Methylnaphthalene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
45. MTBE	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-002

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-2d	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17353-002E

Matrix: Ground Water

Method: EPA 5030C/EPA 8260D

Description: MW-2d

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
46. Naphthalene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
47. n-Propylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
48. Styrene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
49. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
50. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
51. Tetrachloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
52. Toluene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
53. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
54. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
55. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
‡ 56. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
57. Trichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
58. Trichlorofluoromethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
59. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
60. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
61. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
62. Vinyl Chloride	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
63. m&p-Xylene	U		µg/L	2.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
64. o-Xylene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM
‡ 65. Xylenes	U		µg/L	3.0	1.0	09/28/23	VB23I28A	09/28/23 14:13	VB23I28A	JLM

Inorganic Anions by IC

Aliquot ID: A17353-002

Matrix: Ground Water

Method: EPA 9056A

Description: MW-2d

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	5500		µg/L	1000	1.0	09/22/23	PW23I22B	09/22/23	W423I22A	RJM
2. Nitrate-N	U		µg/L	23	1.0	09/22/23 17:40	PW23I22B	09/22/23 17:40	W423I22A	RJM
3. Nitrate-N + Nitrite-N	U		µg/L	53	1.0	09/22/23	PW23I22B	09/22/23	W423I22A	RJM
4. Nitrite-N	U		µg/L	30	1.0	09/22/23 17:40	PW23I22B	09/22/23 17:40	W423I22A	RJM
5. Sulfate	39000		µg/L	1000	1.0	09/22/23	PW23I22B	09/22/23	W423I22A	RJM

Carbon, Total Organic (TOC)

Aliquot ID: A17353-002A

Matrix: Ground Water

Method: EPA 9060A

Description: MW-2d

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-002

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-2d	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Carbon, Total Organic (TOC)						Aliquot ID: A17353-002A	Matrix: Ground Water			
Method: EPA 9060A						Description: MW-2d				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Organic Carbon	2000		µg/L	1000	1.0	09/25/23	PW23I25D	09/26/23	WS23I25A	EZ

Phenolics, Total						Aliquot ID: A17353-002B	Matrix: Ground Water			
Method: EPA 9065						Description: MW-2d				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Phenolics	U		µg/L	50	1.0	NA	NA	09/27/23	W223I27A	MJS

Chemical Oxygen Demand (COD)						Aliquot ID: A17353-002C	Matrix: Ground Water			
Method: HACH 8000						Description: MW-2d				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1.COD	U		µg/L	5000	1.0	09/25/23	PW23I25A	09/25/23	W223I25A	EZ

Alkalinity by Titrimetry					Aliquot ID: A17353-002	Matrix: Ground Water				
Method: SM 2320 B-2011					Description: MW-2d					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Bicarbonate Alkalinity	330000		µg CaCO3/L	20000	1.0	NA	NA	09/26/23	W123I26A	AR
2. Carbonate Alkalinity	U		µg CaCO3/L	20000	1.0	NA	NA	09/26/23	W123I26A	AR
3. Hydroxide Alkalinity	U		µg CaCO3/L	20000	1.0	NA	NA	09/26/23	W123I26A	AR

Residue, Filterable (TDS)					Aliquot ID: A17353-002	Matrix: Ground Water				
Method: SM 2540 C-2015					Description: MW-2d					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Total Dissolved Solids	420000		µg/L	50000	1.3	NA	NA	09/22/23	WH23I22C	ARC

Nitrogen, Ammonia (Auto Analyzer)						Aliquot ID: A17353-002C	Matrix: Ground Water			
Method: SM 4500-NH3 G-2011						Description: MW-2d				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-002

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-2d	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Nitrogen, Ammonia (Auto Analyzer)

Aliquot ID: A17353-002C

Matrix: Ground Water

Method: SM 4500-NH3 G-2011

Description: MW-2d

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	U		µg/L	50	1.0	09/25/23	PW23I25B	09/25/23	WU23I25A	AVC

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-003

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-15sr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:35

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Phosphorus, Total Aliquot ID: **A17353-003C** Matrix: **Ground Water**
Method: EPA 0365.3 Description: **MW-15sr**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Phosphorus	740		µg/L	50	5.0	NA	NA	09/27/23	W323I27A	CM

Trace Elements by ICP/MS, Dissolved Aliquot ID: **A17353-003D** Matrix: **Ground Water**
Method: EPA 3005A (Dissolved)/EPA 6020A Description: **MW-15sr**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	U		µg/L	5.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
2. Barium	140		µg/L	100	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
3. Cadmium	U		µg/L	1.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
4. Calcium	97000		µg/L	1200	50	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
5. Chromium	U		µg/L	10	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
6. Copper	U		µg/L	4.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
7. Iron	5600		µg/L	100	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
8. Lead	U		µg/L	3.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
9. Magnesium	46000		µg/L	400	50	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
10. Manganese	U		µg/L	50	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
11. Nickel	U		µg/L	20	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
12. Potassium	3300		µg/L	1000	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
13. Selenium	U		µg/L	5.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
14. Sodium	27000		µg/L	1000	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
15. Zinc	U		µg/L	50	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: **A17353-003E** Matrix: **Ground Water**
Method: EPA 5030C/EPA 8260D Description: **MW-15sr**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
3. Benzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
9. 2-Butanone	U		µg/L	25	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-003

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-15sr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:35

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17353-003E

Matrix: Ground Water

Method: EPA 5030C/EPA 8260D

Description: MW-15sr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. n-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
13. Carbon Disulfide	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
16. Chloroethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
17. Chloroform	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
18. Chloromethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
† 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
27. 1,1-Dichloroethane	4.8		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
28. 1,2-Dichloroethane	1.2		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
30. cis-1,2-Dichloroethene	69		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
33. 1,3-Dichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
† 34. 1,1-Dichloropropene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
37. Diethyl Ether	19		µg/L	10	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
38. Ethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
39. 2-Hexanone	U	V+	µg/L	50	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
40. Isopropylbenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
41. 4-Methyl-2-pentanone	U		µg/L	50	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
42. Methylene Chloride	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
† 43. Methyl Iodide	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
† 44. 2-Methylnaphthalene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
45. MTBE	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-003

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-15sr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:35

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17353-003E

Matrix: Ground Water

Method: EPA 5030C/EPA 8260D

Description: MW-15sr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
46. Naphthalene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
47. n-Propylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
48. Styrene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
49. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
50. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
51. Tetrachloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
52. Toluene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
53. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
54. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
55. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
‡ 56. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
57. Trichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
58. Trichlorofluoromethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
59. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
60. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
61. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
62. Vinyl Chloride	1.6		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
63. m&p-Xylene	U		µg/L	2.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
64. o-Xylene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM
‡ 65. Xylenes	U		µg/L	3.0	1.0	09/28/23	VB23I28A	09/28/23 14:40	VB23I28A	JLM

Inorganic Anions by IC

Aliquot ID: A17353-003

Matrix: Ground Water

Method: EPA 9056A

Description: MW-15sr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	31000		µg/L	1000	1.0	09/22/23	PW23I22B	09/22/23	W423I22A	RJM
2. Nitrate-N	U		µg/L	23	1.0	09/22/23 18:00	PW23I22B	09/22/23 18:00	W423I22A	RJM
3. Nitrate-N + Nitrite-N	U		µg/L	53	1.0	09/22/23	PW23I22B	09/22/23	W423I22A	RJM
4. Nitrite-N	U		µg/L	30	1.0	09/22/23 18:00	PW23I22B	09/22/23 18:00	W423I22A	RJM
5. Sulfate	11000		µg/L	1000	1.0	09/22/23	PW23I22B	09/22/23	W423I22A	RJM

Carbon, Total Organic (TOC)

Aliquot ID: A17353-003A

Matrix: Ground Water

Method: EPA 9060A

Description: MW-15sr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-003

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-15sr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:35
Sample Comments:					
Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.					

Carbon, Total Organic (TOC)					Aliquot ID: A17353-003A	Matrix: Ground Water				
Method: EPA 9060A					Description: MW-15sr					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init
1. Total Organic Carbon	6200		µg/L	1000	1.0	09/25/23	PW23125D	09/26/23	WS23125A	EZ

Phenolics, Total						Aliquot ID:	A17353-003B		Matrix: Ground Water		
Method: EPA 9065						Description:	MW-15sr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis			
						P. Date	P. Batch	A. Date	A. Batch	Init	
1. Phenolics	U		µg/L	50	1.0	NA	NA	09/27/23	W223127A	MJS	

Chemical Oxygen Demand (COD)						Aliquot ID: A17353-003C	Matrix: Ground Water			
Method: HACH 8000						Description: MW-15sr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init
						P. Date	P. Batch	A. Date	A. Batch	
1. COD	12000		µg/L	5000	1.0	09/25/23	PW23125A	09/25/23	W223125A	EZ

Alkalinity by Titrimetry						Aliquot ID: A17353-003	Matrix: Ground Water			
Method: SM 2320 B-2011						Description: MW-15sr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Initial
± 1. Bicarbonate Alkalinity	610000		µg CaCO3/L	20000	1.0	NA	NA	09/26/23	W123126A	ARC
± 2. Carbonate Alkalinity	U		µg CaCO3/L	20000	1.0	NA	NA	09/26/23	W123126A	ARC
± 3. Hydroxide Alkalinity	U		µg CaCO3/L	20000	1.0	NA	NA	09/26/23	W123126A	ARC

Residue, Filterable (TDS)					Aliquot ID: A17353-003	Matrix: Ground Water				
Method: SM 2540 C-2015					Description: MW-15sr					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	500000		µg/L	50000	1.3	NA	NA	09/22/23	WH23122C	ARC

Nitrogen, Ammonia (Auto Analyzer)						Aliquot ID: A17353-003C	Matrix: Ground Water			
Method: SM 4500-NH3 G-2011						Description: MW-15sr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-003

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-15sr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:35

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Nitrogen, Ammonia (Auto Analyzer)

Aliquot ID: A17353-003C

Matrix: Ground Water

Method: SM 4500-NH3 G-2011

Description: MW-15sr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	200		µg/L	50	1.0	09/25/23	PW23125B	09/25/23	WU23125A	AVC

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-004

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-15dr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Phosphorus, Total						Aliquot ID: A17353-004C		Matrix: Ground Water		
Method: EPA 0365.3						Description: MW-15dr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Phosphorus	12		µg/L	10	1.0	NA	NA	09/25/23	W323125A	CM

Trace Elements by ICP/MS, Dissolved						Aliquot ID: A17353-004D		Matrix: Ground Water		
Method: EPA 3005A (Dissolved)/EPA 6020A						Description: MW-15dr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	5.6		µg/L	5.0	5.0	09/26/23	PT23126C	09/26/23	T423126B	RJM
2. Barium	150		µg/L	100	5.0	09/26/23	PT23126C	09/26/23	T423126B	RJM
3. Cadmium	U		µg/L	1.0	5.0	09/26/23	PT23126C	09/26/23	T423126B	RJM
4. Calcium	100000		µg/L	1200	50	09/26/23	PT23126C	09/26/23	T423126B	RJM
5. Chromium	U		µg/L	10	5.0	09/26/23	PT23126C	09/26/23	T423126B	RJM
6. Copper	U		µg/L	4.0	5.0	09/26/23	PT23126C	09/26/23	T423126B	RJM
7. Iron	3100		µg/L	100	5.0	09/26/23	PT23126C	09/26/23	T423126B	RJM
8. Lead	U		µg/L	3.0	5.0	09/26/23	PT23126C	09/26/23	T423126B	RJM
9. Magnesium	26000		µg/L	400	50	09/26/23	PT23126C	09/26/23	T423126B	RJM
10. Manganese	55		µg/L	50	5.0	09/26/23	PT23126C	09/26/23	T423126B	RJM
11. Nickel	U		µg/L	20	5.0	09/26/23	PT23126C	09/26/23	T423126B	RJM
12. Potassium	1300		µg/L	1000	5.0	09/26/23	PT23126C	09/26/23	T423126B	RJM
13. Selenium	U		µg/L	5.0	5.0	09/26/23	PT23126C	09/26/23	T423126B	RJM
14. Sodium	5500		µg/L	1000	5.0	09/26/23	PT23126C	09/26/23	T423126B	RJM
15. Zinc	U		µg/L	50	5.0	09/26/23	PT23126C	09/26/23	T423126B	RJM

Volatile Organic Compounds (VOCs) by GC/MS						Aliquot ID: A17353-004E		Matrix: Ground Water		
Method: EPA 5030C/EPA 8260D						Description: MW-15dr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	09/28/23	VB23128A	09/28/23 15:07	VB23128A	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	09/28/23	VB23128A	09/28/23 15:07	VB23128A	JLM
3. Benzene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:07	VB23128A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:07	VB23128A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:07	VB23128A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:07	VB23128A	JLM
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:07	VB23128A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 15:07	VB23128A	JLM
9. 2-Butanone	U		µg/L	25	1.0	09/28/23	VB23128A	09/28/23 15:07	VB23128A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-004

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-15dr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17353-004E

Matrix: Ground Water

Method: EPA 5030C/EPA 8260D

Description: MW-15dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. n-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
13. Carbon Disulfide	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
16. Chloroethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
17. Chloroform	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
18. Chloromethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
† 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
33. 1,3-Dichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
† 34. 1,1-Dichloropropene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
37. Diethyl Ether	U		µg/L	10	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
38. Ethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
39. 2-Hexanone	U	V+	µg/L	50	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
40. Isopropylbenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
41. 4-Methyl-2-pentanone	U		µg/L	50	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
42. Methylene Chloride	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
† 43. Methyl Iodide	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
† 44. 2-Methylnaphthalene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
45. MTBE	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-004

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-15dr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17353-004E

Matrix: Ground Water

Method: EPA 5030C/EPA 8260D

Description: MW-15dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
46. Naphthalene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
47. n-Propylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
48. Styrene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
49. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
50. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
51. Tetrachloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
52. Toluene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
53. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
54. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
55. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
† 56. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
57. Trichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
58. Trichlorofluoromethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
59. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
60. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
61. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
62. Vinyl Chloride	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
63. m&p-Xylene	U		µg/L	2.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
64. o-Xylene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM
† 65. Xylenes	U		µg/L	3.0	1.0	09/28/23	VB23I28A	09/28/23 15:07	VB23I28A	JLM

Inorganic Anions by IC

Aliquot ID: A17353-004

Matrix: Ground Water

Method: EPA 9056A

Description: MW-15dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	6800		µg/L	1000	1.0	09/22/23	PW23I22B	09/22/23	W423I22A	RJM
2. Nitrate-N	U		µg/L	23	1.0	09/22/23 18:20	PW23I22B	09/22/23 18:20	W423I22A	RJM
3. Nitrate-N + Nitrite-N	U		µg/L	53	1.0	09/22/23	PW23I22B	09/22/23	W423I22A	RJM
4. Nitrite-N	U		µg/L	30	1.0	09/22/23 18:20	PW23I22B	09/22/23 18:20	W423I22A	RJM
5. Sulfate	41000		µg/L	1000	1.0	09/22/23	PW23I22B	09/22/23	W423I22A	RJM

Carbon, Total Organic (TOC)

Aliquot ID: A17353-004A

Matrix: Ground Water

Method: EPA 9060A

Description: MW-15dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-004

Order: A17353
Date: 09/29/23

Client Identification: **Strata Environmental Services, Inc.**
Client Project Name: **Eaton County (926-1422)**
Client Project No: **926-1422**

Sample Description: **MW-15dr**
Sample No:
Sample Matrix: **Ground Water**

Chain of Custody: **N/A**
Collect Date: **09/22/23**
Collect Time: **10:00**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Carbon, Total Organic (TOC)
Method: EPA 9060A

Aliquot ID: A17353-004A **Matrix: Ground Water**
Description: MW-15dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Organic Carbon	1800		µg/L	1000	1.0	09/25/23	PW23I25D	09/26/23	WS23I25A	EZ

Phenolics, Total
Method: EPA 9065

Aliquot ID: A17353-004B **Matrix: Ground Water**
Description: MW-15dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Phenolics	U		µg/L	50	1.0	NA	NA	09/27/23	W223I27A	MJS

Chemical Oxygen Demand (COD)
Method: HACH 8000

Aliquot ID: A17353-004C **Matrix: Ground Water**
Description: MW-15dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. COD	U		µg/L	5000	1.0	09/25/23	PW23I25A	09/25/23	W223I25A	EZ

Alkalinity by Titrimetry
Method: SM 2320 B-2011

Aliquot ID: A17353-004 **Matrix: Ground Water**
Description: MW-15dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
± 1. Bicarbonate Alkalinity	350000		µg CaCO ₃ /L	20000	1.0	NA	NA	09/26/23	W123I26A	ARC
± 2. Carbonate Alkalinity	U		µg CaCO ₃ /L	20000	1.0	NA	NA	09/26/23	W123I26A	ARC
± 3. Hydroxide Alkalinity	U		µg CaCO ₃ /L	20000	1.0	NA	NA	09/26/23	W123I26A	ARC

Residue, Filterable (TDS)
Method: SM 2540 C-2015

Aliquot ID: A17353-004 **Matrix: Ground Water**
Description: MW-15dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	440000	*	µg/L	50000	1.3	NA	NA	09/22/23	WH23I22C	ARC

Nitrogen, Ammonia (Auto Analyzer)
Method: SM 4500-NH3 G-2011

Aliquot ID: A17353-004C **Matrix: Ground Water**
Description: MW-15dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-004

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-15dr	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Nitrogen, Ammonia (Auto Analyzer)
Method: SM 4500-NH3 G-2011

Aliquot ID: A17353-004C Matrix: Ground Water
Description: MW-15dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	100		ppb	50	1.0	09/25/23	PW2325B	09/25/23	WLP2325A	AWC

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-005

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-10s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Phosphorus, Total					Aliquot ID:	A17353-005C		Matrix: Ground Water		
Method: EPA 0365.3					Description:	MW-10s				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Phosphorus	U		µg/L	10	1.0	NA	NA	09/25/23	W323125A	CM

Trace Elements by ICP/MS, Dissolved					Aliquot ID:	A17353-005D		Matrix: Ground Water		
Method: EPA 3005A (Dissolved)/EPA 6020A					Description: MW-10s					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Arsenic	5.4		µg/L	5.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
2. Barium	140		µg/L	100	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
3. Cadmium	U		µg/L	1.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
4. Calcium	130000		µg/L	1200	50	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
5. Chromium	U		µg/L	10	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
6. Copper	U		µg/L	4.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
7. Iron	2200		µg/L	100	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
8. Lead	U		µg/L	3.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
9. Magnesium	40000		µg/L	400	50	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
10. Manganese	U		µg/L	50	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
11. Nickel	U		µg/L	20	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
12. Potassium	1400		µg/L	1000	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
13. Selenium	U		µg/L	5.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
14. Sodium	19000		µg/L	1000	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
15. Zinc	310		µg/L	50	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM

Volatile Organic Compounds (VOCs) by GC/MS						Aliquot ID: A17353-005E	Matrix: Ground Water			
Method: EPA 5030C/EPA 8260D						Description: MW-10s				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
3. Benzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
9. 2-Butanone	U		µg/L	25	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-005

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-10s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17353-005E

Matrix: Ground Water

Method: EPA 5030C/EPA 8260D

Description: MW-10s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. n-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
13. Carbon Disulfide	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
16. Chloroethane	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
17. Chloroform	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
18. Chloromethane	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
† 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
33. 1,3-Dichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
† 34. 1,1-Dichloropropene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
37. Diethyl Ether	U		µg/L	10	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
38. Ethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
39. 2-Hexanone	U	V+	µg/L	50	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
40. Isopropylbenzene	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
41. 4-Methyl-2-pentanone	U		µg/L	50	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
42. Methylene Chloride	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
† 43. Methyl Iodide	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
† 44. 2-Methylnaphthalene	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM
45. MTBE	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 15:34	VB23128A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-005

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-10s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17353-005E

Matrix: Ground Water

Method: EPA 5030C/EPA 8260D

Description: MW-10s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
46. Naphthalene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
47. n-Propylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
48. Styrene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
49. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
50. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
51. Tetrachloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
52. Toluene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
53. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
54. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
55. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
‡ 56. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
57. Trichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
58. Trichlorofluoromethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
59. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
60. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
61. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
62. Vinyl Chloride	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
63. m&p-Xylene	U		µg/L	2.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
64. o-Xylene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM
‡ 65. Xylenes	U		µg/L	3.0	1.0	09/28/23	VB23I28A	09/28/23 15:34	VB23I28A	JLM

Inorganic Anions by IC

Aliquot ID: A17353-005

Matrix: Ground Water

Method: EPA 9056A

Description: MW-10s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	33000		µg/L	1000	1.0	09/22/23	PW23I22B	09/22/23	W423I22A	RJM
2. Nitrate-N	U		µg/L	23	1.0	09/22/23 19:21	PW23I22B	09/22/23 19:21	W423I22A	RJM
3. Nitrate-N + Nitrite-N	U		µg/L	53	1.0	09/22/23	PW23I22B	09/22/23	W423I22A	RJM
4. Nitrite-N	U		µg/L	30	1.0	09/22/23 19:21	PW23I22B	09/22/23 19:21	W423I22A	RJM
5. Sulfate	35000		µg/L	1000	1.0	09/22/23	PW23I22B	09/22/23	W423I22A	RJM

Carbon, Total Organic (TOC)

Aliquot ID: A17353-005A

Matrix: Ground Water

Method: EPA 9060A

Description: MW-10s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-005

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-10s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

Carbon, Total Organic (TOC)						Aliquot ID:	A17353-005A	Matrix:	Ground Water
Method: EPA 9060A						Description:	MW-10s		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis	
						P. Date	P. Batch	A. Date	A. Batch
1. Total Organic Carbon	2200		µg/L	1000	1.0	09/25/23	PW23125D	09/26/23	WS23125A
									EZ

Phenolics, Total						Aliquot ID:	A17353-005B	Matrix:	Ground Water
Method: EPA 9065						Description:	MW-10s		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis	
						P. Date	P. Batch	A. Date	A. Batch
1. Phenolics	U		µg/L	50	1.0	NA	NA	09/27/23	W223127A
									MJS

Chemical Oxygen Demand (COD)						Aliquot ID:	A17353-005C	Matrix:	Ground Water
Method: HACH 8000						Description:	MW-10s		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis	
						P. Date	P. Batch	A. Date	A. Batch
1. COD	U		µg/L	5000	1.0	09/25/23	PW23125A	09/25/23	W223125A
									EZ

Alkalinity by Titrimetry						Aliquot ID:	A17353-005	Matrix:	Ground Water
Method: SM 2320 B-2011						Description:	MW-10s		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis	
						P. Date	P. Batch	A. Date	A. Batch
± 1. Bicarbonate Alkalinity	470000		µg CaCO ₃ /L	20000	1.0	NA	NA	09/26/23	W123126A
									ARC
± 2. Carbonate Alkalinity	U		µg CaCO ₃ /L	20000	1.0	NA	NA	09/26/23	W123126A
									ARC
± 3. Hydroxide Alkalinity	U		µg CaCO ₃ /L	20000	1.0	NA	NA	09/26/23	W123126A
									ARC

Residue, Filterable (TDS)						Aliquot ID:	A17353-005	Matrix:	Ground Water
Method: SM 2540 C-2015						Description:	MW-10s		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis	
						P. Date	P. Batch	A. Date	A. Batch
1. Total Dissolved Solids	600000		µg/L	50000	1.3	NA	NA	09/22/23	WH23122C
									ARC

Nitrogen, Ammonia (Auto Analyzer)						Aliquot ID:	A17353-005C	Matrix:	Ground Water
Method: SM 4500-NH₃ G-2011						Description:	MW-10s		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis	
						P. Date	P. Batch	A. Date	A. Batch

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-005

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-10s	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Nitrogen, Ammonia (Auto Analyzer)
Method: SM 4500-NH3 G-2011

Aliquot ID: A17353-005C Matrix: Ground Water
Description: MW-10s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Ammonia-N	U		µg/L	50	1.0	09/25/23	PW23125B	09/25/23	WU23125A	AVC

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-006

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-10d	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Phosphorus, Total Aliquot ID: A17353-006C Matrix: Ground Water
Method: EPA 0365.3 Description: MW-10d

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Phosphorus	61		µg/L	10	1.0	NA	NA	09/25/23	W323I25A	CM

Trace Elements by ICP/MS, Dissolved Aliquot ID: A17353-006D Matrix: Ground Water
Method: EPA 3005A (Dissolved)/EPA 6020A Description: MW-10d

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Arsenic	5.5		µg/L	5.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
2. Barium	130		µg/L	100	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
3. Cadmium	U		µg/L	1.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
4. Calcium	100000		µg/L	1200	50	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
5. Chromium	U		µg/L	10	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
6. Copper	7.1		µg/L	4.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
7. Iron	2900		µg/L	100	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
8. Lead	U		µg/L	3.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
9. Magnesium	30000		µg/L	400	50	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
10. Manganese	U		µg/L	50	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
11. Nickel	U		µg/L	20	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
12. Potassium	1100		µg/L	1000	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
13. Selenium	U		µg/L	5.0	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
14. Sodium	4600		µg/L	1000	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM
15. Zinc	U		µg/L	50	5.0	09/26/23	PT23I26C	09/26/23	T423I26B	RJM

Volatile Organic Compounds (VOCs) by GC/MS Aliquot ID: A17353-006E Matrix: Ground Water
Method: EPA 5030C/EPA 8260D Description: MW-10d

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Acetone	U		µg/L	50	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
3. Benzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
9. 2-Butanone	U		µg/L	25	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-006

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-10d	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17353-006E

Matrix: Ground Water

Method: EPA 5030C/EPA 8260D

Description: MW-10d

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. n-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
13. Carbon Disulfide	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
16. Chloroethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
17. Chloroform	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
18. Chloromethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
33. 1,3-Dichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
‡ 34. 1,1-Dichloropropene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
37. Diethyl Ether	U		µg/L	10	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
38. Ethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
39. 2-Hexanone	U	V+	µg/L	50	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
40. Isopropylbenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
41. 4-Methyl-2-pentanone	U		µg/L	50	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
42. Methylene Chloride	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
‡ 43. Methyl Iodide	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
‡ 44. 2-Methylnaphthalene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
45. MTBE	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-006

Order: A17353
Date: 09/29/23

Client Identification: **Strata Environmental Services, Inc.** Sample Description: **MW-10d** Chain of Custody: **N/A**
Client Project Name: **Eaton County (926-1422)** Sample No: Collect Date: **09/22/23**
Client Project No: **926-1422** Sample Matrix: **Ground Water** Collect Time: **10:40**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: **A17353-006E**

Matrix: **Ground Water**

Method: **EPA 5030C/EPA 8260D**

Description: **MW-10d**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
46. Naphthalene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
47. n-Propylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
48. Styrene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
49. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
50. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
51. Tetrachloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
52. Toluene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
53. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
54. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
55. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
‡ 56. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
57. Trichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
58. Trichlorofluoromethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
59. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
60. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
61. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
62. Vinyl Chloride	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
63. m&p-Xylene	U		µg/L	2.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
64. o-Xylene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM
‡ 65. Xylenes	U		µg/L	3.0	1.0	09/28/23	VB23I28A	09/28/23 16:01	VB23I28A	JLM

Inorganic Anions by IC

Aliquot ID: **A17353-006**

Matrix: **Ground Water**

Method: **EPA 9056A**

Description: **MW-10d**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Chloride	6000		µg/L	1000	1.0	09/22/23	PW23I22B	09/22/23	W423I22A	RJM
2. Nitrate-N	U		µg/L	23	1.0	09/22/23 19:41	PW23I22B	09/22/23 19:41	W423I22A	RJM
3. Nitrate-N + Nitrite-N	U		µg/L	53	1.0	09/22/23	PW23I22B	09/22/23	W423I22A	RJM
4. Nitrite-N	U		µg/L	30	1.0	09/22/23 19:41	PW23I22B	09/22/23 19:41	W423I22A	RJM
5. Sulfate	45000	F+	µg/L	1000	1.0	09/22/23	PW23I22B	09/22/23	W423I22A	RJM

Carbon, Total Organic (TOC)

Aliquot ID: **A17353-006A**

Matrix: **Ground Water**

Method: **EPA 9060A**

Description: **MW-10d**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-006

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-10d	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Carbon, Total Organic (TOC)					Aliquot ID: A17353-006A	Matrix: Ground Water					
Method: EPA 9060A					Description: MW-10d						
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis			
						P. Date	P. Batch	A. Date	A. Batch	Init.	
1. Total Organic Carbon	1200		µg/L	1000	1.0	09/25/23	PW23125D	09/27/23	WS23125A	EZ	

Phenolics, Total					Aliquot ID:	A17353-006B		Matrix: Ground Water		
Method: EPA 9065					Description:	MW-10d				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Phenolics	U		µg/L	50	1.0	NA	NA	09/27/23	W223127A	MJS

Chemical Oxygen Demand (COD)					Aliquot ID:	A17353-006C		Matrix: Ground Water		
Method: HACH 8000					Description:	MW-10d				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. COD	U		µg/L	5000	1.0	09/25/23	PW23125A	09/25/23	W223125A	EZ

Alkalinity by Titrimetry					Aliquot ID: A17353-006	Matrix: Ground Water				
Method: SM 2320 B-2011					Description: MW-10d					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
± 1. Bicarbonate Alkalinity	360000		µg CaCO3/L	20000	1.0	NA	NA	09/26/23	W123I26A	ARC
± 2. Carbonate Alkalinity	U		µg CaCO3/L	20000	1.0	NA	NA	09/26/23	W123I26A	ARC
± 3. Hydroxide Alkalinity	U		µg CaCO3/L	20000	1.0	NA	NA	09/26/23	W123I26A	ARC

Residue, Filterable (TDS)					Aliquot ID: A17353-006	Matrix: Ground Water				
Method: SM 2540 C-2015					Description: MW-10d					
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Total Dissolved Solids	440000		µg/L	50000	1.3	NA	NA	09/22/23	WH23I22C	ARC

Nitrogen, Ammonia (Auto Analyzer)					Aliquot ID:	A17353-006C		Matrix: Ground Water		
Method: SM 4500-NH3 G-2011					Description:	MW-10d				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-006

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-10d	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:40

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Nitrogen, Ammonia (Auto Analyzer)

Aliquot ID: A17353-006C

Matrix: Ground Water

Method: SM 4500-NH3 G-2011

Description: MW-10d

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	110		µg/L	50	1.0	09/25/23	PW23I25B	09/25/23	WU23I25A	AVC

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Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-007

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	Trip Blank	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Blank: Trip	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17353-007

Matrix: Blank: Trip

Method: EPA 5030C/EPA 8260D

Description: Trip Blank

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
‡ 2. Acrylonitrile	U		µg/L	2.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
3. Benzene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
4. Bromobenzene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
5. Bromochloromethane	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
6. Bromodichloromethane	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
8. Bromomethane	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
9. 2-Butanone	U		µg/L	25	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
10. n-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
11. sec-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
12. tert-Butylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
13. Carbon Disulfide	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
15. Chlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
16. Chloroethane	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
17. Chloroform	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
18. Chloromethane	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
21. Dibromochloromethane	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
22. Dibromomethane	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
33. 1,3-Dichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
‡ 34. 1,1-Dichloropropene	U		µg/L	1.0	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
35. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM
36. trans-1,3-Dichloropropene	U		µg/L	0.50	1.0	09/28/23	VB23128A	09/28/23 16:29	VB23128A	JLM

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lab@fibertecus.com

Analytical Laboratory Report
Laboratory Project Number: A17353
Laboratory Sample Number: A17353-007

Order: A17353
Date: 09/29/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	Trip Blank	Chain of Custody:	N/A
Client Project Name:	Eaton County (926-1422)	Sample No:		Collect Date:	09/22/23
Client Project No:	926-1422	Sample Matrix:	Blank: Trip	Collect Time:	NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS

Aliquot ID: A17353-007

Matrix: Blank: Trip

Method: EPA 5030C/EPA 8260D

Description: Trip Blank

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
37. Diethyl Ether	U		µg/L	10	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
38. Ethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
39. 2-Hexanone	U	V+	µg/L	50	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
40. Isopropylbenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
41. 4-Methyl-2-pentanone	U		µg/L	50	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
42. Methylene Chloride	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
‡ 43. Methyl Iodide	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
‡ 44. 2-Methylnaphthalene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
45. MTBE	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
46. Naphthalene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
47. n-Propylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
48. Styrene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
49. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
50. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
51. Tetrachloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
52. Toluene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
53. 1,2,3-Trichlorobenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
54. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
55. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
‡ 56. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
57. Trichloroethene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
58. Trichlorofluoromethane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
59. 1,2,3-Trichloropropane	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
60. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
61. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
62. Vinyl Chloride	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
63. m&p-Xylene	U		µg/L	2.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
64. o-Xylene	U		µg/L	1.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM
‡ 65. Xylenes	U		µg/L	3.0	1.0	09/28/23	VB23I28A	09/28/23 16:29	VB23I28A	JLM

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Definitions/ Qualifiers:

- A:** Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
M: Modified Method
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
***:** Value reported is outside QC limits

Exception Summary:

- *** : Duplicate analysis not within control limits.
F+ : Recovery from the spiked aliquot exceeds the upper control limit (matrix spike or matrix spike duplicate).
V+ : Recovery in the associated continuing calibration verification sample (CCV) exceeds the upper control limit. Results may be biased high.

Analysis Locations:

All analyses performed in Holt.



Accreditation Number(s):

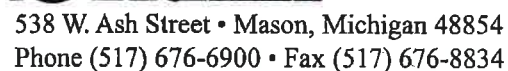
T104704518-23-15 (TX)

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Project Name: ECLF

Project #: 926-1422

Send Results to: MCS

Sampling Personnel: SVS / NP

CHAIN OF CUSTODY

Air	A
Drinking Water	D
Groundwater	W
Soil	S
Sludge	L
Oil	O
Other	X

Comments: PO # 6204 QUOTE # 0000/518 SEP 22 2023
Project # A17353 Initials: DG
Temp: 5.0°C Received On Ice

Relinquished by Signature: 	Date 9-22-23	Time 1135	Received by: (Signature) 	Date 9/22/23	Time 11:35	Relinquished by Signature:	Date	Time	Received by: (Signature)	Date	Time
Relinquished by Signature: 	Date	Time	Received by: (Signature)	Date	Time	Method of Shipment:			Bill of Lading:		
Received for Laboratory by:	Date	Time	Data Package Relinquished by:	Date	Time	Data Received by:	Date	Time			

ATTACHMENT 4

TABLE 2. Summary of Analytical Results

ANALYTES		TMDL	RL	Updated GRCC DW/GSI	MW-2s	MW-2d	MW-3	MW-7r	MW-8s	MW-8dr	MW-10s	MW-10d
ORGANICS												
1	Acetone	50	25	730/1,700	ND	ND	ND	ND	ND	ND	ND	ND
2	Acrylonitrile	2	1	2.6	ND	ND	ND	ND	ND	ND	ND	ND
3	Benzene	1	1	5/200	ND	ND	ND	ND	ND	ND	ND	ND
4	Bromobenzene	1	1	18	ND	ND	ND	ND	ND	ND	ND	ND
5	Bromochloromethane	1	1	NA	ND	ND	ND	ND	ND	ND	ND	ND
6	Bromodichloromethane	1	1	80	ND	ND	ND	ND	ND	ND	ND	ND
7	Bromoform	1	1	80	ND	ND	ND	ND	ND	ND	ND	ND
8	Bromomethane (Methyl Bromide)	5	5	10	ND	ND	ND	ND	ND	ND	ND	ND
9	2-Butanone (MEK)	25	50	13,000/2,200	ND	ND	ND	ND	ND	ND	ND	ND
10	n-Butylbenzene	1	1	80	ND	ND	ND	ND	ND	ND	ND	ND
11	sec-Butylbenzene	1	1	80	ND	ND	ND	ND	ND	ND	ND	ND
12	tert-Butylbenzene	1	1	80	ND	ND	ND	ND	ND	ND	ND	ND
13	Carbon Disulfide	5	5	800	ND	ND	ND	ND	ND	ND	ND	ND
14	Carbon Tetrachloride	1	1	5/38	ND	ND	ND	ND	ND	ND	ND	ND
15	Chlorobenzene	1	1	100/25	ND	ND	ND	ND	ND	ND	ND	ND
16	Chloroethane	5	2	430/1,100	ND	ND	ND	ND	ND	ND	ND	ND
17	Chloroform	1	1	80/350	ND	ND	ND	ND	ND	ND	ND	ND
18	Chloromethane (Methyl Chloride)	5	5	260	ND	ND	ND	ND	ND	ND	ND	ND
19	2-Chlorotoluene	5	1	150	ND	ND	ND	ND	ND	ND	ND	ND
20	1,2-Dibromo-3-Chloropropane	0.2	1	NA	ND	ND	ND	ND	ND	ND	ND	ND
21	1,2-Dibromoethane (Ethylene Dibromide)	0.05	1	0.05/5.7	---	---	---	---	---	---	---	---
22	Dibromochloromethane	---	1	80	ND	ND	ND	ND	ND	ND	ND	ND
23	Dibromomethane	5	1	80	ND	ND	ND	ND	ND	ND	ND	ND
24	1,2-Dichlorobenzene	1	1	600/13	ND	ND	ND	ND	ND	ND	ND	ND
25	1,3-Dichlorobenzene	1	1	6.6/28	ND	ND	ND	ND	ND	ND	ND	ND
26	1,4-Dichlorobenzene	1	1	75/17	ND	ND	ND	ND	ND	ND	ND	ND
27	trans-1,4-Dichloro-2-Butene	1		NA	---	---	---	---	---	---	---	---
28	Dichlorodifluoromethane	5	1	1,700	ND	ND	ND	ND	ND	ND	ND	ND
29	1,1-Dichloroethane	1	1	880/740	ND	ND	ND	ND	ND	ND	ND	ND
30	1,2-Dichloroethane	1	1	5/360	ND	ND	ND	ND	ND	ND	ND	ND
31	1,1-Dichloroethene	1	1	7/130	ND	ND	ND	ND	ND	ND	ND	ND
32	cis-1,2-Dichloroethene	1	1	70/620	ND	ND	ND	ND	ND	ND	ND	ND
33	trans-1,2-Dichloroethene	1	1	100/1,500	ND	ND	ND	ND	ND	ND	ND	ND
34	1,2-Dichloropropane	1	1	5/230	ND	ND	ND	ND	ND	ND	ND	ND
35	1,3-Dichloropropane	1	1	NA	ND	ND	ND	ND	ND	ND	ND	ND
36	1,1-Dichloropropene	1	1	NA	ND	ND	ND	ND	ND	ND	ND	ND
37	cis-1,3-Dichloropropene	1	1	NA	ND	ND	ND	ND	ND	ND	ND	ND
38	trans-1,3-Dichloropropene	1	1	NA	ND	ND	ND	ND	ND	ND	ND	ND
39	Diethyl Ether	10	10	10	ND	ND	ND	ND	ND	ND	ND	ND
40	Ethylbenzene	1	1	74/18	ND	ND	ND	ND	ND	ND	ND	ND
41	Fluorotrichloromethane (Trichlorofluoromethane)	1		2,600	---	---	---	---	---	---	---	---
42	2-Hexanone (MBK)	50	50	1,000	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 2. Summary of Analytical Results

	ANALYTES	TMDL	RL	Updated GRCC DW/GSI	MW-2s	MW-2d	MW-3	MW-7r	MW-8s	MW-8dr	MW-10s	MW-10d
43	Isopropylbenzene	5	1	800/28	ND	ND	ND	ND	ND	ND	ND	ND
44	Methyl Iodide	1	1	NA	ND	ND	ND	ND	ND	ND	ND	ND
45	Methylene Chloride	5	5	5/1,500	ND	ND	ND	ND	ND	ND	ND	ND
46	2-Methylnaphthalene	5	5	260/19	ND	ND	ND	ND	ND	ND	ND	ND
47	4-Methyl-2-Pentanone (MIBK)	50	50	1,800	ND	ND	ND	ND	ND	ND	ND	ND
48	Methyl tert butyl ether (MTBE)	5	5	40/7,100	ND	ND	ND	ND	ND	ND	ND	ND
49	Naphthalene	5	5	520/11	ND	ND	ND	ND	ND	ND	ND	ND
50	n-Propylbenzene	1	1	80	ND	ND	ND	ND	ND	ND	ND	ND
51	Styrene	1	1	100/80	ND	ND	ND	ND	ND	ND	ND	ND
52	1,1,1,2-Tetrachloroethane	1	1	77	ND	ND	ND	ND	ND	ND	ND	ND
53	1,1,2,2-Tetrachloroethane	1	1	8.5/78	ND	ND	ND	ND	ND	ND	ND	ND
54	Tetrachloroethene	1	1	5/60	ND	ND	ND	ND	ND	ND	ND	ND
55	Toluene	1	1	790/270	ND	ND	ND	ND	ND	ND	ND	ND
56	1,2,3-Trichlorobenzene	---	5	NA	ND	ND	ND	ND	ND	ND	ND	ND
57	1,2,4-Trichlorobenzene	5	5	70/99	ND	ND	ND	ND	ND	ND	ND	ND
58	1,1,1-Trichloroethane	1	1	200/89	ND	ND	ND	ND	ND	ND	ND	ND
59	1,1,2-Trichloroethane	1	1	5/330	ND	ND	ND	ND	ND	ND	ND	ND
60	Trichloroethene	1	1	5/200	ND	ND	ND	ND	ND	ND	ND	ND
61	1,2,3-Trichloropropane	1	1	42	ND	ND	ND	ND	ND	ND	ND	ND
62	1,2,4-Trimethylbenzene	1	5	63/17	ND	ND	ND	ND	ND	ND	ND	ND
63	1,3,5-Trimethylbenzene	1.0	1	72/45	ND	ND	ND	ND	ND	ND	ND	ND
64	Vinyl Acetate	100	5	640	ND	ND	ND	ND	ND	ND	ND	ND
65	Vinyl Chloride	1	1	2/13	ND	ND	ND	1.2	ND	ND	ND	ND
66	Xylenes	3	3	280/49	ND	ND	ND	ND	ND	ND	ND	ND
TRACE ELEMENTS BY ICP/MS												
	Arsenic	5	5	10/10	ND	ND	ND	ND	ND	ND	5.4	5.5
	Barium	100	100	2,000	ND	ND	ND	ND	ND	ND	140	130
	Cadmium	1	1	5	ND	ND	ND	ND	ND	ND	ND	ND
	Calcium	---	60000	NA	110,000	94,000	100,000	120,000	89,000	100,000	130,000	100,000
	Chromium	10	10	100/11	ND	ND	ND	ND	ND	ND	ND	ND
	Copper	4	4	1,000	ND	ND	ND	ND	ND	ND	ND	7.1
	Iron	200	100	300	430	680	260	1,300	ND	ND	2,200	2,900
	Lead	3	3	4	ND	ND	ND	ND	ND	ND	ND	ND
	Magnesium	1000	300	400,000	34,000	25,000	30,000	39,000	20,000	28,000	40,000	30,000
	Manganese	50	50	50	120	ND	ND	220	ND	240	ND	ND
	Nickel	20	20	100	ND	ND	ND	ND	ND	ND	ND	ND
	Potassium	---	1000	NA	1,500	1,000	1,300	ND	1,100	1,300	1,400	1,100
	Selenium	5	5	50/5	ND	ND	ND	ND	ND	ND	ND	ND
	Sodium	1000	1000	230,000	20,000	4,200	7,200	3,400	2,800	22,000	19,000	4,600
	Zinc	50	50	2,400	1,200	1,700	120	ND	340	ND	310	ND
TRACE ELEMENTS BY CVAAS												
	Mercury	0.001	0.2	2/0.0013	---	---	---	---	---	---	---	---

TABLE 2. Summary of Analytical Results

ANALYTES	TMDL	RL	Updated GRCC DW/GSI	MW-2s	MW-2d	MW-3	MW-7r	MW-8s	MW-8dr	MW-10s	MW-10d
ALKALINITY AND INORGANICS											
Total Alkalinity	---	---	NA	350,000	330,000	370,000	530,000	310,000	300,000	470,000	360,000
Bicarbonate Alkalinity	---	20000	NA	350,000	330,000	370,000	530,000	310,000	300,000	470,000	360,000
Carbonate Alkalinity	---	20000	NA	ND	ND	ND	ND	ND	ND	ND	ND
Hydroxide Alkalinity	---	20000	NA	ND	ND	ND	ND	ND	ND	ND	ND
Chloride	10000	1000	250,000	6,600	5,500	2,600	1,900	1,900	70,000	33,000	6,000
Nitrate, as N	100	23	10,000	ND	ND	ND	ND	94	ND	ND	ND
Nitrate + Nitrite (as N)	---	53	NA	ND	ND	ND	ND	94	ND	ND	ND
Nitrite, as N	100	30	1,000	ND	ND	ND	ND	ND	ND	ND	ND
Sulfate	1000	1000	250,000	36,000	39,000	46,000	9,300	5,400	54,000	35,000	45,000
Total Organic Carbon (TOC)	---	1000	NA	1,300	2,000	2,200	1,700	ND	ND	2,200	1,200
Phenols (Colormetric)	---	50	4,400/450	ND	ND	ND	ND	ND	ND	ND	ND
Chemical Oxygen Demand (COD)	---	5000	NA	ND	ND	16,000	ND	ND	ND	ND	ND
Total Dissolved Solids (TDS)	10000	40000	500,000/500,000 (EE)	410,000	420,000	410,000	490,000	330,000	500,000	600,000	440,000
Nitrogen, Ammonia as N	25	50	10,000/CC	ND	ND	ND	ND	ND	ND	ND	110
Phosphorous, Total	10	10	63,000/1,000 (EE)	20	ND	16	ND	42	ND	ND	61

NOTES: All Concentrations reported as ug/L or parts per billion

TMDL: Target Method Detection Limit

RL: Lab Reporting Limit

ND: Not Detected above compound-specific reporting limits

NA or ---: Not Available

CC: Standard is pH and temperature dependent and is approximately 763 ppb

EE: Standard is required by Section 20120(15) of NREPA

Shaded value exceeds DW GRCC

Boxed cell exceeds GSI GRCC

Metal concentrations reported as dissolved for groundwater/monitor well samples

Metal concentrations reported as total for surface water samples

** : Duplicate analysis outside control limits

Surface water value is not compared to DW/GSI GRCC

TABLE 2. Summary of Analytical Results

ANALYTES		TMDL	RL	Updated GRCC DW/GSI	MW-12r	MW-15sr	MW-15dr	MW-16	MW-17sr	MW-17dr	MW-18s	MW-19s
ORGANICS												
1	Acetone	50	25	730/1,700	---	ND	ND	---	ND	ND	ND	ND
2	Acrylonitrile	2	1	2.6	---	ND	ND	---	ND	ND	ND	ND
3	Benzene	1	1	5/200	---	ND	ND	---	ND	ND	ND	ND
4	Bromobenzene	1	1	18	---	ND	ND	---	ND	ND	ND	ND
5	Bromochloromethane	1	1	NA	---	ND	ND	---	ND	ND	ND	ND
6	Bromodichloromethane	1	1	80	---	ND	ND	---	ND	ND	ND	ND
7	Bromoform	1	1	80	---	ND	ND	---	ND	ND	ND	ND
8	Bromomethane (Methyl Bromide)	5	5	10	---	ND	ND	---	ND	ND	ND	ND
9	2-Butanone (MEK)	25	50	13,000/2,200	---	ND	ND	---	ND	ND	ND	ND
10	n-Butylbenzene	1	1	80	---	ND	ND	---	ND	ND	ND	ND
11	sec-Butylbenzene	1	1	80	---	ND	ND	---	ND	ND	ND	ND
12	tert-Butylbenzene	1	1	80	---	ND	ND	---	ND	ND	ND	ND
13	Carbon Disulfide	5	5	800	---	ND	ND	---	ND	ND	ND	ND
14	Carbon Tetrachloride	1	1	5/38	---	ND	ND	---	ND	ND	ND	ND
15	Chlorobenzene	1	1	100/25	---	ND	ND	---	ND	ND	ND	ND
16	Chloroethane	5	2	430/1,100	---	ND	ND	---	ND	ND	ND	ND
17	Chloroform	1	1	80/350	---	ND	ND	---	ND	ND	ND	ND
18	Chloromethane (Methyl Chloride)	5	5	260	---	ND	ND	---	ND	ND	ND	ND
19	2-Chlorotoluene	5	1	150	---	ND	ND	---	ND	ND	ND	ND
20	1,2-Dibromo-3-Chloropropane	0.2	1	NA	---	ND	ND	---	ND	ND	ND	ND
21	1,2-Dibromoethane (Ethylene Dibromide)	0.05	1	0.05/5.7	---	---	---	---	---	---	---	---
22	Dibromochloromethane	---	1	80	---	ND	ND	---	ND	ND	ND	ND
23	Dibromomethane	5	1	80	---	ND	ND	---	ND	ND	ND	ND
24	1,2-Dichlorobenzene	1	1	600/13	---	ND	ND	---	ND	ND	ND	ND
25	1,3-Dichlorobenzene	1	1	6.6/28	---	ND	ND	---	ND	ND	ND	ND
26	1,4-Dichlorobenzene	1	1	75/17	---	ND	ND	---	ND	ND	ND	ND
27	trans-1,4-Dichloro-2-Butene	1		NA	---	---	---	---	---	---	---	---
28	Dichlorodifluoromethane	5	1	1,700	---	ND	ND	---	ND	6.3	ND	ND
29	1,1-Dichloroethane	1	1	880/740	---	4.8	ND	---	ND	ND	ND	ND
30	1,2-Dichloroethane	1	1	5/360	---	1.2	ND	---	ND	ND	ND	ND
31	1,1-Dichloroethene	1	1	7/130	---	ND	ND	---	ND	ND	ND	ND
32	cis-1,2-Dichloroethene	1	1	70/620	---	69	ND	---	ND	ND	ND	ND
33	trans-1,2-Dichloroethene	1	1	100/1,500	---	ND	ND	---	ND	ND	ND	ND
34	1,2-Dichloropropane	1	1	5/230	---	ND	ND	---	ND	ND	ND	ND
35	1,3-Dichloropropane	1	1	NA	---	ND	ND	---	ND	ND	ND	ND
36	1,1-Dichloropropene	1	1	NA	---	ND	ND	---	ND	ND	ND	ND
37	cis-1,3-Dichloropropene	1	1	NA	---	ND	ND	---	ND	ND	ND	ND
38	trans-1,3-Dichloropropene	1	1	NA	---	ND	ND	---	ND	ND	ND	ND
39	Diethyl Ether	10	10	10	---	19	ND	---	ND	14	ND	ND
40	Ethylbenzene	1	1	74/18	---	ND	ND	---	ND	ND	ND	ND
41	Fluorotrichloromethane (Trichlorofluoromethane)	1		2,600	---	---	---	---	---	---	---	---
42	2-Hexanone (MBK)	50	50	1,000	---	ND	ND	---	ND	ND	ND	ND

TABLE 2. Summary of Analytical Results

ANALYTES		TMDL	RL	Updated GRCC DW/GSI	MW-12r	MW-15sr	MW-15dr	MW-16	MW-17sr	MW-17dr	MW-18s	MW-19s
43	Isopropylbenzene	5	1	800/28	---	ND	ND	---	ND	ND	ND	ND
44	Methyl Iodide	1	1	NA	---	ND	ND	---	ND	ND	ND	ND
45	Methylene Chloride	5	5	5/1,500	---	ND	ND	---	ND	ND	ND	ND
46	2-Methylnaphthalene	5	5	260/19	---	ND	ND	---	ND	ND	ND	ND
47	4-Methyl-2-Pentanone (MIBK)	50	50	1,800	---	ND	ND	---	ND	ND	ND	ND
48	Methyl tert butyl ether (MTBE)	5	5	40/7,100	---	ND	ND	---	ND	ND	ND	ND
49	Naphthalene	5	5	520/11	---	ND	ND	---	ND	ND	ND	ND
50	n-Propylbenzene	1	1	80	---	ND	ND	---	ND	ND	ND	ND
51	Styrene	1	1	100/80	---	ND	ND	---	ND	ND	ND	ND
52	1,1,1,2-Tetrachloroethane	1	1	77	---	ND	ND	---	ND	ND	ND	ND
53	1,1,2,2-Tetrachloroethane	1	1	8.5/78	---	ND	ND	---	ND	ND	ND	ND
54	Tetrachloroethene	1	1	5/60	---	ND	ND	---	ND	ND	ND	ND
55	Toluene	1	1	790/270	---	ND	ND	---	ND	ND	ND	ND
56	1,2,3-Trichlorobenzene	---	5	NA	---	ND	ND	---	ND	ND	ND	ND
57	1,2,4-Trichlorobenzene	5	5	70/99	---	ND	ND	---	ND	ND	ND	ND
58	1,1,1-Trichloroethane	1	1	200/89	---	ND	ND	---	ND	ND	ND	ND
59	1,1,2-Trichloroethane	1	1	5/330	---	ND	ND	---	ND	ND	ND	ND
60	Trichloroethene	1	1	5/200	---	ND	ND	---	ND	ND	ND	ND
61	1,2,3-Trichloropropane	1	1	42	---	ND	ND	---	ND	ND	ND	ND
62	1,2,4-Trimethylbenzene	1	5	63/17	---	ND	ND	---	ND	ND	ND	ND
63	1,3,5-Trimethylbenzene	1.0	1	72/45	---	ND	ND	---	ND	ND	ND	ND
64	Vinyl Acetate	100	5	640	---	ND	ND	---	ND	ND	ND	ND
65	Vinyl Chloride	1	1	2/13	---	1.6	ND	---	2.0	11	ND	ND
66	Xylenes	3	3	280/49	---	ND	ND	---	ND	ND	ND	ND
TRACE ELEMENTS BY ICP/MS					---							
	Arsenic	5	5	10/10	---	ND	5.6	---	9.6	9.2	6.8	7.3
	Barium	100	100	2,000	---	140	150	---	210	260	160	190
	Cadmium	1	1	5	---	ND	ND	---	ND	ND	ND	ND
	Calcium	---	60000	NA	---	97,000	100,000	---	110,000	140,000	100,000	120,000
	Chromium	10	10	100/11	---	ND	ND	---	ND	ND	ND	ND
	Copper	4	4	1,000	---	ND	ND	---	ND	ND	ND	ND
	Iron	200	100	300	---	5,600	3,100	---	3,600	5,900	1,500	2,900
	Lead	3	3	4	---	ND	ND	---	ND	ND	ND	ND
	Magnesium	1000	300	400,000	---	46,000	26,000	---	30,000	34,000	31,000	36,000
	Manganese	50	50	50	---	ND	ND	---	52	86	ND	51
	Nickel	20	20	100	---	ND	ND	---	ND	ND	ND	ND
	Potassium	---	1000	NA	---	3,300	1,300	---	1,300	1,700	1,300	1,600
	Selenium	5	5	50/5	---	ND	ND	---	ND	ND	ND	ND
	Sodium	1000	1000	230,000	---	27,000	5,500	---	8,200	12,000	12,000	27,000
	Zinc	50	50	2,400	---	ND	ND	---	ND	ND	240	640
TRACE ELEMENTS BY CVAAS					---							
	Mercury	0.001	0.2	2/0.0013	---	---	---	---	---	---	---	---

TABLE 2. Summary of Analytical Results

ANALYTES	TMDL	RL	Updated GRCC DW/GSI	MW-12r	MW-15sr	MW-15dr	MW-16	MW-17sr	MW-17dr	MW-18s	MW-19s
ALKALINITY AND INORGANICS				---							
Total Alkalinity	---	---	NA	---	610,000	350,000	---	410,000	520,000	380,000	460,000
Bicarbonate Alkalinity	---	20000	NA	---	610,000	350,000	---	410,000	520,000	380,000	460,000
Carbonate Alkalinity	---	20000	NA	---	ND	ND	---	ND	ND	ND	ND
Hydroxide Alkalinity	---	20000	NA	---	ND	ND	---	ND	ND	ND	ND
Chloride	10000	1000	250,000	---	31,000	6,800	---	9,800	14,000	17,000	39,000
Nitrate, as N	100	23	10,000	---	ND	ND	---	ND	ND	ND	ND
Nitrate + Nitrite (as N)	---	53	NA	---	ND	ND	---	ND	ND	ND	ND
Nitrite, as N	100	30	1,000	---	ND	ND	---	ND	ND	ND	ND
Sulfate	1000	1000	250,000	---	11,000	41,000	---	37,000	28,000	39,000	37,000
Total Organic Carbon (TOC)	---	1000	NA	---	6,200	1,800	---	ND	1,500	1,500	2,200
Phenols (Colormetric)	---	50	4,400/450	---	ND	ND	---	ND	ND	ND	ND
Chemical Oxygen Demand (COD)	---	5000	NA	---	12,000	ND	---	ND	ND	ND	ND
Total Dissolved Solids (TDS)	10000	40000	500,000/500,000 (EE)	---	500,000	440,000	---	490,000	600,000	430,000	460,000
Nitrogen, Ammonia as N	25	50	10,000/CC	---	200	100	---	87	110	110	79
Phosphorous, Total	10	10	63,000/1,000 (EE)	---	740	12	---	20	23	34	ND

NOTES: All Concentrations reported as ug/L or parts per billion

TMDL: Target Method Detection Limit

RL: Lab Reporting Limit

ND: Not Detected above compound-specific reporting limits

NA or ---: Not Available

CC: Standard is pH and temperature dependent and is approximately 763 ppb

EE: Standard is required by Section 20120(15) of NREPA

Shaded value exceeds DW GRCC

Boxed cell exceeds GSI GRCC

Metal concentrations reported as dissolved for groundwater/monitor well samples

Metal concentrations reported as total for surface water samples

**:. Duplicate analysis outside control limits

Surface water value is not compared to DW/GSI GRCC

TABLE 2. Summary of Analytical Results

ANALYTES		TMDL	RL	Updated GRCC DW/GSI	SW-1	SW-2
ORGANICS						
1	Acetone	50	25	730/1,700	ND	ND
2	Acrylonitrile	2	1	2.6	ND	ND
3	Benzene	1	1	5/200	ND	ND
4	Bromobenzene	1	1	18	ND	ND
5	Bromochloromethane	1	1	NA	ND	ND
6	Bromodichloromethane	1	1	80	ND	ND
7	Bromoform	1	1	80	ND	ND
8	Bromomethane (Methyl Bromide)	5	5	10	ND	ND
9	2-Butanone (MEK)	25	50	13,000/2,200	ND	ND
10	n-Butylbenzene	1	1	80	ND	ND
11	sec-Butylbenzene	1	1	80	ND	ND
12	tert-Butylbenzene	1	1	80	ND	ND
13	Carbon Disulfide	5	5	800	ND	ND
14	Carbon Tetrachloride	1	1	5/38	ND	ND
15	Chlorobenzene	1	1	100/25	ND	ND
16	Chloroethane	5	2	430/1,100	ND	ND
17	Chloroform	1	1	80/350	ND	ND
18	Chloromethane (Methyl Chloride)	5	5	260	ND	ND
19	2-Chlorotoluene	5	1	150	ND	ND
20	1,2-Dibromo-3-Chloropropane	0.2	1	NA	ND	ND
21	1,2-Dibromoethane (Ethylene Dibromide)	0.05	1	0.05/5.7	ND	ND
22	Dibromochloromethane	---	1	80	ND	ND
23	Dibromomethane	5	1	80	ND	ND
24	1,2-Dichlorobenzene	1	1	600/13	ND	ND
25	1,3-Dichlorobenzene	1	1	6.6/28	ND	ND
26	1,4-Dichlorobenzene	1	1	75/17	ND	ND
27	trans-1,4-Dichloro-2-Butene	1		NA	---	---
28	Dichlorodifluoromethane	5	1	1,700	ND	ND
29	1,1-Dichloroethane	1	1	880/740	ND	ND
30	1,2-Dichloroethane	1	1	5/360	ND	ND
31	1,1-Dichloroethene	1	1	7/130	ND	ND
32	cis-1,2-Dichloroethene	1	1	70/620	ND	ND
33	trans-1,2-Dichloroethene	1	1	100/1,500	ND	ND
34	1,2-Dichloropropane	1	1	5/230	ND	ND
35	1,3-Dichloropropane	1	1	NA	ND	ND
36	1,1-Dichloropropene	1	1	NA	ND	ND
37	cis-1,3-Dichloropropene	1	1	NA	ND	ND
38	trans-1,3-Dichloropropene	1	1	NA	ND	ND
39	Diethyl Ether	10	10	10	ND	ND
40	Ethylbenzene	1	1	74/18	ND	ND
41	Fluorotrichloromethane (Trichlorofluoromethane)	1		2,600	---	---
42	2-Hexanone (MBK)	50	50	1,000	ND	ND

TABLE 2. Summary of Analytical Results

ANALYTES		TMDL	RL	Updated GRCC DW/GSI	SW-1	SW-2
43	Isopropylbenzene	5	1	800/28	ND	ND
44	Methyl Iodide	1	1	NA	ND	ND
45	Methylene Chloride	5	5	5/1,500	ND	ND
46	2-Methylnaphthalene	5	5	260/19	ND	ND
47	4-Methyl-2-Pentanone (MIBK)	50	50	1,800	ND	ND
48	Methyl tert butyl ether (MTBE)	5	5	40/7,100	ND	ND
49	Naphthalene	5	5	520/11	ND	ND
50	n-Propylbenzene	1	1	80	ND	ND
51	Styrene	1	1	100/80	ND	ND
52	1,1,1,2-Tetrachloroethane	1	1	77	ND	ND
53	1,1,2,2-Tetrachloroethane	1	1	8.5/78	ND	ND
54	Tetrachloroethene	1	1	5/60	ND	ND
55	Toluene	1	1	790/270	ND	ND
56	1,2,3-Trichlorobenzene	---	5	NA	ND	ND
57	1,2,4-Trichlorobenzene	5	5	70/99	ND	ND
58	1,1,1-Trichloroethane	1	1	200/89	ND	ND
59	1,1,2-Trichloroethane	1	1	5/330	ND	ND
60	Trichloroethene	1	1	5/200	ND	ND
61	1,2,3-Trichloropropane	1	1	42	ND	ND
62	1,2,4-Trimethylbenzene	1	5	63/17	ND	ND
63	1,3,5-Trimethylbenzene	1.0	1	72/45	ND	ND
64	Vinyl Acetate	100	5	640	ND	ND
65	Vinyl Chloride	1	1	2/13	ND	ND
66	Xylenes	3	3	280/49	ND	ND
TRACE ELEMENTS BY ICP/MS						
	Arsenic	5	5	10/10	15	ND
	Barium	100	100	2,000	ND	ND
	Cadmium	1	1	5	ND	ND
	Calcium	---	60000	NA	120,000	98,000
	Chromium	10	10	100/11	ND	ND
	Copper	4	4	1,000	ND	ND
	Iron	200	100	300	13,000	2,500
	Lead	3	3	4	ND	ND
	Magnesium	1000	300	400,000	29,000	27,000
	Manganese	50	50	50	270	360
	Nickel	20	20	100	ND	ND
	Potassium	---	1000	NA	6,300	1,700
	Selenium	5	5	50/5	ND	ND
	Sodium	1000	1000	230,000	14,000	3,700
	Zinc	50	50	2,400	ND	ND
TRACE ELEMENTS BY CVAAS						
	Mercury	0.001	0.2	2/0.0013	---	---

TABLE 2. Summary of Analytical Results

ANALYTES	TMDL	RL	Updated GRCC DW/GSI	SW-1	SW-2
ALKALINITY AND INORGANICS					
Total Alkalinity	---	---	NA	410,000	350,000
Bicarbonate Alkalinity	---	20000	NA	410,000	350,000
Carbonate Alkalinity	---	20000	NA	ND	ND
Hydroxide Alkalinity	---	20000	NA	ND	ND
Chloride	10000	1000	250,000	17,000	ND
Nitrate, as N	100	23	10,000	1,500	100
Nitrate + Nitrite (as N)	---	53	NA	1,500	100
Nitrite, as N	100	30	1,000	ND	ND
Sulfate	1000	1000	250,000	6,500	23,000
Total Organic Carbon (TOC)	---	1000	NA	4,600	4,500
Phenols (Colormetric)	---	50	4,400/450	ND	ND
Chemical Oxygen Demand (COD)	---	5000	NA	15,000	8,300
Total Dissolved Solids (TDS)	10000	40000	500,000/500,000 (EE)	470,000	360,000
Nitrogen, Ammonia as N	25	50	10,000/CC	350	23
Phosphorous, Total	10	10	63,000/1,000 (EE)	77	93

NOTES: All Concentrations reported as ug/L or parts per billion

TMDL: Target Method Detection Limit

RL: Lab Reporting Limit

ND: Not Detected above compound-specific reporting limits

NA or ---: Not Available

CC: Standard is pH and temperature dependent and is approximately 763 ppb

EE: Standard is required by Section 20120(15) of NREPA

Shaded value exceeds DW GRCC

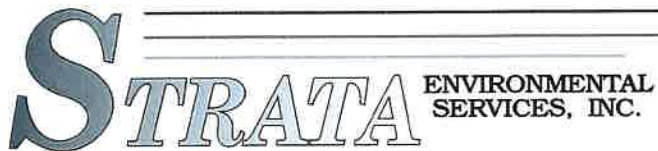
Boxed cell exceeds GSI GRCC

Metal concentrations reported as dissolved for groundwater/monitor well samples

Metal concentrations reported as total for surface water samples

**:: Duplicate analysis outside control limits

Surface water value is not compared to DW/GSI GRCC



Via Email

December 8, 2023

Chad Powers
Director
Eaton County Physical Plant
1045 Independence Boulevard
Charlotte, MI 48813

Re: **Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)
Semi-Annual Groundwater Sampling, Eaton County Landfill**

Dear Mr. Powers:

Strata Environmental Services, Inc. (Strata) completed the semi-annual sampling of five monitor wells (MW-3s, MW-15sr, MW-15dr, MW-17sr, MW-19s) at the former Eaton County Landfill for perfluoroalkyl and polyfluoroalkyl substances (PFAS). Refer to Figure 1 for well locations.

Sampling procedures followed the Michigan Department of Environment, Great Lakes, and Energy (EGLE) PFAS Sampling Quick Reference Guide (SQRG) to assure the integrity of the samples collected. Strata personnel wore non-water-proof clothing, disposable, powderless nitrile gloves, and personal hygiene followed the recommendations in the SQRG.

Strata personnel were on site November 7, 2023 to conduct the second semi-annual PFAS sampling event of 2023. Prior to sampling each well, the static water level was measured and recorded in the field log book. The water level meter was decontaminated between each use with Liquinox and PFAS-free water (supplied by the laboratory) and rinsed with PFAS-free water. The water samples were collected using low-flow techniques with a peristaltic pump and disposable, high-density, polyethylene (HDPE) tubing. During pumping, the water level was measured at specific volumes (usually at one liter volume) and field measurements of pH, dissolved oxygen (DO), temperature, oxygen reduction potential (ORP), and specific conductance were collected using a YSI Professional Plus combination meter. In addition, the turbidity of the water was monitored at the specific volumes with a Geotech turbidity meter. All readings were recorded on the "Groundwater Monitoring Field Data Sheets" included as Attachment 1. Samples were collected once the field measurements had generally stabilized to within five percent of previous measurements and (when possible) turbidity readings were less than 10 nephelometric turbidity units (NTU). All samples were collected in laboratory prepared containers with trizma buffer. A field blank was collected at a sample location by pouring a bottle of PFAS-free water into the sample container. Strata also collected an equipment blank by pumping PFAS-free water through the HDPE tubing into the sample container. Following collection, the sample containers were placed in a cooler on ice. Samples were delivered to Fibertec Environmental Services in Holt, Michigan following chain-of-custody protocol, and analysis was conducted at APPL, LLC, a subcontract laboratory located in Clovis, California.

The last sampling event (March 2023), samples were analyzed for 31 PFAS compounds (recommended by EGLE). No other compounds have been added since the last event, therefore the samples were analyzed for 31 PFAS compounds by USEPA Method 1633 this event. Analytical results and chain-of-custody record are included as Attachment 2. The following is a list of the PFAS compounds detected in the aforementioned samples:

Perfluorobutanoic acid (PFBA)	Perfluorobutanesulfonic acid (PFBS)	Perfluoroheptanoic acid (PFHpA)
Perfluorohexanoic acid (PFHxA)	Perfluorooctanoic acid (PFOA)	Perfluoro-n-pentanoic acid (PFPeA)
Perfluoroethylcyclohexane sulfonate (PFECyHS)	Perfluoropentanesulfonic acid (PFPeS)	Perfluorohexanesulfonic acid (PFHxS)

The State of Michigan signed into law maximum contaminant levels (MCLs) for seven PFAS compounds that have been in effect and enforceable since December 2020. Table 1 presents the sample location, PFAS compound detected, concentration, and MCL if published.

TABLE 1
Summary of PFAS Compound Concentrations
Detected in Groundwater
(All concentrations in ng/L)

Sample Location	PFBA	PFBS	PFHpA	PFHxA	PFOA	PFPeA	PFECHS	PFPeS	PFHxS
MW-3	ND	ND	ND	ND	ND	ND	20	ND	ND
MW-15sr	9.3	2.2	5.0	13	8.6	11	ND	1.3	0.82
MW-15dr	ND	ND	0.88	2.0	0.86	2.2	ND	ND	ND
MW-17sr	3.4	ND	0.91	3.5	ND	3.6	ND	ND	ND
MW-19s	12	7.5	2.4	16	1.6	8.8	ND	1.5	ND
Field Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND
Equip. Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND
MCL	NA	420	NA	400,000	8	NA	NA	NA	51

Gray shaded cell denotes concentration exceeds MCL
ND: Not Detected above compound-specific reporting limit
NA: Not Available/Not Applicable
*: Denotes compound detected in field blank

The reported concentrations this sampling event are similar to the last time the wells were sampled in March 2023. The PFAS compounds PFPeS and PFHxS were detected this event and have not been detected in past events. As can be seen in Table 1, of the nine PFAS compounds detected in the groundwater at the former Eaton County Landfill site, only the PFOA concentration in the sample from MW-15sr (8.6 ng/L) just exceeds its MCL of 8 ng/L.

The next scheduled semi-annual PFAS sampling event is scheduled for March 2024. The aforementioned set of wells will be sampled and analyzed.

Should there be any questions regarding the work done or results, please do not hesitate to contact our office at (517) 676-6900.

Sincerely,

STRATA ENVIRONMENTAL SERVICES, INC.



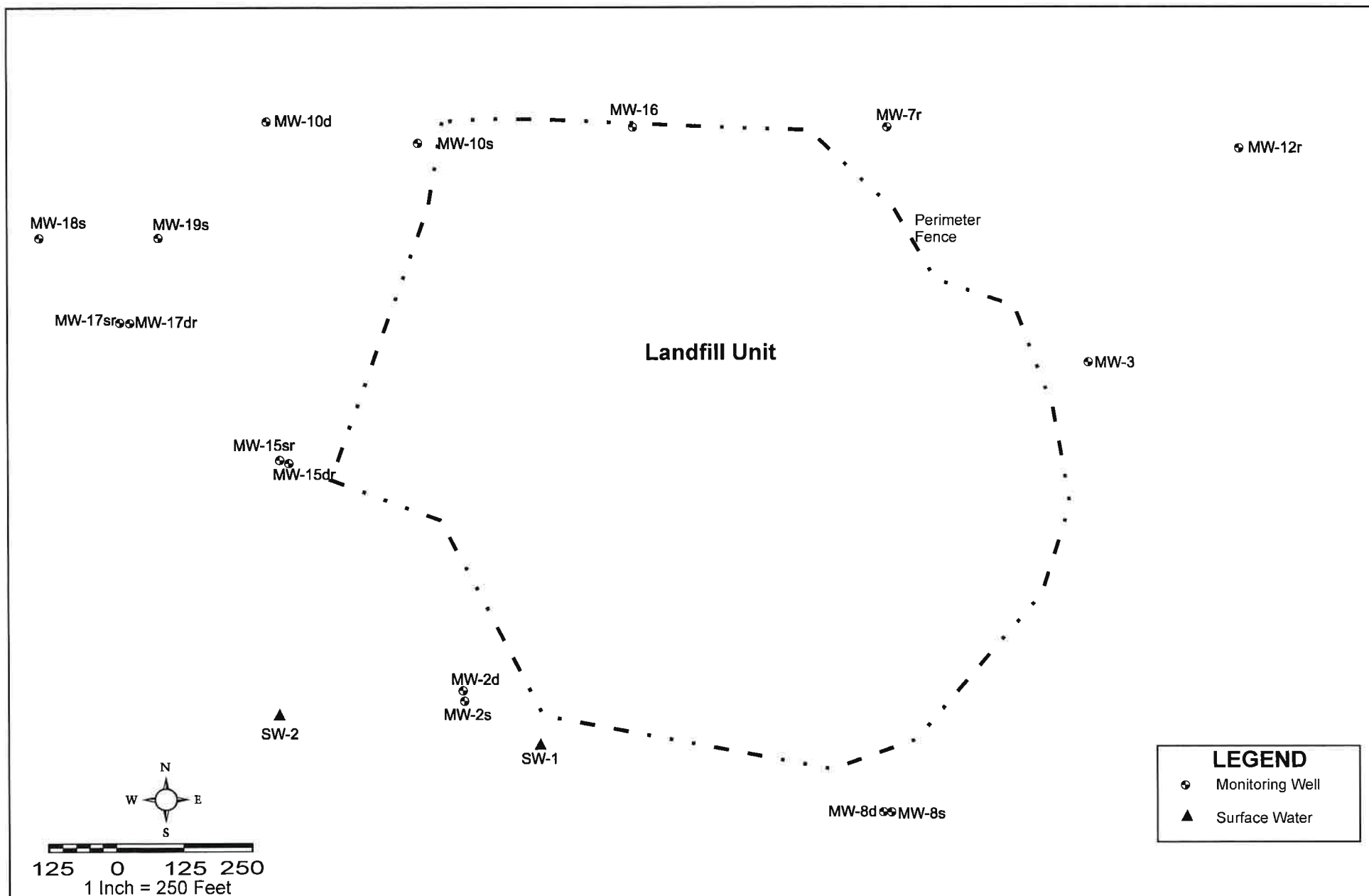
Sophia V. Serafini
Environmental Scientist

Encls.

Cc: Mr. Evin Maguire (EGLE)

R.B. MCS (H)
9261422L.092

FIGURES



SEMI-ANNUAL GROUNDWATER MONITORING

Eaton County Landfill
Section 20, Benton Township
Eaton County, Michigan

STRATA ENVIRONMENTAL
SERVICES, INC.

FIGURE 1

Monitor Well Locations

ATTACHMENT 1



GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: Eaton County Landfill
Well Number: MW-3 Period of Sampling: Nov-23
Facility: Eaton County
Address: 1045 Independence Blvd Charlotte MI 48813
Street Number (PO Box) City State Zip
Contact: Chad Powers (517) 543-7500
Name Telephone

Personnel Present: SVS/NP

WELL DATA:

Well Secure Upon Arrival: Yes ☒ No ☐ TOC Elevation: 912.92
TOC Survey Mark: North Static Water Level (ft.) 10.45
Well Conditions: Good ☒ Fair ☐ Poor ☐ Ground Water Elevation: 902.47 feet
Casing Material: Galvanized Well Depth: TOC Reference 17.20
Casing Diameter: 2"
Concrete Pad: Yes ☒ No ☐ Standing Water: Yes ☐ No ☒
Screen: --- Secured Upon Departure: Yes ☒ No ☐
Frost Heave: Yes ☐ No ☒ Well ID Present/Readable: Yes ☒ No ☐

PURGING DATA:

Date of Purge: 11-7-23 Purge Method: ☐ Disposable Bailer
Time of Purge: 0920 Purge Method: ☐ S.S. Submersible Pump
Volume of Water in Casing: _____ gals. Purge Method: ☒ Low Flow (peristaltic)
Purge Volume 3X ☐ 5X ☐ Other ☒ _____ gals. Decon: Yes ☐ No ☒
Purge Water Appearance: faintly milky Type: Liquinox & Water Wash ☐
Fate of Purge Water: ☒ Ground 10'+ Contained Water Rinse ☐ Distilled Rinse ☐

SAMPLING DATA:

Date of Sampling: 11-7-23 Sampling Method: ☐ Bailer ☒ Pump
Time of Sampling: 0930 Decon?: Yes ☐ No ☒
Field Filtration?: Yes ☐ No ☒ Sp. Conductance: 0.68 umohs/cm
Weather: overcast 46°F Temperature °C: 11.8
Sample Appearance: clear pH: 6.54

PURGE DATA:

Volume	SWL	pH	D.O.	Temperature °C	ORP	Specific Conductance	Turbidity
Removed			mg/l		mV	µmSiemens/cm	
1.0 L	10.90	6.63	2.36	11.8	-33.1	0.72	72.2
3.0 L	10.93	6.53	2.16	11.8	-22.5	0.70	20.9
4.0 L	10.93	6.54	2.09	11.8	-17.6	0.69	13.7
5.0 L	10.93	6.54	1.97	11.8	-14.3	0.69	11.2
6.0 L	10.93	6.54	1.99	11.8	-11.7	0.68	9.66
L							
L							
L							

COMMENTS:

sample #1
Sept. 2023 PFAS Resample



GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: Eaton County Landfill

Well Number: **MW-15sr**

Period of Sampling: Nov-23

Facility: Eaton County

Address: 1045 Independence Blvd
Street Number (PO Box)

Charlotte
City

MI
State

48813
Zip

Contact: Chad Powers
Name

(517) 543-7500
Telephone

Personnel Present: SVS/NP

WELL DATA:

Well Secure Upon Arrival Yes ☒ No ☐

TOC Survey Mark: North

Well Conditions: Good ☒ Fair ☐ Poor ☐

Casing Material: Galvanized

Casing Diameter: 2"

Concrete Pad: Yes ☒ No ☐

Screen: Yes ☐ No ☒

Frost Heave: Yes ☐ No ☒

TOC Elevation: 869.61

Static Water Level (ft.): 13.73

Ground Water Elevation: 855.88 feet

Well Depth: TOC Reference 43.00

Standing Water: Yes ☐ No ☒

Secured Upon Departure: Yes ☒ No ☐

Well ID Present/Readable: Yes ☒ No ☐

PURGING DATA:

Date of Purge: 11-7-23

Time of Purge: 0945

Volume of Water in Casing: 0.945 gals.

Purge Volume 3X ☐ 5X ☐ Other ☒ clear to gals.

Purge Water Appearance: faintly milky

Fate of Purge Water: w/ egg smell

Ground 10'+ Contained

Purge Method: ☐ Disposable Bailer

Purge Method: ☐ S.S. Submersible

Purge Method: ☒ Low Flow (peristaltic)

Decon: Yes ☐ No ☒

Type: ☐ Liquinox & Water Wash

Water Rinse ☐ Dist. Rinse ☐

SAMPLING DATA:

Date of Sampling: 11-7-23

Time of Sampling: 1030

Field Filtration?: Yes ☐ No ☒

Weather: overcast 46°F

Sample Appearance: clear faintly milky

Sampling Method: ☐ Bailer ☒ Pump

Decon?: Yes ☐ No ☒

Sp. Conductance: 0.99 umohs/cm

Temperature °C: 11.2

pH: 6.83

PURGE DATA:

Volume SWL pH D.O. Temperature °C ORP Conductance Turbidity

Removed 13.73 mg/l mV mS/cm

1.0	L	15.51	6.76	0.26	10.9	-43.7	1.01	35.9
2.0	L	17.16	6.78	0.18	10.9	-49.8	1.01	53.4
4.0	L	20.03	6.80	0.16	10.9	-56.3	1.02	182
8.0	L	25.68	6.81	0.12	11.0	-69.0	1.00	93.8
12.0	L	30.48	6.83	0.38	11.2	-78.0	0.99	95.1 *
	L							
	L							
	L							

COMMENTS:

Sample #2

Poor recharge

Sept. 2023 PFAS Resample

*Sampled before reaching ~10 MTV
Turbidity because measurements
tapered off



GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: Eaton County Landfill

Well Number: **MW-15dr** Period of Sampling: **Nov-23**

Facility: **Eaton County**

Address **1045 Independence Blvd** **Charlotte** **MI** **48813**
Street Number (PO Box) City State Zip

Contact: **Chad Powers**
Name

(517) 543-7500
Telephone

Personnel Present: SVS/NP

WELL DATA:

Well Secure Upon Arrival: Yes ☒ No ☐ TOC Elevation: **870.16**
TOC Survey Mark: North Static Water Level (ft.) 14.69
Well Conditions: Good ☒ Fair ☐ Poor ☐ Ground Water Elevation: 855.47 feet
Casing Material: Galvanized Well Depth: TOC Reference **58.00'**
Casing Diameter: 2"
Concrete Pad: Yes ☒ No ☐ Standing Water: Yes ☐ No ☒
Screen: --- Secured Upon Departure: Yes ☒ No ☐
Frost Heave: Yes ☐ No ☒ Well ID Present/Readable: Yes ☒ No ☐

PURGING DATA:

Date of Purge: 11-7-23 Purge Method: ☐ Disposable Bailer
Time of Purge: 1035 Purge Method: ☐ S.S. Submersible Pump
Volume of Water in Casing: _____ gals. Purge Method: ☒ Low Flow Pump (peristaltic)
Purge Volume 3X ☐ 5X ☐ Other ☒ _____ gals. Decon: Yes ☐ No ☒
Purge Water Appearance: milky Type: Liquinox & Water Wash ☐
Fate of Purge Water: ☒ ☐ Water Rinse ☐ tilled Rinse ☐
Ground 10'+ Contained

SAMPLING DATA:

Date of Sampling: 11-7-23 Sampling Method: ☐ Bailer ☒ Pump
Time of Sampling: 1050 Decon?: Yes ☐ No ☒
Field Filtration?: Yes ☐ No ☒ Sp. Conductance 0.73 umohs/cm
Weather: overcast 46°F Temperature °C: 11.0
Sample Appearance: clear pH: 6.77

PURGE DATA:

Volume	SWL	pH	D.O.	Temperature °C	ORP	Specific Conductance	Turbidity
Removed	<u>14.69</u>		mg/l		mV	mV Siemens/cm	
3.0 L	<u>14.91</u>	<u>6.79</u>	<u>0.31</u>	<u>11.1</u>	<u>-54.9</u>	<u>0.73</u>	<u>156</u>
3.0 L	<u>14.92</u>	<u>6.76</u>	<u>0.33</u>	<u>11.1</u>	<u>-50.4</u>	<u>0.73</u>	<u>66.0</u>
5.0 L	<u>14.92</u>	<u>6.76</u>	<u>0.34</u>	<u>11.0</u>	<u>-48.7</u>	<u>0.73</u>	<u>22.9</u>
6.0 L	<u>14.92</u>	<u>6.76</u>	<u>0.33</u>	<u>11.0</u>	<u>-48.1</u>	<u>0.72</u>	<u>11.9</u>
7.0 L	<u>14.92</u>	<u>6.77</u>	<u>0.36</u>	<u>11.0</u>	<u>-47.7</u>	<u>0.73</u>	<u>10.1</u>
L							
L							
L							

COMMENTS:

sample #3

Sept. 2023 PFAS Resample



GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: Eaton County Landfill

Well Number: MW-17sr Period of Sampling: Nov-23

Facility: Eaton County

Address: 1045 Independence Blvd Charlotte MI 48813
 Street Number (PO Box) City State Zip

Contact: Chad Powers (517) 543-7500
 Name Telephone

Personnel Present: SVS/NP

WELL DATA:

Well Secure Upon Arrival: Yes ☒ No ☐ TOC Elevation: 860.41
 TOC Survey Mark: North Static Water Level (ft.) 6.11
 Well Conditions: Good ☒ Fair ☐ Poor ☐ Ground Water Elevation: 854.30 feet
 Casing Material: Galvanized Well Depth: TOC Reference 43.00
 Casing Diameter: 2" Standing Water: Yes ☐ No ☒
 Concrete Pad: Yes ☒ No ☐ Secured Upon Departure: Yes ☒ No ☐
 Screen: --- Well ID Present/Readable: Yes ☒ No ☐
 Frost Heave: Yes ☐ No ☒

PURGING DATA:

Date of Purge: 11-7-23 Purge Method: ☐ Disposable Bailer
 Time of Purge: 1100 Purge Method: ☐ S.S. Submersible Pump
 Volume of Water in Casing: _____ gals. Purge Method: ☒ Low Flow (peristaltic)
 Purge Volume 3X ☐ 5X ☐ Other ☒ _____ gals. Decon: Yes ☐ No ☒
 Purge Water Appearance: clear Type: Liquinox & Water Wash ☐
 Fate of Purge Water: ☒ Ground 10'+ Contained Water Rinse ☐ Distilled Rinse ☐

SAMPLING DATA:

Date of Sampling: 11-7-23 Sampling Method: ☐ Bailer ☒ Pump
 Time of Sampling: 1110 Decon?: Yes ☐ No ☒
 Field Filtration?: Yes ☐ No ☒ Sp. Conductance: 0.81 umohs/cm
 Weather: overcast 47°F Temperature °C: 11.0
 Sample Appearance: clear pH: 6.65

PURGE DATA:

Volume Removed	SWL	pH	D.O. mg/L	Temperature °C	ORP mV	Specific Conductance mV/Siemens/cm	Turbidity
<u>1.0</u> L	<u>6.12</u>	<u>6.63</u>	<u>1.57</u>	<u>11.1</u>	<u>-18.2</u>	<u>0.82</u>	<u>28.7</u>
<u>2.0</u> L	<u>6.12</u>	<u>6.64</u>	<u>1.27</u>	<u>11.0</u>	<u>-20.4</u>	<u>0.82</u>	<u>30.6</u>
<u>3.0</u> L	<u>6.12</u>	<u>6.65</u>	<u>1.10</u>	<u>11.0</u>	<u>-21.3</u>	<u>0.81</u>	<u>17.8</u>
<u>4.0</u> L	<u>6.12</u>	<u>6.65</u>	<u>1.04</u>	<u>11.0</u>	<u>-21.7</u>	<u>0.81</u>	<u>10.3</u>
L							
L							
L							
L							

COMMENTS: sample # 4
Sept. 2023 PFAS Resample



GROUNDWATER MONITORING FIELD DATA SHEET

SITE LOCATION: Eaton County Landfill

Well Number: MW-19s

Period of Sampling: Nov-23

Facility: Eaton County

Address: 1045 Independence Blvd
Street Number (PO Box)

Charlotte
City

MI
State

48813
Zip

Contact: Chad Powers
Name

(517) 543-7500
Telephone

Personnel Present: SVS/NP

WELL DATA:

Well Secure Upon Arrival: Yes ☒ No ☐

TOC Survey Mark: North

Well Conditions: Good ☒ Fair ☐ Poor ☐

Casing Material: Galvanized

Casing Diameter: 2"

Concrete Pad: Yes ☒ No ☐

Screen: ---

Frost Heave: Yes ☐ No ☒

TOC Elevation: 860.87

Static Water Level (ft.) 6.57

Ground Water Elevation: feet

Well Depth: TOC Reference 39.20

Standing Water: Yes ☐ No ☒

Secured Upon Departure: Yes ☒ No ☐

Well ID Present/Readable: Yes ☒ No ☐

PURGING DATA:

Date of Purge: 11-7-23

Time of Purge: 1115

Volume of Water in Casing: gals.

Purge Volume 3X ☐ 5X ☐ Other ☒ gals.

Purge Water Appearance: faintly milky

Fate of Purge Water: to milky ☒ Ground 10'+ Contained

Purge Method: ☐

Purge Method: ☐

Purge Method: ☒

Decon: ☐

Type: ☐

☐ Disposable Bailer

☐ S. Submersible Pump

☒ Low Flow (peristaltic)

Yes ☐ No ☒

Liquinox & Water Wash ☒

Water Rinse ☐ Distilled Rinse ☐

SAMPLING DATA:

Date of Sampling: 11-7-23

Time of Sampling: 1135

Field Filtration?: Yes ☐ No ☒

Weather: overcast 47°F

Sample Appearance: clear

Sampling Method: ☐ Bailer ☒ Pump

Decon?: Yes ☐ No ☒

Sp. Conductance: 0.98 umhos/cm

Temperature °C: 11.2

pH: 6.76

PURGE DATA:

Volume	SWL	pH	D.O.	Temperature °C	ORP	Specific	Turbidity
Removed			mg/L		mV	Conductance	
						mSiemens/cm	
1.0 L	6.58	6.79	1.20	11.2	-32.1	0.98	44.3
2.0 L	6.58	6.77	1.30	11.2	-31.2	0.99	22.4
3.0 L	6.58	6.76	1.19	11.2	-29.8	0.99	24.9
4.0 L	6.58	6.75	1.08	11.2	-28.9	0.99	10.2
8.0 L	6.58	6.76	0.98	11.2	-29.0	0.99	15.6
9.0 L	6.58	6.76	0.88	11.2	-29.2	0.98	10.8
L							
L							

COMMENTS: sample #5
Sept. 2023 PFAS Resample

ATTACHMENT 2



A METIRI GROUP COMPANY

Tuesday, December 5, 2023

Fibertec Project Number: A18268
Project Identification: Eaton County Landfill /926-1422
Submission Date: 11/07/2023

Mr. Mike Serafini
Strata Environmental Services, Inc.
538 W. Ash Street
Mason, MI 48854

Dear Mr. Serafini,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

PFAS Analysis was performed by Metiri Group, (Clovis CA). Their report 23K0078 is attached.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

By Bailey Welch at 10:04 AM, Dec 05, 2023

For Heather L. Smith
Director of Laboratory Operations

Enclosures

1914 Holloway Drive
11766 E Grand River
8660 S Madinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



A METIRI GROUP COMPANY

Analytical Laboratory Report
Laboratory Project Number: A18268
Laboratory Sample Number: A18268-001

Order: A18268
Date: 12/05/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-3	Chain of Custody:	N/A
Client Project Name:	Eaton County Landfill	Sample No:	1	Collect Date:	11/07/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	09:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

PFAS (Overflow) Aliquot ID: A18268-001 Matrix: Ground Water
Method: Subcontractor (Misc.) Description: MW-3

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
± 1, Subcontractor Analysis	complete		complete	NA	1.0	NA	NA	11/22/23	NA	BMW

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A METIRI GROUP COMPANY

Analytical Laboratory Report
Laboratory Project Number: A18268
Laboratory Sample Number: A18268-002

Order: A18268
Date: 12/05/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-15sr	Chain of Custody:	N/A
Client Project Name:	Eaton County Landfill	Sample No:	2	Collect Date:	11/07/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

PFAS (Overflow) Aliquot ID: A18268-002 Matrix: Ground Water
Method: Subcontractor (Misc.) Description: MW-15sr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
± 1. Subcontractor Analysis	complete		complete	NA	1.0	NA	NA	11/22/23	NA	EMW

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A METIRI GROUP COMPANY

Analytical Laboratory Report
Laboratory Project Number: A18268
Laboratory Sample Number: A18268-003

Order: A18268
Date: 12/05/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-15dr	Chain of Custody:	N/A
Client Project Name:	Eaton County Landfill	Sample No:	3	Collect Date:	11/07/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	10:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

PFAS (Overflow) Aliquot ID: A18268-003 Matrix: Ground Water
Method: Subcontractor (Misc.) Description: MW-15dr

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
± 1. Subcontractor Analysis	complete		complete	NA	1.0	NA	NA	11/22/23	NA	BMW

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A METIRI GROUP COMPANY

Analytical Laboratory Report
Laboratory Project Number: A18268
Laboratory Sample Number: A18268-004

Order: A18268
Date: 12/05/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-17sr	Chain of Custody:	N/A
Client Project Name:	Eaton County Landfill	Sample No:	4	Collect Date:	11/07/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	11:10

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

PFAS (Overflow)					Aliquot ID:	A18268-004		Matrix: Ground Water		
Method: Subcontractor (Misc.)					Description:	MW-17sr				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
± 1. Subcontractor Analysis	complete		complete	NA	1.0	NA	NA	11/22/23	NA	BMW

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A METIRI GROUP COMPANY

Analytical Laboratory Report
Laboratory Project Number: A18268
Laboratory Sample Number: A18268-005

Order: A18268
Date: 12/05/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	MW-19s	Chain of Custody:	N/A
Client Project Name:	Eaton County Landfill	Sample No:	5	Collect Date:	11/07/23
Client Project No:	926-1422	Sample Matrix:	Ground Water	Collect Time:	11:35

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

PFAS (Overflow) Aliquot ID: A18268-005 Matrix: Ground Water
Method: Subcontractor (Misc.) Description: MW-19s

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Subcontractor Analysis	complete		complete	NA	1.0	NA	NA	11/22/23	NA	BMW

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F: (231) 775-8584



A METIRI GROUP COMPANY

Analytical Laboratory Report
Laboratory Project Number: A18268
Laboratory Sample Number: A18268-006

Order: A18268
Date: 12/05/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	Equipment Blank	Chain of Custody:	N/A
Client Project Name:	Eaton County Landfill	Sample No:		Collect Date:	11/07/23
Client Project No:	926-1422	Sample Matrix:	Blank: Equipment	Collect Time:	11:45

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

PFAS (Overflow) Aliquot ID: A18268-006 Matrix: Blank: Equipment
Method: Subcontractor (Misc.) Description: Equipment Blank

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
± Subcontractor Analysis	complete		complete	NA	1:0	NA	NA	11/22/23	NA	BMW

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Cadillac, MI 49601

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F: (810) 220-3311
F: (231) 775-8584



A METIRI GROUP COMPANY

Analytical Laboratory Report
Laboratory Project Number: A18268
Laboratory Sample Number: A18268-007

Order: A18268
Date: 12/05/23

Client Identification:	Strata Environmental Services, Inc.	Sample Description:	Field Blank	Chain of Custody:	N/A
Client Project Name:	Eaton County Landfill	Sample No:		Collect Date:	11/07/23
Client Project No:	926-1422	Sample Matrix:	Blank: Field	Collect Time:	11:50

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ±: Parameter not included in NELAC Scope of Analysis.

PFAS (Overflow)

Aliquot ID: A18268-007

Matrix: Blank: Field

Method: Subcontractor (Misc.)

Description: Field Blank

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
± 1. Subcontractor Analysis	complete		complete	NA	1.0	NA	NA	11/22/23	NA	BMW

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Definitions/Qualifiers:

- A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
M: Modified Method
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QC limits

Exception Summary:

Analysis Locations:

All analyses performed in Holt.



Accreditation Number(s):

T104704518-23-15 (TX)

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11766 E Grand River
8660 S Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Thursday, December 7, 2023

Fibertec Project Number: A18268 Amended
Project Identification: Eaton County Landfill /926-1422
Submittal Date: 11/07/2023

Mr. Mike Serafini
Strata Environmental Services, Inc.
538 W. Ash Street
Mason, MI 48854

Dear Mr. Serafini,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

PFAS Analysis was performed by Metiri Group, (Clovis CA). Their report 23K0078 is attached.

This report was amended to add additional compounds. This replaces the report issued on 12/5/23.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,



By Rikki Lott at 4:52 PM, Dec 07, 2023

For Heather L. Smith
Director of Laboratory Operations

Enclosures



908 N. Temperance Ave., Clovis, CA 93611 - Phone 559-275-2175 - www.metirigroup.com

NELAP Certification Number: CA00046

DoD-ELAP Certification Number: 4064.01

State Certification Number:

December 07, 2023

Rikki Lott
Fibertec Environmental Services
1914 Holloway Drive
Holt, MI 48842

RE: PFAS Testing
23K0078

Enclosed are the results of analyses for samples received by our laboratory on 11/9/2023. If you have any questions concerning this report, please feel free to contact me.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or designee, as verified by the following signature.

Sincerely,

Chue Moua
Project Manager

chue.moua@metirigroup.com
559-862-2155

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Fibertec Environmental Services
1914 Holloway Drive
Holt, MI 48842

Project: PFAS Testing
Project Number: A18268
Project Manager: Rikki Lott

Reported: 12/07/2023 13:41

Analysis Case Narrative

EPA 1633: Manual integrations were performed for this method in accordance with APPL's SOP. Abbreviated flags for technical justification are provided as data qualifiers.

Revision 2023-12-07: The analytes PFSBA, PFHxSA, and PFECHS have been added to this report. To comply with certifying bodies the analysis has been switched to EPA 1633.

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
23K0078-01	MW-3	Water	11/07/2023 09:30	11/09/2023
23K0078-02	MW-15sr	Water	11/07/2023 10:30	11/09/2023
23K0078-03	MW-15dr	Water	11/07/2023 10:50	11/09/2023
23K0078-04	MW-17sr	Water	11/07/2023 11:10	11/09/2023
23K0078-05	MW-19s	Water	11/07/2023 11:35	11/09/2023
23K0078-06	Equipment Blank	Water	11/07/2023 11:45	11/09/2023
23K0078-07	Field Blank	Water	11/07/2023 11:50	11/09/2023

Fibertec Environmental Services
1914 Holloway Drive
Holt, MI 48842

Project: PFAS Testing
Project Number: A18268
Project Manager: Rikki Lott

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Sample Results

Sample: MW-3
23K0078-01 (Water)

Analyte	Result /Qual	PQL	MDL	Units	Date Analyzed	DF	Method	Prep Batch
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Per- and Polyfluoroalkyl Substances

PFBA	ND	3.2		ng/L	11/22/23	1	EPA 1633	BCK0264
PFPeA	ND	1.6		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxA	ND	0.81		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHpA	ND	0.81		ng/L	11/22/23	1	EPA 1633	BCK0264
PFOA	ND	0.81		ng/L	11/22/23	1	EPA 1633	BCK0264
PFNA	ND	0.81		ng/L	11/22/23	1	EPA 1633	BCK0264
PFDA	ND	0.81		ng/L	11/22/23	1	EPA 1633	BCK0264
PFUnA	ND	0.81		ng/L	11/22/23	1	EPA 1633	BCK0264
PFDoA	ND	0.81		ng/L	11/22/23	1	EPA 1633	BCK0264
PFTeDA	ND	0.81		ng/L	11/22/23	1	EPA 1633	BCK0264
PFTeDA	ND	0.81		ng/L	11/22/23	1	EPA 1633	BCK0264
PFBS	ND	0.81		ng/L	11/22/23	1	EPA 1633	BCK0264
PFPeS	ND	0.81		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxS	ND	0.81		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHpS	ND	0.81		ng/L	11/22/23	1	EPA 1633	BCK0264
PFOS	ND	0.81		ng/L	11/22/23	1	EPA 1633	BCK0264
PFNS	ND	0.81		ng/L	11/22/23	1	EPA 1633	BCK0264
PFDS	ND	0.81		ng/L	11/22/23	1	EPA 1633	BCK0264
4:2FTS	ND	3.2		ng/L	11/22/23	1	EPA 1633	BCK0264
6:2FTS	ND	3.2		ng/L	11/22/23	1	EPA 1633	BCK0264
8:2FTS	ND	3.2		ng/L	11/22/23	1	EPA 1633	BCK0264
PFBSA	ND	3.2		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxSA	ND	3.2		ng/L	11/22/23	1	EPA 1633	BCK0264
PFOSA	ND	0.81		ng/L	11/22/23	1	EPA 1633	BCK0264
NMeFOSAA	ND	0.81		ng/L	11/22/23	1	EPA 1633	BCK0264
NEtFOSAA	ND	0.81		ng/L	11/22/23	1	EPA 1633	BCK0264
HFPO-DA	ND	1.6		ng/L	11/22/23	1	EPA 1633	BCK0264
ADONA	ND	1.6		ng/L	11/22/23	1	EPA 1633	BCK0264
9Cl-PF3ONS	ND	1.6		ng/L	11/22/23	1	EPA 1633	BCK0264
11Cl-PF3OUDS	ND	1.6		ng/L	11/22/23	1	EPA 1633	BCK0264
PFECHS	20	3.2		ng/L	11/22/23	1	EPA 1633	BCK0264

Surrogate: 13C4-PFBA	88.1%	10-130	11/22/23	1	EPA 1633
Surrogate: 13C5-PFPEA	108%	35-150	11/22/23	1	EPA 1633
Surrogate: 13C5-PFHXA	113%	55-150	11/22/23	1	EPA 1633
Surrogate: 13C4-PFHXA	116%	55-150	11/22/23	1	EPA 1633
Surrogate: 13C8-PFOA	117%	60-140	11/22/23	1	EPA 1633
Surrogate: 13C9-PFNA	110%	55-140	11/22/23	1	EPA 1633
Surrogate: 13C6-PFDA	93.0%	50-140	11/22/23	1	EPA 1633
Surrogate: 13C7-PFUnA	71.5%	30-140	11/22/23	1	EPA 1633
Surrogate: 13C2-PFDOA	57.9%	10-150	11/22/23	1	EPA 1633
Surrogate: 13C2-PFTEDA	56.7%	10-130	11/22/23	1	EPA 1633
Surrogate: 13C3-PFBS	125%	55-150	11/22/23	1	EPA 1633
Surrogate: 13C3-PFHXS	112%	55-150	11/22/23	1	EPA 1633
Surrogate: 13C8-PFOS	90.4%	45-140	11/22/23	1	EPA 1633
Surrogate: 13C2-4:2FTS	148%	60-200	11/22/23	1	EPA 1633
Surrogate: 13C2-6:2FTS	149%	60-200	11/22/23	1	EPA 1633

Fibertec Environmental Services
1914 Holloway Drive
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Project: PFAS Testing
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Sample Results (Continued)

Sample: MW-3 (Continued)
23K0078-01 (Water)

Analyte	Result/Qual	PQL	MDL	Units	Date Analyzed	DF	Method	Prep Batch
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Per- and Polyfluoroalkyl Substances (Continued)

Surrogate: 13C2-8:2FTS	97.4%	50-200			11/22/23	1	EPA 1633	
Surrogate: 13C8-PFOA	74.8%	30-130			11/22/23	1	EPA 1633	
Surrogate: D3-NMEFOSAA	67.1%	45-200			11/22/23	1	EPA 1633	
Surrogate: D5-NETFOSAA	67.8%	10-200			11/22/23	1	EPA 1633	
Surrogate: 13C3-HFPO-DA	121%	25-160			11/22/23	1	EPA 1633	

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Project: PFAS Testing
Project Number: A18268
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Sample Results (Continued)

Sample: MW-15sr
23K0078-02 (Water)

Analyte	Result /Qual	PQL	MDL	Units	Date Analyzed	DF	Method	Prep Batch
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Per- and Polyfluoroalkyl Substances

PFBA	9.3		3.2	ng/L	11/22/23	1	EPA 1633	BCK0264
PFPeA	11		1.6	ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxA	13	MI4	0.79	ng/L	11/22/23	1	EPA 1633	BCK0264
PFHpA	5.0	MI4	0.79	ng/L	11/22/23	1	EPA 1633	BCK0264
PFOA	8.6		0.79	ng/L	11/22/23	1	EPA 1633	BCK0264
PFNA	ND		0.79	ng/L	11/22/23	1	EPA 1633	BCK0264
PFDA	ND		0.79	ng/L	11/22/23	1	EPA 1633	BCK0264
PFUnA	ND		0.79	ng/L	11/22/23	1	EPA 1633	BCK0264
PFDoA	ND		0.79	ng/L	11/22/23	1	EPA 1633	BCK0264
PFTTrDA	ND		0.79	ng/L	11/22/23	1	EPA 1633	BCK0264
PFTeDA	ND		0.79	ng/L	11/22/23	1	EPA 1633	BCK0264
PFBS	2.2		0.79	ng/L	11/22/23	1	EPA 1633	BCK0264
PFPeS	1.3	MI4	0.79	ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxS	0.82	MI4	0.79	ng/L	11/22/23	1	EPA 1633	BCK0264
PFHpS	ND		0.79	ng/L	11/22/23	1	EPA 1633	BCK0264
PFOS	ND	MI4,	0.79	ng/L	11/22/23	1	EPA 1633	BCK0264
PFNS	ND		0.79	ng/L	11/22/23	1	EPA 1633	BCK0264
PFDS	ND		0.79	ng/L	11/22/23	1	EPA 1633	BCK0264
4:2FTS	ND		3.2	ng/L	11/22/23	1	EPA 1633	BCK0264
6:2FTS	ND		3.2	ng/L	11/22/23	1	EPA 1633	BCK0264
8:2FTS	ND		3.2	ng/L	11/22/23	1	EPA 1633	BCK0264
PFBSA	ND		3.2	ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxSA	ND		3.2	ng/L	11/22/23	1	EPA 1633	BCK0264
PFOSA	ND		0.79	ng/L	11/22/23	1	EPA 1633	BCK0264
NMeFOSAA	ND		0.79	ng/L	11/22/23	1	EPA 1633	BCK0264
NEtFOSAA	ND		0.79	ng/L	11/22/23	1	EPA 1633	BCK0264
HFPO-DA	ND		1.6	ng/L	11/22/23	1	EPA 1633	BCK0264
ADONA	ND		1.6	ng/L	11/22/23	1	EPA 1633	BCK0264
9Cl-PF3ONS	ND		1.6	ng/L	11/22/23	1	EPA 1633	BCK0264
11Cl-PF3OUDS	ND		1.6	ng/L	11/22/23	1	EPA 1633	BCK0264
PFECHS	ND		3.2	ng/L	11/22/23	1	EPA 1633	BCK0264

Surrogate: 13C4-PFBA	91.6%	10-130	11/22/23	1	EPA 1633
Surrogate: 13C5-PFPEA	88.6%	35-150	11/22/23	1	EPA 1633
Surrogate: 13C5-PFHXA	109%	55-150	11/22/23	1	EPA 1633
Surrogate: 13C4-PFHFA	104%	55-150	11/22/23	1	EPA 1633
Surrogate: 13C8-PFOA	119%	60-140	11/22/23	1	EPA 1633
Surrogate: 13C9-PFNA	102%	55-140	11/22/23	1	EPA 1633
Surrogate: 13C6-PFDA	101%	50-140	11/22/23	1	EPA 1633
Surrogate: 13C7-PFUnA	91.1%	30-140	11/22/23	1	EPA 1633
Surrogate: 13C2-PFDOA	69.8%	10-150	11/22/23	1	EPA 1633
Surrogate: 13C2-PFTEDA	61.4%	10-130	11/22/23	1	EPA 1633
Surrogate: 13C3-PFBS	139%	55-150	11/22/23	1	EPA 1633
Surrogate: 13C3-PFHXS	92.0%	55-150	11/22/23	1	EPA 1633
Surrogate: 13C8-PFOS	104%	45-140	11/22/23	1	EPA 1633
Surrogate: 13C2-4:2FTS	159%	60-200	11/22/23	1	EPA 1633
Surrogate: 13C2-6:2FTS	136%	60-200	11/22/23	1	EPA 1633

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Sample Results (Continued)

Sample: MW-15sr (Continued)
23K0078-02 (Water)

Analyte	Result /Qual	PQL	MDL	Units	Date Analyzed	DF	Method	Prep Batch
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Per- and Polyfluoroalkyl Substances (Continued)

Surrogate: 13C2-8:2FTS	103%	50-200			11/22/23	1	EPA 1633	
Surrogate: 13C8-PFOA	91.2%	30-130			11/22/23	1	EPA 1633	
Surrogate: D3-NMEFOSAA	65.5%	45-200			11/22/23	1	EPA 1633	
Surrogate: D5-NETFOSAA	68.6%	10-200			11/22/23	1	EPA 1633	
Surrogate: 13C3-HFPO-DA	108%	25-160			11/22/23	1	EPA 1633	

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Sample Results (Continued)

Sample: MW-15dr
23K0078-03 (Water)

Analyte	Result/Qual	PQL	MDL	Units	Date Analyzed	DF	Method	Prep Batch
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Per- and Polyfluoroalkyl Substances

PFBA	ND	3.1		ng/L	11/22/23	1	EPA 1633	BCK0264
PFPeA	2.2	1.6		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxA	2.0 MI4	0.78		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHpA	0.88 MI4	0.78		ng/L	11/22/23	1	EPA 1633	BCK0264
PFOA	0.86 MI4	0.78		ng/L	11/22/23	1	EPA 1633	BCK0264
PFNA	ND	0.78		ng/L	11/22/23	1	EPA 1633	BCK0264
PFDA	ND	0.78		ng/L	11/22/23	1	EPA 1633	BCK0264
PFUnA	ND	0.78		ng/L	11/22/23	1	EPA 1633	BCK0264
PFDoA	ND	0.78		ng/L	11/22/23	1	EPA 1633	BCK0264
PFTeDA	ND	0.78		ng/L	11/22/23	1	EPA 1633	BCK0264
PFTeDA	ND	0.78		ng/L	11/22/23	1	EPA 1633	BCK0264
PFBS	ND	0.78		ng/L	11/22/23	1	EPA 1633	BCK0264
PFPeS	ND	0.78		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxS	ND IR2,	0.78		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHpS	ND	0.78		ng/L	11/22/23	1	EPA 1633	BCK0264
PFOS	ND	0.78		ng/L	11/22/23	1	EPA 1633	BCK0264
PFNS	ND	0.78		ng/L	11/22/23	1	EPA 1633	BCK0264
PFDS	ND	0.78		ng/L	11/22/23	1	EPA 1633	BCK0264
4:2FTS	ND	3.1		ng/L	11/22/23	1	EPA 1633	BCK0264
6:2FTS	ND	3.1		ng/L	11/22/23	1	EPA 1633	BCK0264
8:2FTS	ND	3.1		ng/L	11/22/23	1	EPA 1633	BCK0264
PFBSA	ND	3.1		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxSA	ND	3.1		ng/L	11/22/23	1	EPA 1633	BCK0264
PFOSA	ND	0.78		ng/L	11/22/23	1	EPA 1633	BCK0264
NMeFOSAA	ND	0.78		ng/L	11/22/23	1	EPA 1633	BCK0264
NEtFOSAA	ND	0.78		ng/L	11/22/23	1	EPA 1633	BCK0264
HFPO-DA	ND	1.6		ng/L	11/22/23	1	EPA 1633	BCK0264
ADONA	ND	1.6		ng/L	11/22/23	1	EPA 1633	BCK0264
9Cl-PF3ONS	ND	1.6		ng/L	11/22/23	1	EPA 1633	BCK0264
11Cl-PF3OUDS	ND	1.6		ng/L	11/22/23	1	EPA 1633	BCK0264
PFECHS	ND	3.1		ng/L	11/22/23	1	EPA 1633	BCK0264

Surrogate: 13C4-PFBA	114%	10-130	11/22/23	1	EPA 1633
Surrogate: 13C5-PFPEA	112%	35-150	11/22/23	1	EPA 1633
Surrogate: 13C5-PFHXA	129%	55-150	11/22/23	1	EPA 1633
Surrogate: 13C4-PFHXA	108%	55-150	11/22/23	1	EPA 1633
Surrogate: 13C8-PFOA	113%	60-140	11/22/23	1	EPA 1633
Surrogate: 13C9-PFNA	109%	55-140	11/22/23	1	EPA 1633
Surrogate: 13C6-PFDA	75.5%	50-140	11/22/23	1	EPA 1633
Surrogate: 13C7-PFUnA	63.1%	30-140	11/22/23	1	EPA 1633
Surrogate: 13C2-PFDOA	42.7%	10-150	11/22/23	1	EPA 1633
Surrogate: 13C2-PFTEDA	42.4%	10-130	11/22/23	1	EPA 1633
Surrogate: 13C3-PFBS	159%	55-150	11/22/23	1	EPA 1633
Surrogate: 13C3-PFHXS	114%	55-150	11/22/23	1	EPA 1633
Surrogate: 13C8-PFOS	91.4%	45-140	11/22/23	1	EPA 1633
Surrogate: 13C2-4:2FTS	164%	60-200	11/22/23	1	EPA 1633
Surrogate: 13C2-6:2FTS	141%	60-200	11/22/23	1	EPA 1633

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Sample Results (Continued)

Sample: MW-15dr (Continued)
23K0078-03 (Water)

Analyte	Result /Qual	PQL	MDL	Units	Date Analyzed	DF	Method	Prep Batch
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Per- and Polyfluoroalkyl Substances (Continued)

Surrogate: 13C2-8:2FTS	84.7%	50-200			11/22/23	1	EPA 1633	
Surrogate: 13C8-PFOA	87.7%	30-130			11/22/23	1	EPA 1633	
Surrogate: D3-NMEFOSAA	60.0%	45-200			11/22/23	1	EPA 1633	
Surrogate: D5-NETFOSAA	53.3%	10-200			11/22/23	1	EPA 1633	
Surrogate: 13C3-HFPO-DA	120%	25-160			11/22/23	1	EPA 1633	

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Sample Results (Continued)

Sample: **MW-17sr**
23K0078-04 (Water)

Analyte	Result /Qual	PQL	MDL	Units	Date Analyzed	DF	Method	Prep Batch
Per- and Polyfluoroalkyl Substances								
PFBA	3.4	3.1		ng/L	11/22/23	1	EPA 1633	BCK0264
PFPeA	3.6	1.5		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxA	3.5 MI4	0.77		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHpA	0.91 MI4	0.77		ng/L	11/22/23	1	EPA 1633	BCK0264
PFOA	ND MI4,	0.77		ng/L	11/22/23	1	EPA 1633	BCK0264
PFNA	ND	0.77		ng/L	11/22/23	1	EPA 1633	BCK0264
PFDA	ND	0.77		ng/L	11/22/23	1	EPA 1633	BCK0264
PFUnA	ND	0.77		ng/L	11/22/23	1	EPA 1633	BCK0264
PFDoA	ND	0.77		ng/L	11/22/23	1	EPA 1633	BCK0264
PFTeDA	ND	0.77		ng/L	11/22/23	1	EPA 1633	BCK0264
PFTeDA	ND	0.77		ng/L	11/22/23	1	EPA 1633	BCK0264
PFBS	ND	0.77		ng/L	11/22/23	1	EPA 1633	BCK0264
PFPeS	ND	0.77		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxS	ND	0.77		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHpS	ND	0.77		ng/L	11/22/23	1	EPA 1633	BCK0264
PFOS	ND	0.77		ng/L	11/22/23	1	EPA 1633	BCK0264
PFNS	ND	0.77		ng/L	11/22/23	1	EPA 1633	BCK0264
PFDS	ND	0.77		ng/L	11/22/23	1	EPA 1633	BCK0264
4:2FTS	ND	3.1		ng/L	11/22/23	1	EPA 1633	BCK0264
6:2FTS	ND	3.1		ng/L	11/22/23	1	EPA 1633	BCK0264
8:2FTS	ND	3.1		ng/L	11/22/23	1	EPA 1633	BCK0264
PFBSA	ND	3.1		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxSA	ND	3.1		ng/L	11/22/23	1	EPA 1633	BCK0264
PFOSA	ND	0.77		ng/L	11/22/23	1	EPA 1633	BCK0264
NMeFOSAA	ND	0.77		ng/L	11/22/23	1	EPA 1633	BCK0264
NEtFOSAA	ND	0.77		ng/L	11/22/23	1	EPA 1633	BCK0264
HFPO-DA	ND	1.5		ng/L	11/22/23	1	EPA 1633	BCK0264
ADONA	ND	1.5		ng/L	11/22/23	1	EPA 1633	BCK0264
9CI-PF3ONS	ND	1.5		ng/L	11/22/23	1	EPA 1633	BCK0264
11CI-PF3OUDS	ND	1.5		ng/L	11/22/23	1	EPA 1633	BCK0264
PFECHS	ND	3.1		ng/L	11/22/23	1	EPA 1633	BCK0264
Surrogate: 13C4-PFBA	95.9%	10-130			11/22/23	1	EPA 1633	
Surrogate: 13C5-PFPEA	148%	35-150			11/22/23	1	EPA 1633	
Surrogate: 13C5-PFHXA	126%	55-150			11/22/23	1	EPA 1633	
Surrogate: 13C4-PFHHPA	129%	55-150			11/22/23	1	EPA 1633	
Surrogate: 13C8-PFOA	116%	60-140			11/22/23	1	EPA 1633	
Surrogate: 13C9-PFNA	94.2%	55-140			11/22/23	1	EPA 1633	
Surrogate: 13C6-PFDA	92.5%	50-140			11/22/23	1	EPA 1633	
Surrogate: 13C7-PFUnA	69.1%	30-140			11/22/23	1	EPA 1633	
Surrogate: 13C2-PFDOA	47.5%	10-150			11/22/23	1	EPA 1633	
Surrogate: 13C2-PFTEDA	50.3%	10-130	MI6		11/22/23	1	EPA 1633	
Surrogate: 13C3-PFBS	108%	55-150			11/22/23	1	EPA 1633	
Surrogate: 13C3-PFHXS	129%	55-150			11/22/23	1	EPA 1633	
Surrogate: 13C8-PFOS	96.5%	45-140			11/22/23	1	EPA 1633	
Surrogate: 13C2-4:2FTS	135%	60-200			11/22/23	1	EPA 1633	
Surrogate: 13C2-6:2FTS	129%	60-200			11/22/23	1	EPA 1633	

Fibertec Environmental Services
1914 Holloway Drive
Holt, MI 48842

Project: PFAS Testing
Project Number: A18268
Project Manager: Rikki Lott

Reported: 12/07/2023 13:41

Sample Results (Continued)

Sample: MW-17sr (Continued)
23K0078-04 (Water)

Analyte	Result /Qual	PQL	MDL	Units	Date Analyzed	DF	Method	Prep Batch
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Per- and Polyfluoroalkyl Substances (Continued)

Surrogate: 13C2-8:2FTS	98.4%	50-200			11/22/23	1	EPA 1633	
Surrogate: 13C8-PFOA	90.2%	30-130			11/22/23	1	EPA 1633	
Surrogate: D3-NMEFOSAA	59.6%	45-200			11/22/23	1	EPA 1633	
Surrogate: D5-NETFOSAA	50.5%	10-200			11/22/23	1	EPA 1633	
Surrogate: 13C3-HFPO-DA	128%	25-160			11/22/23	1	EPA 1633	

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Project: PFAS Testing
Project Number: A18268
Project Manager: Rikki Lott

Reported: 12/07/2023 13:41

Sample Results (Continued)

Sample: MW-19s
23K0078-05 (Water)

Analyte	Result /Qual	PQL	MDL	Units	Date Analyzed	DF	Method	Prep Batch
Per- and Polyfluoroalkyl Substances								
PFBA	12	3.0		ng/L	11/22/23	1	EPA 1633	BCK0264
PFPeA	8.8	1.5		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxA	16 MI4	0.74		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHpA	2.4 MI4	0.74		ng/L	11/22/23	1	EPA 1633	BCK0264
PFOA	1.6 MI4	0.74		ng/L	11/22/23	1	EPA 1633	BCK0264
PFNA	ND	0.74		ng/L	11/22/23	1	EPA 1633	BCK0264
PFDA	ND	0.74		ng/L	11/22/23	1	EPA 1633	BCK0264
PFUnA	ND	0.74		ng/L	11/22/23	1	EPA 1633	BCK0264
PFDaA	ND	0.74		ng/L	11/22/23	1	EPA 1633	BCK0264
PFTeDA	ND	0.74		ng/L	11/22/23	1	EPA 1633	BCK0264
PFTeDA	ND	0.74		ng/L	11/22/23	1	EPA 1633	BCK0264
PFBS	7.5	0.74		ng/L	11/22/23	1	EPA 1633	BCK0264
PFPeS	1.5 MI4	0.74		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxS	ND	0.74		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHpS	ND	0.74		ng/L	11/22/23	1	EPA 1633	BCK0264
PFOS	ND	0.74		ng/L	11/22/23	1	EPA 1633	BCK0264
PFNS	ND	0.74		ng/L	11/22/23	1	EPA 1633	BCK0264
PFDS	ND	0.74		ng/L	11/22/23	1	EPA 1633	BCK0264
4:2FTS	ND	3.0		ng/L	11/22/23	1	EPA 1633	BCK0264
6:2FTS	ND	3.0		ng/L	11/22/23	1	EPA 1633	BCK0264
8:2FTS	ND	3.0		ng/L	11/22/23	1	EPA 1633	BCK0264
PFBSA	ND	3.0		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxSA	ND	3.0		ng/L	11/22/23	1	EPA 1633	BCK0264
PFOSA	ND	0.74		ng/L	11/22/23	1	EPA 1633	BCK0264
NMeFOSAA	ND	0.74		ng/L	11/22/23	1	EPA 1633	BCK0264
NEtFOSAA	ND	0.74		ng/L	11/22/23	1	EPA 1633	BCK0264
HFPO-DA	ND	1.5		ng/L	11/22/23	1	EPA 1633	BCK0264
ADONA	ND	1.5		ng/L	11/22/23	1	EPA 1633	BCK0264
9CI-PF3ONS	ND	1.5		ng/L	11/22/23	1	EPA 1633	BCK0264
11CI-PF3OUDS	ND	1.5		ng/L	11/22/23	1	EPA 1633	BCK0264
PFECHS	ND	3.0		ng/L	11/22/23	1	EPA 1633	BCK0264
Surrogate: 13C4-PFBA	93.6%	10-130			11/22/23	1	EPA 1633	
Surrogate: 13C5-PFPEA	106%	35-150			11/22/23	1	EPA 1633	
Surrogate: 13C5-PFHXA	96.2%	55-150			11/22/23	1	EPA 1633	
Surrogate: 13C4-PFHFA	103%	55-150			11/22/23	1	EPA 1633	
Surrogate: 13C8-PFOA	116%	60-140			11/22/23	1	EPA 1633	
Surrogate: 13C9-PFNA	98.8%	55-140			11/22/23	1	EPA 1633	
Surrogate: 13C6-PFDA	92.1%	50-140			11/22/23	1	EPA 1633	
Surrogate: 13C7-PFUnA	79.3%	30-140			11/22/23	1	EPA 1633	
Surrogate: 13C2-PFDaA	50.5%	10-150			11/22/23	1	EPA 1633	
Surrogate: 13C2-PFTEDA	51.7%	10-130			11/22/23	1	EPA 1633	
Surrogate: 13C3-PFBS	107%	55-150			11/22/23	1	EPA 1633	
Surrogate: 13C3-PFHXS	110%	55-150			11/22/23	1	EPA 1633	
Surrogate: 13C8-PFOS	90.8%	45-140			11/22/23	1	EPA 1633	
Surrogate: 13C2-4:2FTS	147%	60-200			11/22/23	1	EPA 1633	
Surrogate: 13C2-6:2FTS	131%	60-200			11/22/23	1	EPA 1633	

Fibertec Environmental Services
1914 Holloway Drive
Holt, MI 48842

Project: PFAS Testing
Project Number: A18268
Project Manager: Rikki Lott

Reported: 12/07/2023 13:41

Sample Results (Continued)

Sample: MW-19s (Continued)
23K0078-05 (Water)

Analyte	Result /Qual	PQL	MDL	Units	Date Analyzed	DF	Method	Prep Batch
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Per- and Polyfluoroalkyl Substances (Continued)

Surrogate: 13C2-8:2FTS	85.9%	50-200			11/22/23	1	EPA 1633	
Surrogate: 13C8-PFOA	84.9%	30-130			11/22/23	1	EPA 1633	
Surrogate: D3-NMEFOSAA	61.2%	45-200			11/22/23	1	EPA 1633	
Surrogate: D5-NETFOSAA	52.0%	10-200			11/22/23	1	EPA 1633	
Surrogate: 13C3-HFPO-DA	95.4%	25-160			11/22/23	1	EPA 1633	

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Holt, MI 48842

Project: PFAS Testing
Project Number: A18268
Project Manager: Rikki Lott

Reported: 12/07/2023 13:41

Sample Results (Continued)

**Sample: Equipment Blank
23K0078-06 (Water)**

Analyte	Result /Qual	PQL	MDL	Units	Date Analyzed	DF	Method	Prep Batch
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Per- and Polyfluoroalkyl Substances

PFBA	ND	3.5		ng/L	11/22/23	1	EPA 1633	BCK0264
PFPeA	ND	1.7		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxA	ND	0.87		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHpA	ND	0.87		ng/L	11/22/23	1	EPA 1633	BCK0264
PFOA	ND	0.87		ng/L	11/22/23	1	EPA 1633	BCK0264
PFNA	ND	0.87		ng/L	11/22/23	1	EPA 1633	BCK0264
PFDA	ND	0.87		ng/L	11/22/23	1	EPA 1633	BCK0264
PFUnA	ND	0.87		ng/L	11/22/23	1	EPA 1633	BCK0264
PFDoA	ND	0.87		ng/L	11/22/23	1	EPA 1633	BCK0264
PFTeDA	ND	0.87		ng/L	11/22/23	1	EPA 1633	BCK0264
PFTeDA	ND	0.87		ng/L	11/22/23	1	EPA 1633	BCK0264
PFBS	ND	0.87		ng/L	11/22/23	1	EPA 1633	BCK0264
PFPeS	ND	0.87		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxS	ND	0.87		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHpS	ND	0.87		ng/L	11/22/23	1	EPA 1633	BCK0264
PFOS	ND	0.87		ng/L	11/22/23	1	EPA 1633	BCK0264
PFNS	ND	0.87		ng/L	11/22/23	1	EPA 1633	BCK0264
PFDS	ND	0.87		ng/L	11/22/23	1	EPA 1633	BCK0264
4:2FTS	ND	3.5		ng/L	11/22/23	1	EPA 1633	BCK0264
6:2FTS	ND	3.5		ng/L	11/22/23	1	EPA 1633	BCK0264
8:2FTS	ND	3.5		ng/L	11/22/23	1	EPA 1633	BCK0264
PFBSA	ND	3.5		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxSA	ND	3.5		ng/L	11/22/23	1	EPA 1633	BCK0264
PFOSA	ND	0.87		ng/L	11/22/23	1	EPA 1633	BCK0264
NMeFOSAA	ND	0.87		ng/L	11/22/23	1	EPA 1633	BCK0264
NEtFOSAA	ND	0.87		ng/L	11/22/23	1	EPA 1633	BCK0264
HFPO-DA	ND	1.7		ng/L	11/22/23	1	EPA 1633	BCK0264
ADONA	ND	1.7		ng/L	11/22/23	1	EPA 1633	BCK0264
9CI-PF3ONS	ND	1.7		ng/L	11/22/23	1	EPA 1633	BCK0264
11CI-PF3OUDS	ND	1.7		ng/L	11/22/23	1	EPA 1633	BCK0264
PFECHS	ND	3.5		ng/L	11/22/23	1	EPA 1633	BCK0264

Surrogate: 13C4-PFBA	110%	10-130			11/22/23	1	EPA 1633	
Surrogate: 13C5-PFPEA	142%	35-150			11/22/23	1	EPA 1633	
Surrogate: 13C5-PFHXA	145%	55-150			11/22/23	1	EPA 1633	
Surrogate: 13C4-PFHFA	119%	55-150			11/22/23	1	EPA 1633	
Surrogate: 13C8-PFOA	124%	60-140			11/22/23	1	EPA 1633	
Surrogate: 13C9-PFNA	106%	55-140			11/22/23	1	EPA 1633	
Surrogate: 13C6-PFDA	117%	50-140			11/22/23	1	EPA 1633	
Surrogate: 13C7-PFUnA	109%	30-140			11/22/23	1	EPA 1633	
Surrogate: 13C2-PFDOA	105%	10-150			11/22/23	1	EPA 1633	
Surrogate: 13C2-PFTEDA	96.5%	10-130			11/22/23	1	EPA 1633	
Surrogate: 13C3-PFBS	116%	55-150			11/22/23	1	EPA 1633	
Surrogate: 13C3-PFHXS	115%	55-150			11/22/23	1	EPA 1633	
Surrogate: 13C8-PFOS	113%	45-140			11/22/23	1	EPA 1633	
Surrogate: 13C2-4:2FTS	142%	60-200			11/22/23	1	EPA 1633	
Surrogate: 13C2-6:2FTS	162%	60-200			11/22/23	1	EPA 1633	

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Holt, MI 48842

Project: PFAS Testing
Project Number: A18268
Project Manager: Rikki Lott

Reported: 12/07/2023 13:41

Sample Results (Continued)

Sample: Equipment Blank (Continued) 23K0078-06 (Water)

Analyte	Result /Qual	PQL	MDL	Units	Date Analyzed	DF	Method	Prep Batch
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Per- and Polyfluoroalkyl Substances (Continued)

Surrogate: 13C2-8:2FTS	122%	50-200			11/22/23	1	EPA 1633	
Surrogate: 13C8-PFOA	56.4%	30-130			11/22/23	1	EPA 1633	
Surrogate: D3-NMEFOSAA	101%	45-200			11/22/23	1	EPA 1633	
Surrogate: D5-NETFOSAA	112%	10-200			11/22/23	1	EPA 1633	
Surrogate: 13C3-HFPO-DA	115%	25-160			11/22/23	1	EPA 1633	

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Holt, MI 48842

Project: PFAS Testing
Project Number: A18268
Project Manager: Rikki Lott

Reported: 12/07/2023 13:41

Sample Results (Continued)

Sample: Field Blank
23K0078-07 (Water)

Analyte	Result /Qual	PQL	MDL	Units	Date Analyzed	DF	Method	Prep Batch
Per- and Polyfluoroalkyl Substances								
PFBA	ND	3.2		ng/L	11/22/23	1	EPA 1633	BCK0264
PFPeA	ND	1.6		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxA	ND	0.79		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHpA	ND	0.79		ng/L	11/22/23	1	EPA 1633	BCK0264
PFOA	ND	0.79		ng/L	11/22/23	1	EPA 1633	BCK0264
PFNA	ND	0.79		ng/L	11/22/23	1	EPA 1633	BCK0264
PFDA	ND	0.79		ng/L	11/22/23	1	EPA 1633	BCK0264
PFUnA	ND	0.79		ng/L	11/22/23	1	EPA 1633	BCK0264
PFDoA	ND	0.79		ng/L	11/22/23	1	EPA 1633	BCK0264
PFTeDA	ND	0.79		ng/L	11/22/23	1	EPA 1633	BCK0264
PFTeDA	ND	0.79		ng/L	11/22/23	1	EPA 1633	BCK0264
PFBS	ND	0.79		ng/L	11/22/23	1	EPA 1633	BCK0264
PFPeS	ND	0.79		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxS	ND	0.79		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHpS	ND	0.79		ng/L	11/22/23	1	EPA 1633	BCK0264
PFOS	ND	0.79		ng/L	11/22/23	1	EPA 1633	BCK0264
PFNS	ND	0.79		ng/L	11/22/23	1	EPA 1633	BCK0264
PFDS	ND	0.79		ng/L	11/22/23	1	EPA 1633	BCK0264
4:2FTS	ND	3.2		ng/L	11/22/23	1	EPA 1633	BCK0264
6:2FTS	ND	3.2		ng/L	11/22/23	1	EPA 1633	BCK0264
8:2FTS	ND	3.2		ng/L	11/22/23	1	EPA 1633	BCK0264
PFBSA	ND	3.2		ng/L	11/22/23	1	EPA 1633	BCK0264
PFHxSA	ND	3.2		ng/L	11/22/23	1	EPA 1633	BCK0264
PFOSA	ND	0.79		ng/L	11/22/23	1	EPA 1633	BCK0264
NMeFOSAA	ND	0.79		ng/L	11/22/23	1	EPA 1633	BCK0264
NEtFOSAA	ND	0.79		ng/L	11/22/23	1	EPA 1633	BCK0264
HFPO-DA	ND	1.6		ng/L	11/22/23	1	EPA 1633	BCK0264
ADONA	ND	1.6		ng/L	11/22/23	1	EPA 1633	BCK0264
9CI-PF3ONS	ND	1.6		ng/L	11/22/23	1	EPA 1633	BCK0264
11CI-PF3OUDS	ND	1.6		ng/L	11/22/23	1	EPA 1633	BCK0264
PFECHS	ND	3.2		ng/L	11/22/23	1	EPA 1633	BCK0264
Surrogate: 13C4-PFBA	103%	10-130			11/22/23	1	EPA 1633	
Surrogate: 13C5-PFPEA	144%	35-150			11/22/23	1	EPA 1633	
Surrogate: 13C5-PFHXA	108%	55-150			11/22/23	1	EPA 1633	
Surrogate: 13C4-PFHFA	121%	55-150			11/22/23	1	EPA 1633	
Surrogate: 13C8-PFOA	105%	60-140			11/22/23	1	EPA 1633	
Surrogate: 13C9-PFNA	102%	55-140			11/22/23	1	EPA 1633	
Surrogate: 13C6-PFDA	110%	50-140			11/22/23	1	EPA 1633	
Surrogate: 13C7-PFUnA	102%	30-140			11/22/23	1	EPA 1633	
Surrogate: 13C2-PFDOA	98.5%	10-150			11/22/23	1	EPA 1633	
Surrogate: 13C2-PFTEDA	83.5%	10-130			11/22/23	1	EPA 1633	
Surrogate: 13C3-PFBS	108%	55-150			11/22/23	1	EPA 1633	
Surrogate: 13C3-PFHXS	93.1%	55-150			11/22/23	1	EPA 1633	
Surrogate: 13C8-PFOS	110%	45-140			11/22/23	1	EPA 1633	
Surrogate: 13C2-4:2FTS	135%	60-200			11/22/23	1	EPA 1633	
Surrogate: 13C2-6:2FTS	127%	60-200			11/22/23	1	EPA 1633	

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Project: PFAS Testing
Project Number: A18268
Project Manager: Rikki Lott

Reported: 12/07/2023 13:41

Sample Results (Continued)

Sample: Field Blank (Continued)
23K0078-07 (Water)

Analyte	Result /Qual	PQL	MDL	Units	Date Analyzed	DF	Method	Prep Batch
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Per- and Polyfluoroalkyl Substances (Continued)

Surrogate: 13C2-8:2FTS	110%	50-200			11/22/23	1	EPA 1633	
Surrogate: 13C8-PFOA	56.9%	30-130			11/22/23	1	EPA 1633	
Surrogate: D3-NMEFOSAA	95.7%	45-200			11/22/23	1	EPA 1633	
Surrogate: D5-NETFOSAA	102%	10-200			11/22/23	1	EPA 1633	
Surrogate: 13C3-HFPO-DA	109%	25-160			11/22/23	1	EPA 1633	

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Project: PFAS Testing
Project Number: A18268
Project Manager: Rikki Lott

Reported: 12/07/2023 13:41

PREPARATION BATCH SUMMARY

EPA 1633

Laboratory: APPL, LLC

Client: Fibertec Environmental Services

Batch: BCK0264 Batch Matrix: Water Preparation: EPA 1633

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT mL	FINAL VOL. mL
MW-3	23K0078-01	11/13/23 14:20	246.73	2.00
MW-15sr	23K0078-02	11/13/23 14:20	251.82	2.00
MW-15dr	23K0078-03	11/13/23 14:20	257.97	2.00
MW-17sr	23K0078-04	11/13/23 14:20	258.16	2.00
MW-19s	23K0078-05	11/13/23 14:20	269.25	2.00
Equipment Blank	23K0078-06	11/13/23 14:20	230.51	2.00
Field Blank	23K0078-07	11/13/23 14:20	252.47	2.00
Blank	BCK0264-BLK1	11/13/23 14:20	250.00	2.00
LCS	BCK0264-BS1	11/13/23 14:20	250.00	2.00
LCS Dup	BCK0264-BSD1	11/13/23 14:20	250.00	2.00
MRL Check	BCK0264-MRL1	11/13/23 14:20	250.00	2.00

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Project: PFAS Testing
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Project Manager: Rikki Lott

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Quality Control

Per- and Polyfluoroalkyl Substances

Analyte	Result/ Qual	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Method: EPA 1633

Batch: BCK0264 - EPA 1633

Blank (BCK0264-BLK1)

Prepared: 11/13/23 14:20 Analyzed: 11/22/23 17:45

PFBA	ND	3.2	ng/L
PFPeA	ND	1.6	ng/L
PFHxA	ND	0.80	ng/L
PFHpA	ND	0.80	ng/L
PFOA	ND	0.80	ng/L
PFNA	ND	0.80	ng/L
PFDA	ND	0.80	ng/L
PFUnA	ND	0.80	ng/L
PFDoA	ND	0.80	ng/L
PFTTrDA	ND	0.80	ng/L
PFTeDA	ND	0.80	ng/L
PFBS	ND	0.80	ng/L
PFPeS	ND	0.80	ng/L
PFHxS	ND	0.80	ng/L
PFHpS	ND	0.80	ng/L
PFOS	ND MI2,	0.80	ng/L
PFNS	ND	0.80	ng/L
PFDS	ND	0.80	ng/L
4:2FTS	ND	3.2	ng/L
6:2FTS	ND	3.2	ng/L
8:2FTS	ND	3.2	ng/L
PFBSA	ND	3.2	ng/L
PFHxSA	ND	3.2	ng/L
PFOSA	ND	0.80	ng/L
NMeFOSAA	ND	0.80	ng/L
NEtFOSAA	ND	0.80	ng/L
HFPO-DA	ND	1.6	ng/L
ADONA	ND	1.6	ng/L
9CI-PF3ONS	ND	1.6	ng/L
11CI-PF3OUDS	ND	1.6	ng/L
PFECHS	ND	3.2	ng/L

Surrogate: 13C4-PFBA	74.6	ng/L	64.0	117	10-130
Surrogate: 13C5-PFPEA	49.4	ng/L	32.0	154	35-150
Surrogate: 13C5-PFHXA	19.0	ng/L	16.0	119	55-150
Surrogate: 13C4-PFHPA	18.9	ng/L	16.0	118	55-150
Surrogate: 13C8-PFOA	19.9	ng/L	16.0	124	60-140
Surrogate: 13C9-PFNA	8.63	ng/L	8.00	108	55-140
Surrogate: 13C6-PFDA	9.63	ng/L	8.00	120	50-140
Surrogate: 13C7-PFUnA	8.76	ng/L	8.00	109	30-140
Surrogate: 13C2-PFDOA	8.53	ng/L	8.00	107	10-150
Surrogate: 13C2-PFTEDA	7.49 MI6	ng/L	8.00	93.6	10-130
Surrogate: 13C3-PFBS	21.2	ng/L	16.0	133	55-150
Surrogate: 13C3-PFHXS	17.4	ng/L	16.0	109	55-150
Surrogate: 13C8-PFOS	18.9	ng/L	16.0	118	45-140
Surrogate: 13C2-4:2FTS	52.3	ng/L	32.0	163	60-200
Surrogate: 13C2-6:2FTS	43.7	ng/L	32.0	137	60-200
Surrogate: 13C2-8:2FTS	37.6	ng/L	32.0	118	50-200

Fibertec Environmental Services
1914 Holloway Drive
Holt, MI 48842

Project: PFAS Testing
Project Number: A18268
Project Manager: Rikki Lott

Reported: 12/07/2023 13:41

Quality Control (Continued)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/ Qual	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Blank (BCK0264-BLK1)					Prepared: 11/13/23 14:20 Analyzed: 11/22/23 17:45					
Surrogate: 13C8-PFOA	10.2			ng/L	16.0		63.6	30-130		
Surrogate: D3-NMEFOSAA	34.4			ng/L	32.0		107	45-200		
Surrogate: D5-NETFOSAA	37.8			ng/L	32.0		118	10-200		
Surrogate: 13C3-HFPO-DA	81.4			ng/L	64.0		127	25-160		
LCS (BCK0264-BS1)					Prepared: 11/13/23 14:20 Analyzed: 11/22/23 18:06					
PFBA	38.3			ng/L	32.0		120	58-148		
PFPeA	19.3			ng/L	16.0		121	54-152		
PFHxA	8.05			ng/L	8.00		101	55-152		
PFHpA	9.26			ng/L	8.00		116	54-154		
PFOA	8.86			ng/L	8.00		111	52-161		
PFNA	9.14			ng/L	8.00		114	59-149		
PFDA	7.55			ng/L	8.00		94.3	52-147		
PFUnA	8.22			ng/L	8.00		103	48-159		
PFDoA	8.57			ng/L	8.00		107	64-142		
PFTeDA	8.15			ng/L	8.00		102	49-148		
PFTeDA	8.23			ng/L	8.00		103	47-161		
PFBS	7.84			ng/L	7.08		111	62-144		
PFPeS	7.73			ng/L	7.52		103	59-151		
PFHxS	8.42			ng/L	7.32		115	57-146		
PFHpS	8.07			ng/L	7.64		106	55-152		
PFOS	7.69			ng/L	7.44		103	58-149		
PFNS	7.09			ng/L	7.68		92.3	52-148		
PFDS	7.32			ng/L	7.72		94.9	51-147		
4:2FTS	38.2			ng/L	30.0		127	67-146		
6:2FTS	30.3			ng/L	30.4		99.7	61-151		
8:2FTS	32.3			ng/L	30.7		105	63-152		
PFBSA	10.9			ng/L	8.00		136	40-150		
PFHxSA	9.04			ng/L	8.00		113	40-150		
PFOSA	10.3			ng/L	8.00		129	61-148		
NMeFOSAA	7.80			ng/L	8.00		97.5	58-144		
NEtFOSAA	8.24			ng/L	8.00		103	59-146		
HFPO-DA	9.03			ng/L	8.00		113	63-144		
ADONA	9.07			ng/L	7.56		120	68-146		
9CI-PF3ONS	6.40			ng/L	7.48		85.6	56-156		
11CI-PF3OUDS	5.13			ng/L	7.56		67.9	46-156		
PFECHS	7.17			ng/L	7.40		96.9	40-150		
Surrogate: 13C4-PFBA	70.0			ng/L	64.0		109	10-130		
Surrogate: 13C5-PFPEA	27.4			ng/L	32.0		85.5	35-150		
Surrogate: 13C5-PFHXA	17.6			ng/L	16.0		110	55-150		
Surrogate: 13C4-PFHPA	17.5			ng/L	16.0		109	55-150		
Surrogate: 13C8-PFOA	18.5			ng/L	16.0		116	60-140		
Surrogate: 13C9-PFNA	8.76			ng/L	8.00		109	55-140		
Surrogate: 13C6-PFDA	10.1			ng/L	8.00		126	50-140		
Surrogate: 13C7-PFUnA	8.88			ng/L	8.00		111	30-140		
Surrogate: 13C2-PFDOA	8.00			ng/L	8.00		100	10-150		
Surrogate: 13C2-PFTEDA	7.38			ng/L	8.00		92.2	10-130		
Surrogate: 13C3-PFBS	17.8			ng/L	16.0		111	55-150		
Surrogate: 13C3-PFHXS	19.0			ng/L	16.0		119	55-150		
Surrogate: 13C8-PFOS	17.7			ng/L	16.0		110	45-140		

Fibertec Environmental Services
1914 Holloway Drive
Holt, MI 48842

Project: PFAS Testing
Project Number: A18268
Project Manager: Rikki Lott

Reported: 12/07/2023 13:41

Quality Control (Continued)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/ Qual	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
LCS (BCK0264-BS1)					Prepared: 11/13/23 14:20 Analyzed: 11/22/23 18:06					
Surrogate: 13C2-4:2FTS	36.9			ng/L	32.0		115	60-200		
Surrogate: 13C2-6:2FTS	51.2			ng/L	32.0		160	60-200		
Surrogate: 13C2-8:2FTS	40.7			ng/L	32.0		127	50-200		
Surrogate: 13C8-PFOA	9.65			ng/L	16.0		60.3	30-130		
Surrogate: D3-NMEFOSAA	32.4			ng/L	32.0		101	45-200		
Surrogate: D5-NETFOSAA	33.3			ng/L	32.0		104	10-200		
Surrogate: 13C3-HFPO-DA	70.7			ng/L	64.0		110	25-160		

LCS Dup (BCK0264-BSD1)					Prepared: 11/13/23 14:20 Analyzed: 11/22/23 18:27					
PFBA	39.6			ng/L	32.0		124	58-148	3.34	30
PFPeA	16.6			ng/L	16.0		104	54-152	14.8	30
PFHxA	7.21			ng/L	8.00		90.1	55-152	11.1	30
PFHpA	8.15			ng/L	8.00		102	54-154	12.8	30
PFOA	8.68			ng/L	8.00		109	52-161	2.06	30
PFNA	8.46			ng/L	8.00		106	59-149	7.70	30
PFDA	7.94			ng/L	8.00		99.3	52-147	5.08	30
PFUnA	8.62			ng/L	8.00		108	48-159	4.77	30
PFDoA	8.29			ng/L	8.00		104	64-142	3.29	30
PFTTrDA	8.07			ng/L	8.00		101	49-148	0.942	30
PFTeDA	8.49			ng/L	8.00		106	47-161	3.15	30
PFBS	8.09			ng/L	7.08		114	62-144	3.07	30
PFPeS	8.03			ng/L	7.52		107	59-151	3.89	30
PFHxS	8.48			ng/L	7.32		116	57-146	0.786	30
PFHpS	8.20			ng/L	7.64		107	55-152	1.59	30
PFOS	7.60 M14			ng/L	7.44		102	58-149	1.22	30
PFNS	7.60			ng/L	7.68		98.9	52-148	6.92	30
PFDS	7.44			ng/L	7.72		96.4	51-147	1.56	30
4:2FTS	34.2			ng/L	30.0		114	67-146	11.0	30
6:2FTS	33.6			ng/L	30.4		110	61-151	10.2	30
8:2FTS	33.1			ng/L	30.7		108	63-152	2.31	30
PFBSA	10.8			ng/L	8.00		135	40-150	0.627	30
PFHxSA	9.24			ng/L	8.00		115	40-150	2.16	30
PFOSA	10.4			ng/L	8.00		130	61-148	0.239	30
NMeFOSAA	8.29			ng/L	8.00		104	58-144	6.14	30
NEtFOSAA	8.39			ng/L	8.00		105	59-146	1.84	30
HFPO-DA	8.18			ng/L	8.00		102	63-144	9.88	30
ADONA	8.05			ng/L	7.56		106	68-146	11.9	30
9Cl-PF3ONS	6.66			ng/L	7.48		89.0	56-156	3.84	30
11Cl-PF3OUDS	5.60			ng/L	7.56		74.0	46-156	8.71	30
PFECHS	7.93			ng/L	7.40		107	40-150	10.1	30
Surrogate: 13C4-PFBA	74.8			ng/L	64.0		117	10-130		
Surrogate: 13C5-PFPEA	43.7			ng/L	32.0		137	35-150		
Surrogate: 13C5-PFHXA	19.0			ng/L	16.0		119	55-150		
Surrogate: 13C4-PFHFA	19.2			ng/L	16.0		120	55-150		
Surrogate: 13C8-PFOA	19.6			ng/L	16.0		123	60-140		
Surrogate: 13C9-PFNA	9.02			ng/L	8.00		113	55-140		
Surrogate: 13C6-PFDA	9.91			ng/L	8.00		124	50-140		
Surrogate: 13C7-PFUnA	8.60			ng/L	8.00		108	30-140		
Surrogate: 13C2-PFDOA	8.68			ng/L	8.00		109	10-150		
Surrogate: 13C2-PFTEDA	7.56			ng/L	8.00		94.5	10-130		

Fibertec Environmental Services
1914 Holloway Drive
Holt, MI 48842

Project: PFAS Testing
Project Number: A18268
Project Manager: Rikki Lott

Reported: 12/07/2023 13:41

Quality Control (Continued)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/ Qual	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
LCS Dup (BCK0264-BSD1)					Prepared: 11/13/23 14:20 Analyzed: 11/22/23 18:27					
Surrogate: 13C3-PFBS	18.9			ng/L	16.0		118	55-150		
Surrogate: 13C3-PFHXS	19.0			ng/L	16.0		119	55-150		
Surrogate: 13C8-PFO5	17.5			ng/L	16.0		110	45-140		
Surrogate: 13C2-4:2FTS	41.0			ng/L	32.0		128	60-200		
Surrogate: 13C2-6:2FTS	49.3			ng/L	32.0		154	60-200		
Surrogate: 13C2-8:2FTS	41.6			ng/L	32.0		130	50-200		
Surrogate: 13C8-PFO5A	9.95			ng/L	16.0		62.2	30-130		
Surrogate: D3-NMEFOSAA	32.4			ng/L	32.0		101	45-200		
Surrogate: D5-NETFOSAA	33.8			ng/L	32.0		106	10-200		
Surrogate: 13C3-HFPO-DA	69.7			ng/L	64.0		109	25-160		

MRL Check (BCK0264-MRL1)					Prepared: 11/13/23 14:20 Analyzed: 11/22/23 18:48					
PFBA	6.47			ng/L	6.40		101	44-157		
PFPeA	2.73			ng/L	3.20		85.4	57-148		
PFHxA	1.42			ng/L	1.60		88.8	62-149		
PFHpA	1.60			ng/L	1.60		100	56-150		
PFOA	1.53			ng/L	1.60		95.7	57-161		
PFNA	1.39			ng/L	1.60		86.8	53-157		
PFDA	1.45			ng/L	1.60		90.6	43-158		
PFUnA	1.34			ng/L	1.60		84.0	50-155		
PFDoA	1.48			ng/L	1.60		92.7	60-141		
PFTTrDA	1.28			ng/L	1.60		80.1	52-140		
PFTeDA	1.43			ng/L	1.60		89.5	52-156		
PFBS	1.31			ng/L	1.42		92.3	63-145		
PFPeS	1.26			ng/L	1.50		84.0	58-144		
PFHxS	1.42 MI4			ng/L	1.46		96.7	44-158		
PFHpS	1.46			ng/L	1.53		95.6	51-150		
PFOS	1.51			ng/L	1.49		101	43-162		
PFNS	1.32 MI6			ng/L	1.54		85.8	46-151		
PFDS	1.34 MI6			ng/L	1.54		86.7	50-144		
4:2FTS	6.84			ng/L	6.00		114	52-158		
6:2FTS	6.21			ng/L	6.08		102	48-158		
8:2FTS	5.70			ng/L	6.14		92.8	46-165		
PFBSA	1.84 , J			ng/L	1.60		115	40-150		
PFHxSA	1.53 , J			ng/L	1.60		95.8	40-150		
PFOSA	1.77			ng/L	1.60		111	47-163		
NMeFOSAA	1.52			ng/L	1.60		94.7	32-160		
NEtFOSAA	1.20			ng/L	1.60		75.2	51-154		
HFPO-DA	1.45 , J			ng/L	1.60		90.7	58-154		
ADONA	1.30 , J			ng/L	1.51		85.8	61-148		
9CI-PF3ONS	1.06 , J			ng/L	1.50		70.6	44-167		
11CI-PF3OUDS	0.964 MI6, , J			ng/L	1.51		63.7	36-158		
PFECHS	1.28 , J			ng/L	1.48		86.5	40-150		
Surrogate: 13C4-PFBA	69.9			ng/L	64.0		109	10-130		
Surrogate: 13C5-PFPEA	32.9			ng/L	32.0		103	35-150		
Surrogate: 13C5-PFHXA	19.1			ng/L	16.0		120	55-150		
Surrogate: 13C4-PFHHPA	14.2			ng/L	16.0		89.0	55-150		
Surrogate: 13C8-PFOA	18.8			ng/L	16.0		118	60-140		
Surrogate: 13C9-PFNA	8.79			ng/L	8.00		110	55-140		
Surrogate: 13C6-PFDA	8.93			ng/L	8.00		112	50-140		

Fibertec Environmental Services
1914 Holloway Drive
Holt, MI 48842

Project: PFAS Testing
Project Number: A18268
Project Manager: Rikki Lott

Reported: 12/07/2023 13:41

Quality Control (Continued)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/ Qual	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MRL Check (BCK0264-MRL1)					Prepared: 11/13/23 14:20 Analyzed: 11/22/23 18:48					
Surrogate: 13C7-PFUnA	8.84			ng/L	8.00		111	30-140		
Surrogate: 13C2-PFDOA	8.12			ng/L	8.00		101	10-150		
Surrogate: 13C2-PFTEDA	7.39			ng/L	8.00		92.3	10-130		
Surrogate: 13C3-PFBS	17.2			ng/L	16.0		107	55-150		
Surrogate: 13C3-PFHXS	17.2			ng/L	16.0		107	55-150		
Surrogate: 13C8-PFOS	17.5			ng/L	16.0		110	45-140		
Surrogate: 13C2-4:2FTS	38.6			ng/L	32.0		121	60-200		
Surrogate: 13C2-6:2FTS	44.4			ng/L	32.0		139	60-200		
Surrogate: 13C2-8:2FTS	40.9			ng/L	32.0		128	50-200		
Surrogate: 13C8-PFOSA	9.29			ng/L	16.0		58.1	30-130		
Surrogate: D3-NMEFOSAA	32.7			ng/L	32.0		102	45-200		
Surrogate: D5-NETFOSAA	38.1			ng/L	32.0		119	10-200		
Surrogate: 13C3-HFPO-DA	71.8			ng/L	64.0		112	25-160		

Fibertec Environmental Services
1914 Holloway Drive
Holt, MI 48842

Project: PFAS Testing
Project Number: A18268
Project Manager: Rikki Lott

Reported: 12/07/2023 13:41

Notes and Definitions

Item	Definition
IR2	Ion ratio above the upper control limit
J	Estimated value
MI2	Manual integration, non-target peak interference
MI4	Manual integration, peak unsplit
MI6	Manual integration, wrong peak integrated
U	Not detected
Dry	Sample results reported on a dry weight basis.
MDL	Method Detection Limit (only displays if reported to the MDL)
ND	Analyte NOT DETECTED at or above the reporting limit.
DF	Dilution Factor
DL	Detection Limit
RPD	Relative Percent Difference
%REC	Percent Recovery
Source	Sample that was matrix spiked or duplicated.
PQL, Practical Quantitation Limit = Method Reporting Limit (MRL).	

Fibertec Environmental Services
1914 Holloway Drive
Holt, MI 48842

Project: PFAS Testing
Project Number: A18268
Project Manager: Rikki Lott

Reported: 12/07/2023 13:41



AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES

 A METIRI GROUP COMPANY

WORK ORDER

23K0078

Printed: 12/07/2023 1:42 pm

Project: PFAS Testing
Project Number: A18268
Project Manager: Chue Moua
PO Number: NA

Report To:

Fibertec Environmental Services
Rikki Lott
1914 Holloway Drive
Holt, MI 48842
Phone: (517) 699-0345
Fax: (517) 699-0388

Invoice To:

Fibertec Environmental Services
Kathy Jones
1914 Holloway Drive
Holt, MI 48842
Phone: (517) 699-0345
Fax: (517) 699-0388

Date Received: 11/09/2023 09:20 AM
Date Due: 11/27/2023 (10.00 day TAT)

Logged In By: Sophia Herrera
Received By: Terry Moren

Analysis	Comments
23K0078-01 MW-3 [Water] Sampled 11/7/2023 9:30:00AM	
1633 31-compounds	
23K0078-02 MW-15sr [Water] Sampled 11/7/2023 10:30:00AM	
1633 31-compounds	
23K0078-03 MW-15dr [Water] Sampled 11/7/2023 10:50:00AM	
1633 31-compounds	
23K0078-04 MW-17sr [Water] Sampled 11/7/2023 11:10:00AM	
1633 31-compounds	
23K0078-05 MW-19s [Water] Sampled 11/7/2023 11:35:00AM	
1633 31-compounds	
23K0078-06 Equipment Blank [Water] Sampled 11/7/2023 11:45:00AM	
1633 31-compounds	
23K0078-07 Field Blank [Water] Sampled 11/7/2023 11:50:00AM	
1633 31-compounds	

Fibertec Environmental Services
1914 Holloway Drive
Holt, MI 48842

Project: PFAS Testing
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Project Manager: Rikki Lott

Reported: 12/07/2023 13:41

23K0078

Sample Receipt Log

Default Cooler

Samples Received at: 5.0°C

Custody Seals	Yes	Were all containers sealed in separate bags?	Yes
Containers Intact	Yes	Did all containers arrive in good condition?	Yes
COC/Labels Agree	Yes	Correct containers/preserv. for tests indicated?	Yes
Preservation Confirmed	Yes	Sufficient volume sent for tests requested?	Yes
Received On Ice	Yes	Were bubbles absent in volatile samples?	No
Was a chain of custody received?	Yes	Sufficient remaining holding time for analyses?	Yes
COCs complete/signed in the appropriate places?	Yes	pH of non-VOA preserved containers documented?	No
Sample labels complete? Sample ID, date/time, etc.	Yes	Unpreserved vials received for VOA analysis?	No
Did all container labels agree with COCs?	Yes	If "yes", are unpreserved VOA vials noted on Work	No



Analytical Laboratory
1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0388
email: lab@fibertec.us

8660 S. Mackinaw Trail
Cadillac, MI 49601
Phone: 231 775 8368
Fax: 231 775 8584

2340078

Geoprobe
11766 E. Grand River Rd.
Brighton, MI 48116
Phone: 810 220 3300
Fax: 810 220 3311

Chain of Custody #
A18268-S
PAGE 1 of 1

Client Name: Metiri Group Holt (Fibertec)				MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	537.1 Modified*	PARAMETERS												Matrix Code		Deliverables	
Contact Person: Rikki Lott							HOLD SAMPLE	S	Soil	GW	Ground Water		Level 2									
Project Name/ Number: A18268								A	Air	SW	Surface Water		Level 3									
Email distribution list: lab.holt@metirigroup.com								O	Oil	WW	Waste Water		Level 4									
Quote#								P	Wipe	X	Other: Specify		EDD									
Purchase Order#				X=Equipment Blank X1=Field Blank																		
Remarks:																						
Date	Time	Sample #	Client Sample Descriptor																			
11/7/23	0930	1	MW-3	GW	3	✓																
11/7/23	1030	2	MW-15sr	GW	3	✓																
11/7/23	1050	3	MW-15dr	GW	3	✓																
11/7/23	1110	4	MW-17sr	GW	3	✓																
11/7/23	1135	5	MW-19s	GW	3	✓																
11/7/23	1145		Equipment Blank	X	3	✓																
11/7/23	1150		Field Blank	X1	1	✓																
Comments: See attached*																						
Sampled/Relinquished By:				Date/Time: 11/8/23 1500				Received By: Fedex														
Relinquished By:				Date/Time: 11/9/23 9:20				Received By: Jerry Moore														
Relinquished By:				Date/Time: 11/9/23 9:20				Received By Laboratory: Jerry Moore														
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY																LAB USE ONLY						
____ 1 bus. day ____ 2 bus. days ____ 3 bus. days ____ 4 bus. days																Fibertec project number:						
____ 5-7 bus. days (standard) Other (specify time/date requirement): Standard																Temperature upon receipt at Lab: 1 RB 5.3/5						
Please see back for terms and conditions																						

RL
11/8/23

Fibertec		
Foam & Non-Potable Water		
EPA 537.1 M (Modified)		
Test Name PFAS-TZM		
Parameter	RDL ng/L	
1 11CI-PF3OUdS	1	
2 9CI-PF3ONS	1	
3 ADONA	1	
4 FtS 4:2	1	
5 FtS 6:2	1	
6 FtS 8:2	1	
7 HFPO-DA	1	
8 N-EtFOSAA	1	
9 N-MeFOSAA	1	
10 PFBA	1	
11 PFBS	1	
12 PFDA	1	
13 PFDoA	1	
14 PFDS	1	
15 PFHpA	1	
16 PFHpS	1	
17 PFHxA	1	
18 PFHxS-Total	1	
19 PFNA	1	
20 PFNS	1	
21 PFOA	1	
22 PFOS-Total	1	
23 PFOSA	1	
24 PFPeA	1	
25 PFPeS	1	
26 PFTeA (PFTeDA)	1	
27 PFTriA (PFTriDA)	1	
28 PFUnA	1	

Total: 28

Appl		
Non-Potable Water		
EPA 537.1 Modified		
Test Name: PFAS		
Parameter	RDL ng/L	
1 11CI-PF3OUdS	1.6	
2 9CI-PF3ONS	1.6	
3 ADONA	1.6	
4 FtS 4:2	3.2	
5 FtS 6:2	3.2	
6 FtS 8:2	3.2	
7 HFPO-DA	1.6	
8 N-EtFOSAA	0.8	
9 N-MeFOSAA	0.8	
10 PFBA	3.2	
11 PFBS	0.8	
12 PFDA	0.8	
13 PFDoA	0.8	
14 PFDS	0.8	
15 PFHpA	0.8	
16 PFHpS	0.8	
17 PFHxA	0.8	
18 PFHxS-Total	0.8	
19 PFNA	0.8	
20 PFNS	0.8	
21 PFOA	0.8	
22 PFOS-Total	0.8	
23 PFOSA	0.8	
24 PFPeA	1.6	
25 PFPeS	0.8	
26 PFTeA (PFTeDA)	0.8	
27 PFTriA (PFTriDA)	0.8	
28 PFUnA	0.8	

Total: 28

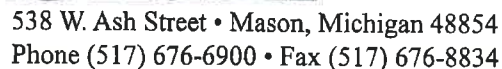
APPL: Please reference 537.1 Modified on the Case Narrative.

Verbiage: Samples have been processed using methodologies compliant with DoD QSM Table B-15, which is an equivalent to EPA 537.1 Modified.

Fibertec's LIMS test name is: CLO-B-15DOD.

*We have also requested APPL's 250mL nonpreserved PFAS free bottles for a client who wants 537.1M. The holdtime for NONpreserved is 28 days to extractions / 90 days after extraction. Ideally, we will switch over to Method 1633, and not need B-15 anymore. 'per Chue on 6/2/23

No Custody Seal



Sampling Personnel: SVS/NP

CHAIN OF CUSTODY

Air	A
g Water	D
ndwater	W
Soil	S
Sludge	L
Oil	O
Other	X

- BLANKS

[illegible]

Comments: September 2023 Resample

PO # 10252

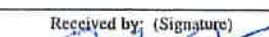
Received By Lab

NOV 07 2023

Received
On Ice

Initials: UG

Project # A18268 Temp: 4.3°C

Relinquished by Signature: 	Date 11-7-23	Time 12:45	Received by: (Signature) 	Date 11/7/23	Time 12:45	Relinquished by Signature:	Date	Time	Received by: (Signature)	Date	Time
Relinquished by Signature: 	Date	Time	Received by: (Signature)	Date	Time	Method of Shipment:			Bill of Lading:		
Received for Laboratory by:	Date	Time	Data Package Relinquished by:	Date	Time	Data Received by:	Date	Time			