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ANALYTICAL REPORT

PREPARED FOR

Attn: Todd Hone
City of Piqua
9801 N State Route 66
Piqua, Ohio 45356
Generated 5/13/2025 3:00:08 AM

JOB DESCRIPTION

UCMR5 - OH5501211 - SE2 - City of Piqua, OH

JOB NUMBER

810-147421-1

Eurofins Eaton Analytical South Bend

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Eaton Analytical, LLC Project Manager.

Authorization



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Definitions/Glossary

Client: City of Piqua
Project/Site: UCMR5 - OH5501211 - SE2 - City of Piqua, OH

Job ID: 810-147421-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: City of Piqua
Project: UCMR5 - OH5501211 - SE2 - City of Piqua, OH

Job ID: 810-147421-1

Job ID: 810-147421-1

Eurofins Eaton Analytical South Bend

Job Narrative 810-147421-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The sample was received on 5/7/2025 9:30 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice.

PFAS

Method 533_UCMR5: The pH of the following sample was adjusted to pH 7.5 in the laboratory: 5562258/Treatment Plant (Piqua)/EP002 (810-147421-1)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: City of Piqua
Project/Site: UCMR5 - OH5501211 - SE2 - City of Piqua, OH

Job ID: 810-147421-1

Client Sample ID: 5562258/Treatment Plant (Piqua)/EP002
PWSID Number: OH5501211

Lab Sample ID: 810-147421-1

No Detections.

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This Detection Summary does not include radiochemical test results.

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Client Sample Results

Client: City of Piqua
 Project/Site: UCMR5 - OH5501211 - SE2 - City of Piqua, OH

Job ID: 810-147421-1

Client Sample ID: 5562258/Treatment Plant (Piqua)/EP002

Lab Sample ID: 810-147421-1

Date Collected: 05/06/25 08:00

Matrix: Drinking Water

Date Received: 05/07/25 09:30

PWSID Number: OH5501211

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<0.0050		0.0050	ug/L		05/08/25 10:49	05/09/25 19:58	1
Perfluoropentanoic acid (PFPeA)	<0.0030		0.0030	ug/L		05/08/25 10:49	05/09/25 19:58	1
Perfluorohexanoic acid (PFHxA)	<0.0030		0.0030	ug/L		05/08/25 10:49	05/09/25 19:58	1
Perfluoroheptanoic acid (PFHpA)	<0.0030		0.0030	ug/L		05/08/25 10:49	05/09/25 19:58	1
Perfluorooctanoic acid (PFOA)	<0.0040		0.0040	ug/L		05/08/25 10:49	05/09/25 19:58	1
Perfluorononanoic acid (PFNA)	<0.0040		0.0040	ug/L		05/08/25 10:49	05/09/25 19:58	1
Perfluorodecanoic acid (PFDA)	<0.0030		0.0030	ug/L		05/08/25 10:49	05/09/25 19:58	1
Perfluoroundecanoic acid (PFUnA)	<0.0020		0.0020	ug/L		05/08/25 10:49	05/09/25 19:58	1
Perfluorododecanoic acid (PFDoA)	<0.0030		0.0030	ug/L		05/08/25 10:49	05/09/25 19:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.0030		0.0030	ug/L		05/08/25 10:49	05/09/25 19:58	1
Perfluorobutanesulfonic acid (PFBS)	<0.0030		0.0030	ug/L		05/08/25 10:49	05/09/25 19:58	1
Perfluorohexanesulfonic acid (PFHxS)	<0.0030		0.0030	ug/L		05/08/25 10:49	05/09/25 19:58	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.0030		0.0030	ug/L		05/08/25 10:49	05/09/25 19:58	1
Perfluorooctanesulfonic acid (PFOS)	<0.0040		0.0040	ug/L		05/08/25 10:49	05/09/25 19:58	1
Perfluoropentanesulfonic acid (PFPeS)	<0.0040		0.0040	ug/L		05/08/25 10:49	05/09/25 19:58	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<0.0050		0.0050	ug/L		05/08/25 10:49	05/09/25 19:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<0.0020		0.0020	ug/L		05/08/25 10:49	05/09/25 19:58	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<0.0050		0.0050	ug/L		05/08/25 10:49	05/09/25 19:58	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.0030		0.0030	ug/L		05/08/25 10:49	05/09/25 19:58	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.0050		0.0050	ug/L		05/08/25 10:49	05/09/25 19:58	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.0050		0.0050	ug/L		05/08/25 10:49	05/09/25 19:58	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.0200		0.0200	ug/L		05/08/25 10:49	05/09/25 19:58	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.0040		0.0040	ug/L		05/08/25 10:49	05/09/25 19:58	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.0030		0.0030	ug/L		05/08/25 10:49	05/09/25 19:58	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.0030		0.0030	ug/L		05/08/25 10:49	05/09/25 19:58	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	84		50 - 200	05/08/25 10:49	05/09/25 19:58	1
13C4 PFBA	90		50 - 200	05/08/25 10:49	05/09/25 19:58	1
13C3 PFBS	88		50 - 200	05/08/25 10:49	05/09/25 19:58	1
13C5 PFPeA	88		50 - 200	05/08/25 10:49	05/09/25 19:58	1
13C5 PFHxA	84		50 - 200	05/08/25 10:49	05/09/25 19:58	1
13C4 PFHpA	85		50 - 200	05/08/25 10:49	05/09/25 19:58	1
13C8 PFOA	85		50 - 200	05/08/25 10:49	05/09/25 19:58	1
13C9 PFNA	81		50 - 200	05/08/25 10:49	05/09/25 19:58	1
13C6 PFDA	76		50 - 200	05/08/25 10:49	05/09/25 19:58	1
13C7 PFUnA	74		50 - 200	05/08/25 10:49	05/09/25 19:58	1
13C2 PFDoA	72		50 - 200	05/08/25 10:49	05/09/25 19:58	1
13C8 PFOS	87		50 - 200	05/08/25 10:49	05/09/25 19:58	1
13C3 PFHxS	90		50 - 200	05/08/25 10:49	05/09/25 19:58	1

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Client Sample Results

Client: City of Piqua
 Project/Site: UCMR5 - OH5501211 - SE2 - City of Piqua, OH

Job ID: 810-147421-1

Client Sample ID: 5562258/Treatment Plant (Piqua)/EP002

Lab Sample ID: 810-147421-1

Date Collected: 05/06/25 08:00

Matrix: Drinking Water

Date Received: 05/07/25 09:30

PWSID Number: OH5501211

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-4:2-FTS	93		50 - 200	05/08/25 10:49	05/09/25 19:58	1
13C2-6:2-FTS	95		50 - 200	05/08/25 10:49	05/09/25 19:58	1
13C2-8:2-FTS	84		50 - 200	05/08/25 10:49	05/09/25 19:58	1

Method: EPA 537.1 UCMR5 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NETFOSAA)	<0.0048		0.0048	ug/L		05/08/25 05:16	05/10/25 09:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.0057		0.0057	ug/L		05/08/25 05:16	05/10/25 09:32	1
Perfluorotetradecanoic acid (PFTA)	<0.0076		0.0076	ug/L		05/08/25 05:16	05/10/25 09:32	1
Perfluorotridecanoic acid (PFTrDA)	<0.0067		0.0067	ug/L		05/08/25 05:16	05/10/25 09:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	71		70 - 130	05/08/25 05:16	05/10/25 09:32	1
13C2 PFHxA	90		70 - 130	05/08/25 05:16	05/10/25 09:32	1
13C2 PFDA	97		70 - 130	05/08/25 05:16	05/10/25 09:32	1
13C3 HFPO-DA	90		70 - 130	05/08/25 05:16	05/10/25 09:32	1

Method: EPA 200.7 UCMR5 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<9.00		9.00	ug/L		05/08/25 12:45	05/09/25 16:23	1

Surrogate Summary

Client: City of Piqua
 Project/Site: UCMR5 - OH5501211 - SE2 - City of Piqua, OH

Job ID: 810-147421-1

Method: 537.1 UCMR5 - Perfluorinated Alkyl Acids (LC/MS)

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	HFPODA (70-130)
810-147421-1	5562258/Treatment Plant (Piqua)/Ef	71	90	97	90
810-147421-1 MS	5562258/Treatment Plant (Piqua)/EP002	82	89	96	88
810-147421-1 MSD	5562258/Treatment Plant (Piqua)/EP002	88	89	96	91
LLCS 810-143110/2-A	Lab Control Sample	88	90	95	86
MBL 810-143110/1-A	Method Blank	76	79	83	72

Surrogate Legend

d5NEFOS = d5-NEtFOSAA
 PFHxA = 13C2 PFHxA
 PFDA = 13C2 PFDA
 HFPODA = 13C3 HFPO-DA



Isotope Dilution Summary

Client: City of Piqua
 Project/Site: UCMR5 - OH5501211 - SE2 - City of Piqua, OH

Job ID: 810-147421-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Matrix: Drinking Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	PFBA (50-200)	C3PFBS (50-200)	PFPeA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)
810-147421-1	5562258/Treatment Plant (Piqua)/Ef	84	90	88	88	84	85	85	81
LLCS 810-143177/2-A	Lab Control Sample	87	94	94	99	92	93	92	94
MBL 810-143177/1-A	Method Blank	86	90	87	91	89	89	92	92

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C6PFDA (50-200)	13C7PUA (50-200)	PFDoA (50-200)	C8PFOS (50-200)	C3PFHS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
810-147421-1	5562258/Treatment Plant (Piqua)/Ef	76	74	72	87	90	93	95	84
LLCS 810-143177/2-A	Lab Control Sample	88	87	88	92	95	104	107	99
MBL 810-143177/1-A	Method Blank	90	85	84	89	87	87	90	94

Surrogate Legend

- HFPODA = 13C3 HFPO-DA
- PFBA = 13C4 PFBA
- C3PFBS = 13C3 PFBS
- PFPeA = 13C5 PFPeA
- 13C5PHA = 13C5 PFHxA
- C4PFHA = 13C4 PFHpA
- C8PFOA = 13C8 PFOA
- C9PFNA = 13C9 PFNA
- C6PFDA = 13C6 PFDA
- 13C7PUA = 13C7 PFUnA
- PFDoA = 13C2 PFDoA
- C8PFOS = 13C8 PFOS
- C3PFHS = 13C3 PFHxS
- 42FTS = 13C2-4:2-FTS
- 62FTS = 13C2-6:2-FTS
- 82FTS = 13C2-8:2-FTS

QC Sample Results

Client: City of Piqua
 Project/Site: UCMR5 - OH5501211 - SE2 - City of Piqua, OH

Job ID: 810-147421-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Lab Sample ID: MBL 810-143177/1-A
Matrix: Drinking Water
Analysis Batch: 143349

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 143177

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<0.0005		0.0050	ug/L		05/08/25 10:49	05/09/25 18:23	1
Perfluoropentanoic acid (PFPeA)	<0.0008		0.0030	ug/L		05/08/25 10:49	05/09/25 18:23	1
Perfluorohexanoic acid (PFHxA)	<0.0007		0.0030	ug/L		05/08/25 10:49	05/09/25 18:23	1
Perfluoroheptanoic acid (PFHpA)	<0.0007		0.0030	ug/L		05/08/25 10:49	05/09/25 18:23	1
Perfluorooctanoic acid (PFOA)	<0.0007		0.0040	ug/L		05/08/25 10:49	05/09/25 18:23	1
Perfluorononanoic acid (PFNA)	<0.0007		0.0040	ug/L		05/08/25 10:49	05/09/25 18:23	1
Perfluorodecanoic acid (PFDA)	<0.0007		0.0030	ug/L		05/08/25 10:49	05/09/25 18:23	1
Perfluoroundecanoic acid (PFUnA)	<0.0007		0.0020	ug/L		05/08/25 10:49	05/09/25 18:23	1
Perfluorododecanoic acid (PFDoA)	<0.0007		0.0030	ug/L		05/08/25 10:49	05/09/25 18:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.0006		0.0030	ug/L		05/08/25 10:49	05/09/25 18:23	1
Perfluorobutanesulfonic acid (PFBS)	<0.0007		0.0030	ug/L		05/08/25 10:49	05/09/25 18:23	1
Perfluorohexanesulfonic acid (PFHxS)	<0.0007		0.0030	ug/L		05/08/25 10:49	05/09/25 18:23	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.0006		0.0030	ug/L		05/08/25 10:49	05/09/25 18:23	1
Perfluorooctanesulfonic acid (PFOS)	<0.0007		0.0040	ug/L		05/08/25 10:49	05/09/25 18:23	1
Perfluoropentanesulfonic acid (PFPeS)	<0.0007		0.0040	ug/L		05/08/25 10:49	05/09/25 18:23	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<0.0007		0.0050	ug/L		05/08/25 10:49	05/09/25 18:23	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	<0.001		0.0020	ug/L		05/08/25 10:49	05/09/25 18:23	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid	<0.0008		0.0050	ug/L		05/08/25 10:49	05/09/25 18:23	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.0007		0.0030	ug/L		05/08/25 10:49	05/09/25 18:23	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.0007		0.0050	ug/L		05/08/25 10:49	05/09/25 18:23	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.0006		0.0050	ug/L		05/08/25 10:49	05/09/25 18:23	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.0009		0.0200	ug/L		05/08/25 10:49	05/09/25 18:23	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.0008		0.0040	ug/L		05/08/25 10:49	05/09/25 18:23	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.0007		0.0030	ug/L		05/08/25 10:49	05/09/25 18:23	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.0007		0.0030	ug/L		05/08/25 10:49	05/09/25 18:23	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	86		50 - 200	05/08/25 10:49	05/09/25 18:23	1
13C4 PFBA	90		50 - 200	05/08/25 10:49	05/09/25 18:23	1
13C3 PFBS	87		50 - 200	05/08/25 10:49	05/09/25 18:23	1
13C5 PFPeA	91		50 - 200	05/08/25 10:49	05/09/25 18:23	1
13C5 PFHxA	89		50 - 200	05/08/25 10:49	05/09/25 18:23	1
13C4 PFHpA	89		50 - 200	05/08/25 10:49	05/09/25 18:23	1
13C8 PFOA	92		50 - 200	05/08/25 10:49	05/09/25 18:23	1
13C9 PFNA	92		50 - 200	05/08/25 10:49	05/09/25 18:23	1
13C6 PFDA	90		50 - 200	05/08/25 10:49	05/09/25 18:23	1
13C7 PFUnA	85		50 - 200	05/08/25 10:49	05/09/25 18:23	1
13C2 PFDoA	84		50 - 200	05/08/25 10:49	05/09/25 18:23	1
13C8 PFOS	89		50 - 200	05/08/25 10:49	05/09/25 18:23	1

Eurofins Eaton Analytical South Bend

QC Sample Results

Client: City of Piqua
 Project/Site: UCMR5 - OH5501211 - SE2 - City of Piqua, OH

Job ID: 810-147421-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: MBL 810-143177/1-A
Matrix: Drinking Water
Analysis Batch: 143349

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 143177

Isotope Dilution	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C3 PFHxS	87		50 - 200	05/08/25 10:49	05/09/25 18:23	1
13C2-4:2-FTS	87		50 - 200	05/08/25 10:49	05/09/25 18:23	1
13C2-6:2-FTS	90		50 - 200	05/08/25 10:49	05/09/25 18:23	1
13C2-8:2-FTS	94		50 - 200	05/08/25 10:49	05/09/25 18:23	1

Lab Sample ID: LLCS 810-143177/2-A
Matrix: Drinking Water
Analysis Batch: 143349

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 143177

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanoic acid (PFPeA)	0.00200	0.0019		ug/L		95	50 - 150
Perfluorohexanoic acid (PFHxA)	0.00200	0.0018		ug/L		91	50 - 150
Perfluoroheptanoic acid (PFHpA)	0.00200	0.0019		ug/L		93	50 - 150
Perfluorooctanoic acid (PFOA)	0.00200	0.0018		ug/L		92	50 - 150
Perfluorononanoic acid (PFNA)	0.00200	0.0019		ug/L		93	50 - 150
Perfluorodecanoic acid (PFDA)	0.00200	0.0020		ug/L		98	50 - 150
Perfluoroundecanoic acid (PFUnA)	0.00200	0.0019		ug/L		93	50 - 150
Perfluorododecanoic acid (PFDoA)	0.00200	0.0019		ug/L		95	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.00189	0.0018		ug/L		96	50 - 150
Perfluorobutanesulfonic acid (PFBS)	0.00178	0.0017		ug/L		94	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	0.00183	0.0016		ug/L		90	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.00191	0.0019		ug/L		100	50 - 150
Perfluorooctanesulfonic acid (PFOS)	0.00186	0.0018		ug/L		96	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	0.00188	0.0016		ug/L		87	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.00200	0.0019		ug/L		93	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	0.00187	0.0017		ug/L		93	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	0.00189	0.0017		ug/L		91	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.00188	0.0018		ug/L		95	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.00190	0.0017		ug/L		90	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.00192	0.0018		ug/L		96	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.00200	0.0020		ug/L		98	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.00200	0.0019		ug/L		96	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.00200	0.0018		ug/L		92	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	0.00178	0.0016		ug/L		91	50 - 150

QC Sample Results

Client: City of Piqua
 Project/Site: UCMR5 - OH5501211 - SE2 - City of Piqua, OH

Job ID: 810-147421-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Isotope Dilution	LLCS LLCS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	87		50 - 200
13C4 PFBA	94		50 - 200
13C3 PFBS	94		50 - 200
13C5 PFPeA	99		50 - 200
13C5 PFHxA	92		50 - 200
13C4 PFHpA	93		50 - 200
13C8 PFOA	92		50 - 200
13C9 PFNA	94		50 - 200
13C6 PFDA	88		50 - 200
13C7 PFUnA	87		50 - 200
13C2 PFDoA	88		50 - 200
13C8 PFOS	92		50 - 200
13C3 PFHxS	95		50 - 200
13C2-4:2-FTS	104		50 - 200
13C2-6:2-FTS	107		50 - 200
13C2-8:2-FTS	99		50 - 200

Method: 537.1 UCMR5 - Perfluorinated Alkyl Acids (LC/MS)

Lab Sample ID: MBL 810-143110/1-A
 Matrix: Drinking Water
 Analysis Batch: 143402

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 143110

Analyte	MBL	MBL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.0007		0.0050	ug/L		05/08/25 05:16	05/10/25 09:11	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.0006		0.0060	ug/L		05/08/25 05:16	05/10/25 09:11	1
Perfluorotetradecanoic acid (PFTA)	<0.0007		0.0080	ug/L		05/08/25 05:16	05/10/25 09:11	1
Perfluorotridecanoic acid (PFTrDA)	<0.0006		0.0070	ug/L		05/08/25 05:16	05/10/25 09:11	1

Surrogate	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
d5-NEtFOSAA	76		70 - 130	05/08/25 05:16	05/10/25 09:11	1
13C2 PFHxA	79		70 - 130	05/08/25 05:16	05/10/25 09:11	1
13C2 PFDA	83		70 - 130	05/08/25 05:16	05/10/25 09:11	1
13C3 HFPO-DA	72		70 - 130	05/08/25 05:16	05/10/25 09:11	1

Lab Sample ID: LLCS 810-143110/2-A
 Matrix: Drinking Water
 Analysis Batch: 143402

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 143110

Analyte	Spike Added	LLCS	LLCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.00200	0.0016		ug/L		80	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.00200	0.0016		ug/L		79	50 - 150
Perfluorotetradecanoic acid (PFTA)	0.00200	0.0016		ug/L		79	50 - 150
Perfluorotridecanoic acid (PFTrDA)	0.00200	0.0017		ug/L		84	50 - 150

Surrogate	LLCS LLCS		Limits
	%Recovery	Qualifier	
d5-NEtFOSAA	88		70 - 130

QC Sample Results

Client: City of Piqua
 Project/Site: UCMR5 - OH5501211 - SE2 - City of Piqua, OH

Job ID: 810-147421-1

Method: 537.1 UCMR5 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: LLCS 810-143110/2-A
Matrix: Drinking Water
Analysis Batch: 143402

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 143110

Surrogate	LLCS LLCS		Limits
	%Recovery	Qualifier	
13C2 PFHxA	90		70 - 130
13C2 PFDA	95		70 - 130
13C3 HFPO-DA	86		70 - 130

Lab Sample ID: 810-147421-1 MS
Matrix: Drinking Water
Analysis Batch: 143402

Client Sample ID: 5562258/Treatment Plant (Piqua)/EP002
Prep Type: Total/NA
Prep Batch: 143110

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	<0.0048		0.100	0.0848		ug/L		85		
N-methylperfluorooctanesulfona midoacetic acid (NMeFOSAA)	<0.0057		0.100	0.0851		ug/L		85		
Perfluorotetradecanoic acid (PFTA)	<0.0076		0.100	0.0853		ug/L		85		
Perfluorotridecanoic acid (PFTrDA)	<0.0067		0.100	0.0870		ug/L		87		

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
d5-NEtFOSAA	82		70 - 130
13C2 PFHxA	89		70 - 130
13C2 PFDA	96		70 - 130
13C3 HFPO-DA	88		70 - 130

Lab Sample ID: 810-147421-1 MSD
Matrix: Drinking Water
Analysis Batch: 143402

Client Sample ID: 5562258/Treatment Plant (Piqua)/EP002
Prep Type: Total/NA
Prep Batch: 143110

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	<0.0048		0.100	0.0822		ug/L		82		3	
N-methylperfluorooctanesulfona midoacetic acid (NMeFOSAA)	<0.0057		0.100	0.0839		ug/L		84		1	
Perfluorotetradecanoic acid (PFTA)	<0.0076		0.100	0.0823		ug/L		82		4	
Perfluorotridecanoic acid (PFTrDA)	<0.0067		0.100	0.0862		ug/L		86		1	

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
d5-NEtFOSAA	88		70 - 130
13C2 PFHxA	89		70 - 130
13C2 PFDA	96		70 - 130
13C3 HFPO-DA	91		70 - 130

QC Sample Results

Client: City of Piqua
 Project/Site: UCMR5 - OH5501211 - SE2 - City of Piqua, OH

Job ID: 810-147421-1

Method: 200.7 UCMR5 - Metals (ICP)

Lab Sample ID: MBL 810-143231/1-A
Matrix: Drinking Water
Analysis Batch: 143413

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 143231

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<2.00		9.00	ug/L		05/08/25 12:45	05/09/25 16:04	1

Lab Sample ID: LLCS 810-143231/2-A
Matrix: Drinking Water
Analysis Batch: 143413

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 143231

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	9.00	8.63	J	ug/L		96	50 - 150

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QC Association Summary

Client: City of Piqua
 Project/Site: UCMR5 - OH5501211 - SE2 - City of Piqua, OH

Job ID: 810-147421-1

LCMS

Prep Batch: 143110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-147421-1	5562258/Treatment Plant (Piqua)/EP002	Total/NA	Drinking Water	537.1 DW	
MBL 810-143110/1-A	Method Blank	Total/NA	Drinking Water	537.1 DW	
LLCS 810-143110/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	
810-147421-1 MS	5562258/Treatment Plant (Piqua)/EP002	Total/NA	Drinking Water	537.1 DW	
810-147421-1 MSD	5562258/Treatment Plant (Piqua)/EP002	Total/NA	Drinking Water	537.1 DW	

Prep Batch: 143177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-147421-1	5562258/Treatment Plant (Piqua)/EP002	Total/NA	Drinking Water	533	
MBL 810-143177/1-A	Method Blank	Total/NA	Drinking Water	533	
LLCS 810-143177/2-A	Lab Control Sample	Total/NA	Drinking Water	533	

Analysis Batch: 143349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-147421-1	5562258/Treatment Plant (Piqua)/EP002	Total/NA	Drinking Water	533	143177
MBL 810-143177/1-A	Method Blank	Total/NA	Drinking Water	533	143177
LLCS 810-143177/2-A	Lab Control Sample	Total/NA	Drinking Water	533	143177

Analysis Batch: 143402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-147421-1	5562258/Treatment Plant (Piqua)/EP002	Total/NA	Drinking Water	537.1 UCMR5	143110
MBL 810-143110/1-A	Method Blank	Total/NA	Drinking Water	537.1 UCMR5	143110
LLCS 810-143110/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1 UCMR5	143110
810-147421-1 MS	5562258/Treatment Plant (Piqua)/EP002	Total/NA	Drinking Water	537.1 UCMR5	143110
810-147421-1 MSD	5562258/Treatment Plant (Piqua)/EP002	Total/NA	Drinking Water	537.1 UCMR5	143110

Metals

Prep Batch: 143231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-147421-1	5562258/Treatment Plant (Piqua)/EP002	Total/NA	Drinking Water	200.7 UCMR5	
MBL 810-143231/1-A	Method Blank	Total/NA	Drinking Water	200.7 UCMR5	
LLCS 810-143231/2-A	Lab Control Sample	Total/NA	Drinking Water	200.7 UCMR5	

Analysis Batch: 143413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-147421-1	5562258/Treatment Plant (Piqua)/EP002	Total/NA	Drinking Water	200.7 UCMR5	143231
MBL 810-143231/1-A	Method Blank	Total/NA	Drinking Water	200.7 UCMR5	143231
LLCS 810-143231/2-A	Lab Control Sample	Total/NA	Drinking Water	200.7 UCMR5	143231

Lab Chronicle

Client: City of Piqua
 Project/Site: UCMR5 - OH5501211 - SE2 - City of Piqua, OH

Job ID: 810-147421-1

Client Sample ID: 5562258/Treatment Plant (Piqua)/EP002

Lab Sample ID: 810-147421-1

Date Collected: 05/06/25 08:00

Matrix: Drinking Water

Date Received: 05/07/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			143177	KB	EA SB	05/08/25 10:49
Total/NA	Analysis	533		1	143349	MH	EA SB	05/09/25 19:58
Total/NA	Prep	537.1 DW			143110	DB	EA SB	05/08/25 05:16
Total/NA	Analysis	537.1 UCMR5		1	143402	ZK	EA SB	05/10/25 09:32
Total/NA	Prep	200.7 UCMR5			143231	NB	EA SB	05/08/25 12:45
Total/NA	Analysis	200.7 UCMR5		1	143413	AC	EA SB	05/09/25 16:23

Laboratory References:

EA SB = Eurofins Eaton Analytical South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777



Accreditation/Certification Summary

Client: City of Piqua
Project/Site: UCMR5 - OH5501211 - SE2 - City of Piqua, OH

Job ID: 810-147421-1

Laboratory: Eurofins Eaton Analytical South Bend

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
USEPA UCMR 5	US Federal Programs	IN00035	12-31-25

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Method Summary

Client: City of Piqua
Project/Site: UCMR5 - OH5501211 - SE2 - City of Piqua, OH

Job ID: 810-147421-1

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA SB
537.1 UCMR5	Perfluorinated Alkyl Acids (LC/MS)	EPA	EA SB
200.7 UCMR5	Metals (ICP)	EPA	EA SB
200.7 UCMR5	Preparation, Total Recoverable Metals	EPA	EA SB
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA SB
537.1 DW	Extraction of Perfluorinated Alkyl Acids	EPA	EA SB

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EA SB = Eurofins Eaton Analytical South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777



Sample Summary

Client: City of Piqua
Project/Site: UCMR5 - OH5501211 - SE2 - City of Piqua, OH

Job ID: 810-147421-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
810-147421-1	5562258/Treatment Plant (Piqua)/EP002	Drinking Water	05/06/25 08:00	05/07/25 09:30	OH5501211

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South Bend, IN

110 S Hill Street
 South Bend, IN 46617
 Phone (574) 233-4777; Phone (574) 233-8207

"UCMR 5 Sampling Form for Single Collection Site"

(Separate form is needed for each collection site)



Environment Testing
 America

Company Contact: Todd Hone
 Company Name: City of Piqua
 Company Address: 9801 N. St. Rt. 66
Piqua OH 45356
 Phone: 1-937-778-2090
 Email: thone@piquaoh.gov
 Purchase Order: _____

Lab PM(name): Pamela Brown
 PM Email: Pamela.Brown@eurofins.com
 EEA Project: 81009963

PWSID: OH5501211
 FacID: 5562258
 SPID: EP002
 FacName: Treatment Plant (Piqua)
 SPName: Ron Smith
 Sampling Event: UCMR5

Water System Name: Piqua Municipal Water Plant
 Collection Location: 9801 N. St. Rt. 66 Piqua OH 45356
 Scheduled Collection Date: 5-6-23


Sampler Name (Print): Ron Smith

Date/Time Sampled: 5-6-23 0800

Client Storage temp, if > 2 days from collection: _____

AREA BELOW FOR LAB USE ONLY

For UCMR 5 specific criteria see: REC-WI55108 Guidance Document for UCMR 5 Sample Receiving Requirements and QA-SOP-SOP48964 UCMR 5 QAPP

Method	Type	# Bot	IR Gun#: <u>25</u>		pH* value	Ice: <u>Wet</u> Blue	✓ if receipt pH acceptable	✓ if pH needs adjustment	Cl (P/A) **	Sample Comments	✓ if sample is invalid
			Temp °C (10°C within 2 days of collection, 6°C for > 2 days)	Initial / Corrected							
200.7	FS	1					✓				
200.7	FS	2									
533	FS	1	1.4	0.8			✓		A	810-147421 Chain of Custody	
533	FS	2	1.4	0.8			✓		A		
533	FS	3	1.4	0.8			✓		A		
533	FRB	1	1.2	0.6			✓		A		
537.1	FS	1	1.2	0.6			✓		A		
537.1	FS	2	1.2	0.6			✓		A		
537.1	FS	3	1.2	0.6			✓		A		
537.1	FRB	1	1.0	0.4			✓		A		

* pH <2 for 200.7. pH 6-8 for 533 & 537.1. Note: 200.7 & 533 pH may be adjusted upon receipt.

** A = Absent if Free Cl <0.1 mg/L; P = Chlorine is present

Received By Kameron Williams

Date/Time 05/07/2023 0930

Login Sample Receipt Checklist

Client: City of Piqua

Job Number: 810-147421-1

Login Number: 147421

List Source: Eurofins Eaton Analytical South Bend

List Number: 1

Creator: Williams, Kameron

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Samples do not require splitting or compositing.	True	
Were samples preserved to correct pH upon receipt, if applicable?	True	
Container provided by EEA	True	