



444 21st Street South · La Crosse, Wisconsin · 54601

June 30, 2021

David Rozeboom DNR Service Center
1300 W Clairemont Ave.
Eau Claire, WI 54701

Re: **Private Well Sampling Results Letters – April 16, 2021 through June 30, 2021**
Town of Campbell, French Island, La Crosse, WI
WDNR BRRTS # 02-32-587311

Dear Mr. Rozeboom:

Please find attached 17 letters to property owners and occupants conveying the PFAS results of the private well sampling on French Island. This represents all lab reports received and letters sent between April 16 and June 30, 2021, for properties outside the areas where the City has sampled private wells as part of its site investigation of PFAS related to the La Crosse Regional Airport. The attached table provides, for each private well sampling point, the sampling point number keyed to tax parcel number, address, owner, occupant, well information (where available/obtained), sampling date, lab report date, results letter and email dates, and the date the occupant signed the bottled water agreement as applicable.

Where re-sampling was conducted, it was conducted based on these criteria: Wells were re-sampled if original results were equal to or greater than 75% of a proposed enforcement standard for any PFAS compound. Some private wells were resampled because they were outliers, otherwise anomalous; or the owner requested and paid for resampling.

Please let me know if you have any questions or require additional information.

Sincerely,

A handwritten signature in blue ink that reads "John C. Storlie".

John C. Storlie, PG
Principal Consultant
Direct: 608-433-9389
Cell: 608-769-2433

John.storlie@theOSgrp.com

Attachments: Table - Private Well Sampling Points
Private well results letters

Cc: Mayor Reynolds (w/ table only)
Matt Gallager (w/ table only)

Private Well Sampling Points
Town of Campbell
Results received 4/16/2021 through 6/30/21

Sampling Point Number	Tax Parcel Number	Owner Name	Private Well Sampling Area #	Property Address	Property Zip	Owner Occupied ?	OWNER Agreement obtained? Date of agreement	Occupant Name (if diff from owner)	Completed Sampling Date	UWID	Well Screen interval (ft bgs)	Depth mid pt Screen (ft bgs)	Static water level (ft bgs)	Ground Surface Elev. (ft) (+/- 0.5 ft)	SWL Elev (ft)	Elev. Mid Pt Screen	Lab Report Date	Results e-mail Date	Results Letter Date	Bottled Water Ack. Date	Resample? Planned date on or after	Resample Completed date	Post-Treatment	Lab Report 2 Date	Results 2 e-mail Date	Results 2 Letter Date
2317-0	4-2317-0	[REDACTED]	OUT	3313 Lakeshore Dr	54603	Yes	3/1/2021		3/3/2021	XA021	63-66	64.5	18	648	630	583.5	3/26/2021	3/27/2021	3/27/2021		4/8/2021	4/8/2021 5/6/2021		5/3/2021 6/1/2021	5/4/2021 6/1/2021	5/4/2021 6/1/2021
1182-0	4-1182-0	[REDACTED]	OUT	1819 Nakomis Ave	54603	Yes	3/25/2021		3/31/2021								4/26/2021	4/26/2021	4/26/2021							
1822-0	4-1822-0	[REDACTED]	OUT	3106 Youngdale Ave	54603	Yes	3/30/2021		3/31/2021								4/26/2021	4/26/2021	4/26/2021							
1907-0	4-1907-0	[REDACTED]	OUT	801 Spillway Dr	54603	Yes	3/25/2021		3/31/2021								4/26/2021	4/26/2021	4/26/2021							
2007-0	4-2007-0	[REDACTED]	OUT	805 Breezy Point Road	54603	Yes	3/29/2021		3/31/2021								4/26/2021	4/26/2021	4/26/2021							
434-0	4-434-0	[REDACTED]	OUT	2616 Hibbard Ct	54603	Yes	3/25/2021		3/31/2021								4/26/2021	4/26/2021	4/26/2021							
1895-0	4-1895-0	[REDACTED]	OUT	814 Lakeview Dr	54603	Yes	3/31/2021		4/1/2021								4/26/2021	4/26/2021	4/26/2021							
11-0	4-11-0	[REDACTED]	OUT	2723 Marion St	54603	Yes	4/2/2021		4/6/2021								5/3/2021	5/3/2021	5/3/2021							
1744-0	4-1744-0	[REDACTED]	OUT	2916 Youngdale Ave (Side A)	54603	Yes	4/1/2021		4/6/2021								5/3/2021	5/3/2021	5/3/2021							
1916-1	4-1916-1	[REDACTED]	OUT	2625 Bayview Ct	54603	Yes	4/6/2021		4/8/2021								5/3/2021	5/3/2021	5/3/2021							
2320-0	4-2320-0	[REDACTED]	OUT	424 Callaway Blvd	54603	No	4/2/2021	Various	4/8/2021								5/3/2021	5/4/2021	5/4/2021							
589-0	4-589-0	[REDACTED]	OUT	301 Sky Harbour Dr	54603	No	3/30/2021	International Furniture	4/8/2021								5/3/2021	5/3/2021	5/3/2021							
613-0	4-613-0	[REDACTED]	OUT	212 Hinkley Rd	54603	Yes	4/7/2021		4/8/2021								5/3/2021	5/4/2021	5/4/2021							
1891-0	4-1891-0	[REDACTED]	OUT	906 Lakeview Dr	54603	Yes	4/2/2021		4/14/2021								4/29/2021	4/30/2021	4/30/2021							
1573-1	4-1573-1	[REDACTED]	OUT	2809, 2811 and 2813 Lakeshore Dr	54603	No	4/9/2021	Various	4/14/2021								4/29/2021	4/30/2021	4/30/2021							
1588-0	4-1588-0	[REDACTED]	OUT	2815 Bayshore Dr.	54603	Yes	4/20/2021		4/26/2021								5/18/2021	5/19/2021	5/19/2021							



444 21st Street South · La Crosse, Wisconsin · 54601

May 3, 2021

██████████
2723 Marion Street
La Crosse, WI 54603

Subject: Private Well Sampling Results
2723 Marion Street, La Crosse, WI 54603
Tax parcel # 4-11-0
Sampling Point # 11-0
Sampling Date: April 6, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. Some PFAS compounds were found at levels above the Wisconsin Department of Health Services (DHS) levels recommended for protecting health. These levels are called the “Recommended Public Health Standard” in the table below. The levels found in your well are called the “Sample Result” in the table below.

Because some of the levels are above the recommended Public Health Standard, DHS recommends that you not use your well water for drinking, cooking, brushing your teeth and irrigating vegetable gardens.

The DNR is offering temporary bottled water to residents of French Island. Please go to this link to request bottled water from the DNR:

<https://dnr.wisconsin.gov/topic/PFAS/Campbell.html>

Or complete and mail the attached DNR form – Agreement for Requesting Temporary Emergency Water.

The following table summarizes the test results from the sample. **Bolded results** are above a current recommended level intended to protect your health according to the Department of Health Services (DHS).

Sample Results

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt ^{a,b}
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt ^{a,b}
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt ^{a,b}
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt ^{a,b}
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	11 ppt	20 ppt ^{a,b}
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	11 ppt	20 ppt ^{a,b}
The recommended limit is 20 ppt for any one of these 6 compounds or the combined total of all 6		
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt ^a
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	6.5 ppt	450,000 ppt ^a
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	4.5 ppt	40 ppt ^a
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	25 ppt	10,000 ppt ^a
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt ^a
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt ^a
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	4.0 ppt	150,000 ppt ^a
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt ^a
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt ^a
Perfluoroundecanoic acid (PFUdA) CAS # 2058-94-8	Not Detected	3,000 ppt ^a
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt ^a
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt ^a
Perfluoro-n-heptanoic acid (PFHpA) CAS # 375-85-9	1.8 ppt	None Established ^c

Perfluoro-n-pentanoic acid (PFPeA) CAS #2706-90-3	3.4 ppt	None Established ^c
^a Public health enforcement standard (ES) recommended by DHS. ^b DHS recommends a combined enforcement standard of 20 ng/L and combined preventive action limit of 2 ng/L for FOSA, NEt-FOSE, NEt-FOSA, NetFOSAA, PFOS, and PFOA. ^c A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. ^d Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. ^e Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) ^f Detected in the method blank. Possible lab contaminant.		

As required by law, we will be submitting these results to the Department of Natural Resources (DNR). The DNR may consult with the Department of Health Services (DHS) about these test results. *DHS may review all PFAS tests and follow-up with you directly if any actions are recommended to protect your health.*

Thank you for your patience and assistance with our investigation. We will provide updates on the project at <https://www.cityoflacrosse.org/wells> as our work continues. If you have any questions, please call The OS Group at (608) 668-2718 or email them at PFAS@theOSgrp.com.

You can also contact the DNR and DHS with questions about PFAS or the water sample results at the numbers provided below.

<u>Questions about...</u>		<u>Contact</u>	<u>Phone</u>	<u>E-mail Address</u>
Soil & Groundwater Testing, Clean Up	DNR	David Rozeboom	715-215-2078	David.Rozeboom@wisconsin.gov
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	kyle.burton@wisconsin.gov
Health Concerns	DHS	Curtis Hedman	608-266-6677	Curtis.Hedman@dhs.wisconsin.gov

On behalf of The City of La Crosse
The OS Group, LLC

Attachment: Lab report for your well
 DNR Agreement for Requesting Temporary Emergency Water

Agreement for Requesting Temporary Emergency Water

The signed agreement may be returned the following ways:

Mailed to:

Wisconsin Department of Natural Resources
c/o Jenna Soyer – RR/5
P.O. Box 7923
Madison, WI 53703

Scanned or photographed and emailed to:

DNRCampbellPFAS@wisconsin.gov

Please send both pages and use your address as the email subject line.

The Wisconsin Department of Natural Resources (DNR) determined that your well may be, or is, adversely affected by contamination from environmental pollution or a hazardous substance discharge based on sample results received by the DNR or an advisory issued for your well by the Wisconsin Department of Health Services (DHS). Therefore, the DNR is advising you that your water is **not fit for human consumption at this time due to potential human health risks.**

The DNR determined you to be eligible to receive a temporary supply of drinking water from the DNR under Wisconsin Administrative Code (Wis. Admin. Code) ch. NR 738 and/or Wisconsin Statutes (Wis. Stat.) § 292.31, based on the information available at this time. To receive a temporary supply of drinking water, the DNR requires that you enter into an agreement with the DNR and that you be responsible for the proper maintenance of any physical equipment provided as part of the temporary emergency water supply. A third-party contractor, not the DNR, will provide the temporary supply of emergency water for consumption. The department will arrange for the contractor and will pay for this service. The contractor will contact you to arrange a delivery time, and for the return of equipment when specified. Please note that because the advisory is for human consumption, DNR is only authorized to provide a temporary supply of emergency water for consumption (i.e., drinking, cooking, etc.). If you desire to obtain additional water for other non-consumptive uses, such as bathing, you must make arrangements directly with the third-party contractor.

A temporary emergency water supply is available for a maximum of six months from the date of this agreement, or until such time as the DNR confirms one or more of the following has occurred, whichever occurs first:

- 1) Results of laboratory analysis confirm that well water does not contain contaminants above maximum levels set forth in Wis. Adm. Code chs. 140 and 809, or above DHS recommended enforcement standards and the cumulative risk hazard index for per- and polyfluoroalkyl substances (PFAS);
- 2) The contaminated water supply has been replaced by an uncontaminated water supply; and/or
- 3) The private water supply has returned to an uncontaminated condition.

If well sample results confirm any of the above, the DNR will no longer provide a temporary emergency water supply. The DNR will attempt to contact the responsible party if known, to ask them to provide water to you prior to the DNR providing water. If the responsible party agrees, DNR staff will notify you that the responsible party will provide water. If so, this agreement becomes null and void. All arrangements between you and the responsible party and you are outside the terms of this agreement.

By signing below, you acknowledge entering into an agreement with the DNR, and you agree to:

- 1) take responsibility for the proper maintenance of any physical equipment constructed or provided to you by the third-party contractor for your use as part of the temporary water supply;
- 2) allow the DNR reasonable access to take private water samples during the period of time that the DNR is providing temporary water;
- 3) agree to indemnify and hold harmless the DNR for any damage that may occur to the physical equipment provided to you for your use as part of the temporary water supply while the equipment is in your possession;
- 4) understand that this is a “request” for temporary water, but such water may be supplied by the responsible party, and

5) understand that the advisory issued for your water is limited to a consumption advisory, and that therefore temporary water will only be supplied for consumption purposes. If you wish to obtain additional water for other household uses, you must make arrangements directly with the third-party contractor.

The above terms regarding equipment may also be outlined in any agreement between you and the third-party vendor. If you have questions about this agreement, you may send them to DNRCampbellPFAS@wisconsin.gov or you may contact Dave Rozeboom, DNR Remediation and Redevelopment Program, by phone at (715) 215-2078.

Please check the box if you need a **bottom-loading water dispenser**. Bottom-loading dispenser are generally provided to those who are unable to lift 5-gallon jugs.

IN WITNESS WHEREOF:

Property Owner (Print)

Signature of Property Owner or Authorized Representative

Date

Mailing Address

Email Address

Phone Number

Contact information for occupants, tenants or lessees (if different than owner). Contact information for the person residing in the home (if different than the owner) is needed so the vendor may schedule a time to set up the water dispenser:

Name of Occupant

Email Address

Phone Number

PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WD13014-003**

Description: **11-1 Should be 11-0**

Matrix: **Aqueous**

Date Sampled: **04/06/2021 1447**

Project Name: **LACROSSE WELLS 23 & 24**

Date Received: **04/13/2021**

Project Number: **40224847**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/15/2021 2300	MMM	04/13/2021 1617	88894

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.1	0.43	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.1	0.59	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.1	1.4	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.1	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.1	0.77	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.1	0.43	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.1	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.1	0.67	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.1	0.84	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	1.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.1	0.83	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.1	1.1	ng/L	1
Perfluoro-1-butanesulfonic acid (PFBS)	375-73-5	PFAS by ID SOP	6.5		3.5	0.37	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.5	0.69	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.5	0.44	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.5	0.63	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.5	0.54	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.5	0.53	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.1	0.93	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	4.5		3.5	0.49	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	25	B	3.5	0.53	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.5	0.47	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.5	0.42	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	1.8	J	3.5	0.40	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.1	0.72	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	4.0		3.5	0.61	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.5	0.41	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.1	0.89	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	11		3.5	0.74	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	3.4	J	3.5	0.48	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.5	0.53	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.5	0.47	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.5	0.56	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	11		3.5	1.8	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		119	25-150
13C2_6:2FTS		101	25-150
13C2_8:2FTS		104	25-150
13C2_PFDa		106	25-150
13C2_PFHxDA		106	25-150
13C2_PFTeDA		100	25-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD13014-003
Description: 11-1 11-0	Matrix: Aqueous
Date Sampled: 04/06/2021 1447	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/13/2021	Project Number: 40224847

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		96	25-150
13C3_PFHxS		109	25-150
13C3-HFPO-DA		105	25-150
13C4_PFBa		113	25-150
13C4_PFHpA		113	25-150
13C5_PFHxA		104	25-150
13C5_PFPeA		108	25-150
13C6_PFDA		105	25-150
13C7_PFUdA		108	25-150
13C8_PFOA		104	25-150
13C8_PFOS		105	25-150
13C8_PFOsA		101	10-150
13C9_PFNA		105	25-150
d-EtFOSA		87	10-150
d5-EtFOSAA		107	25-150
d9-EtFOSE		96	10-150
d-MeFOSA		104	10-150
d3-MeFOSAA		113	25-150
d7-MeFOSE		94	10-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com



444 21st Street South · La Crosse, Wisconsin · 54601

April 26, 2021

████████████████████
2616 Hibbard Ct
La Crosse, WI 54603

Subject: Private Well Sampling Results
2616 Hibbard Ct, La Crosse, WI 54603
Tax parcel # 4-434-0
Sampling Point # 434-0
Sampling Date: 03/31/2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. Some PFAS compounds were found at levels above the Wisconsin Department of Health Services (DHS) levels recommended for protecting health. These levels are called the “Recommended Public Health Standard” in the table below. The levels found in your well are called the “Sample Result” in the table below.

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Sample Results

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)
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N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt ^{a,b}
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt ^{a,b}
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt ^{a,b}
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	17 ppt	20 ppt ^{a,b}
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	5.0 ppt	20 ppt ^{a,b}
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt ^a
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	3.8 ppt	450,000 ppt ^a
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	3.5 ppt	40 ppt ^a
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	32 ppt	10,000 ppt ^a
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt ^a
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt ^a
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	3.1 ppt	150,000 ppt ^a
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt ^a
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt ^a
Perfluoroundecanoic acid (PFUdA) CAS # 2058-94-8	Not Detected	3,000 ppt ^a
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt ^a
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt ^a
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	1.0 ppt	None Established ^c

The recommended limit is 20 ppt for any one of these 6 compounds or the combined total of all 6

Perfluoro-n-heptanoic acid (PFHpA) CAS # 375-85-9	1.0 ppt	None Established ^c
Perfluoro-n-pentanoic acid (PFPeA) CAS #2706-90-3	4.5 ppt	None Established ^c
^a Public health enforcement standard (ES) recommended by DHS. ^b DHS recommends a combined enforcement standard of 20 ng/L and combined preventive action limit of 2 ng/L for FOSA, NEt-FOSE, NEt-FOSA, NetFOSAA, PFOS, and PFOA. ^c A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. ^d Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. ^e Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) ^{bl} Detected in the method blank. Possible lab contaminant.		

As required by law, we will be submitting these results to the Department of Natural Resources (DNR). The DNR may consult with the Department of Health Services (DHS) about these test results. *DHS may review all PFAS tests and follow-up with you directly if any actions are recommended to protect your health.*

Thank you for your patience and assistance with our investigation. We will provide updates on the project at <https://www.cityoflacrosse.org/wells> as our work continues. If you have any questions, please call The OS Group at (608) 668-2718 or email them at PFAS@theOSgrp.com.

You can also contact the DNR and DHS with questions about PFAS or the water sample results at the numbers provided below.

<u>Questions about...</u>		<u>Contact</u>	<u>Phone</u>	<u>E-mail Address</u>
Soil & Groundwater Testing, Clean Up	DNR	David Rozeboom	715-215-2078	David.Rozeboom@wisconsin.gov
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	kyle.burton@wisconsin.gov
Health Concerns	DHS	Curtis Hedman	608-266-6677	Curtis.Hedman@dhs.wisconsin.gov

On behalf of The City of La Crosse
The OS Group, LLC

Attachment: Lab report for your well
 DNR Agreement for Requesting Temporary Emergency Water

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD06019-003
Description: 434-0	Matrix: Aqueous
Date Sampled: 03/31/2021 1457	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/06/2021	Project Number: 40224396

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/09/2021 1835	JJG	04/08/2021 1108	88371

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		15	3.8	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	3.8		3.8	0.96	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.8	0.96	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.8	0.96	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.8	0.96	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.8	0.96	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	1.0	J	3.8	0.96	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	3.5	J	3.8	0.96	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	32		3.8	0.96	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.8	0.96	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.8	0.96	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	1.0	J	3.8	0.96	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	3.1	J	3.8	0.96	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.8	0.96	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	17		3.8	0.96	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	4.5		3.8	0.96	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.8	0.96	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.8	0.96	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.8	0.96	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	5.0		3.8	0.96	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		114	25-150
13C2_6:2FTS		104	25-150
13C2_8:2FTS		108	25-150
13C2_PFDaA		100	25-150
13C2_PFHxDA		106	25-150
13C2_PFTeDA		94	25-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD06019-003
Description: 434-0	Matrix: Aqueous
Date Sampled: 03/31/2021 1457	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/06/2021	Project Number: 40224396

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		93	25-150
13C3_PFHxS		109	25-150
13C3-HFPO-DA		103	25-150
13C4_PFBa		112	25-150
13C4_PFHpA		113	25-150
13C5_PFHxA		106	25-150
13C5_PFPeA		111	25-150
13C6_PFDa		101	25-150
13C7_PFUdA		102	25-150
13C8_PFOA		108	25-150
13C8_PFOS		110	25-150
13C8_PFOsA		101	10-150
13C9_PFNa		115	25-150
d-EtFOsA		114	10-150
d5-EtFOsAA		93	25-150
d9-EtFOSE		108	10-150
d-MeFOsA		98	10-150
d3-MeFOsAA		101	25-150
d7-MeFOSE		107	10-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
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Agreement for Requesting Temporary Emergency Water

The signed agreement may be returned the following ways:

Mailed to:

Wisconsin Department of Natural Resources
c/o Jenna Soyer – RR/5
P.O. Box 7923
Madison, WI 53703

Scanned or photographed and emailed to:

DNRCampbellPFAS@wisconsin.gov

Please send both pages and use your address as the email subject line.

The Wisconsin Department of Natural Resources (DNR) determined that your well may be, or is, adversely affected by contamination from environmental pollution or a hazardous substance discharge based on sample results received by the DNR or an advisory issued for your well by the Wisconsin Department of Health Services (DHS). Therefore, the DNR is advising you that your water is **not fit for human consumption at this time due to potential human health risks**.

The DNR determined you to be eligible to receive a temporary supply of drinking water from the DNR under Wisconsin Administrative Code (Wis. Admin. Code) ch. NR 738 and/or Wisconsin Statutes (Wis. Stat.) § 292.31, based on the information available at this time. To receive a temporary supply of drinking water, the DNR requires that you enter into an agreement with the DNR and that you be responsible for the proper maintenance of any physical equipment provided as part of the temporary emergency water supply. A third-party contractor, not the DNR, will provide the temporary supply of emergency water for consumption. The department will arrange for the contractor and will pay for this service. The contractor will contact you to arrange a delivery time, and for the return of equipment when specified. Please note that because the advisory is for human consumption, DNR is only authorized to provide a temporary supply of emergency water for consumption (i.e., drinking, cooking, etc.). If you desire to obtain additional water for other non-consumptive uses, such as bathing, you must make arrangements directly with the third-party contractor.

A temporary emergency water supply is available for a maximum of six months from the date of this agreement, or until such time as the DNR confirms one or more of the following has occurred, whichever occurs first:

- 1) Results of laboratory analysis confirm that well water does not contain contaminants above maximum levels set forth in Wis. Adm. Code chs. 140 and 809, or above DHS recommended enforcement standards and the cumulative risk hazard index for per- and polyfluoroalkyl substances (PFAS);
- 2) The contaminated water supply has been replaced by an uncontaminated water supply; and/or
- 3) The private water supply has returned to an uncontaminated condition.

If well sample results confirm any of the above, the DNR will no longer provide a temporary emergency water supply. The DNR will attempt to contact the responsible party if known, to ask them to provide water to you prior to the DNR providing water. If the responsible party agrees, DNR staff will notify you that the responsible party will provide water. If so, this agreement becomes null and void. All arrangements between you and the responsible party and you are outside the terms of this agreement.

By signing below, you acknowledge entering into an agreement with the DNR, and you agree to:

- 1) take responsibility for the proper maintenance of any physical equipment constructed or provided to you by the third-party contractor for your use as part of the temporary water supply;
- 2) allow the DNR reasonable access to take private water samples during the period of time that the DNR is providing temporary water;
- 3) agree to indemnify and hold harmless the DNR for any damage that may occur to the physical equipment provided to you for your use as part of the temporary water supply while the equipment is in your possession;
- 4) understand that this is a “request” for temporary water, but such water may be supplied by the responsible party, and

- 5) understand that the advisory issued for your water is limited to a consumption advisory, and that therefore temporary water will only be supplied for consumption purposes. If you wish to obtain additional water for other household uses, you must make arrangements directly with the third-party contractor.

The above terms regarding equipment may also be outlined in any agreement between you and the third-party vendor. If you have questions about this agreement, you may send them to DNRCampbellPFAS@wisconsin.gov or call 1-866-220-4841.

Please check the box if you need a **bottom-loading water dispenser**. Bottom-loading dispenser are generally provided to those who are unable to lift 5-gallon jugs.

Please check the box if you are currently paying for your own bottled-water delivery service and indicate with which company you have existing service: _____

HOUSEHOLD INFORMATION:

Household Contact Name (Print)

Number of Household Members

Signature of Occupant Authorized to Enter into Agreement

Date

Address (for water service)

Email Address

Phone Number where you can be reached during the day

PROPERTY OWNER INFORMATION (if different than the occupant):

Name of Property Owner

Email Address

Phone Number



444 21st Street South · La Crosse, Wisconsin · 54601

May 3, 2021

████████████████████
 301 Sky Harbour Drive
 La Crosse, WI 54603

Subject: Private Well Sampling Results
 301 Sky Harbour Drive, La Crosse, WI 54603
 Tax Parcel # 4-589-0
 Sampling Point # 589-0
 Sample Date: April 8, 2021

Dear ██:

We have received and reviewed the test results for the sample collected at the above address. Some PFAS compounds were found, but the levels found were **below** the Department of Health Services (DHS) levels recommended for protecting health. These levels are called the “Recommended Public Health Standard” in the table below. The levels found in *your* well are called the “Sample Result” in the table below.

Sample Results

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt ^{a,b}	The recommended limit is 20 ppt for any one of these 6 compounds or the combined total of all 6
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt ^{a,b}	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt ^{a,b}	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt ^{a,b}	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt ^{a,b}	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	Not Detected	20 ppt ^{a,b}	

Private Well Sampling Results for
 301 Sky Harbour Drive, La Crosse, WI 54603
 Tax Parcel # 4-589-0
 Sampling Point # 589-0
 May 3, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt ^a
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	3.7 ppt	450,000 ppt ^a
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	4.2 ppt	40 ppt ^a
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	5.5 ppt	10,000 ppt ^a
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt ^a
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt ^a
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt ^a
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt ^a
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt ^a
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt ^a
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt ^a
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt ^a
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS #2706-91-4	0.95 ppt	None Established ^c

^a Public health enforcement standard (ES) recommended by DHS.

^b DHS recommends a combined enforcement standard of 20 ng/L and combined preventive action limit of 2 ng/L for FOSA, NEt-FOSE, NEt-FOSA, NetFOSAA, PFOS, and PFOA.

^c A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.

^d Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

^e Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)

^{Bl} Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for
301 Sky Harbour Drive, La Crosse, WI 54603
Tax Parcel # 4-589-0
Sampling Point # 589-0
May 3, 2021

As required by law, we will be submitting these results to the Department of Natural Resources (DNR). The DNR may consult with the Department of Health Services (DHS) about these test results. *DHS may review all PFAS tests and follow-up with you directly if any actions are recommended to protect your health.*

Thank you for your patience and assistance with our investigation. We will provide updates on the project at <https://www.cityoflacrosse.org/wells> as our work continues. If you have any questions, please call The OS Group at (608) 668-2718 or email them at PFAS@theOSgrp.com.

You can also contact the DNR and DHS with questions about PFAS or the water sample results at the numbers provided below.

<u>Questions about...</u>		<u>Contact</u>	<u>Phone</u>	<u>E-mail Address</u>
Soil & Groundwater Testing, Clean Up	DNR	David Rozeboom	715-215-2078	David.Rozeboom@wisconsin.gov
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	kyle.burton@wisconsin.gov
Health Concerns	DHS	Curtis Hedman	608-266-6677	Curtis.Hedman@dhs.wisconsin.gov

On behalf of The City of La Crosse
The OS Group, LLC

Attachment: Lab report for your well

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD13014-010
Description: 589-0	Matrix: Aqueous
Date Sampled: 04/08/2021 1457	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/13/2021	Project Number: 40224847

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/16/2021 1744	JJG	04/15/2021 1150	89122

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.2	0.43	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.2	0.60	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.2	1.4	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.2	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.2	0.79	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.2	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.2	0.43	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.2	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.2	0.67	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.2	0.86	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	1.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.2	0.84	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.2	1.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	3.7		3.6	0.37	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.6	0.70	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.6	0.45	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.6	0.64	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.6	0.55	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.95	J	3.6	0.53	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.2	0.94	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	4.2		3.6	0.50	ng/L	1
Perfluoro-n-butanofluoronic acid (PFBA)	375-22-4	PFAS by ID SOP	5.5	B	3.6	0.54	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.47	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.6	0.42	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.6	0.40	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.2	0.73	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.6	0.62	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.6	0.42	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.2	0.90	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.6	0.75	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.6	0.49	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.54	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.48	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.56	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.6	1.8	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		100	25-150
13C2_6:2FTS		101	25-150
13C2_8:2FTS		91	25-150
13C2_PFDaA		96	25-150
13C2_PFHxDA		96	25-150
13C2_PFTeDA		98	25-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD13014-010
Description: 589-0	Matrix: Aqueous
Date Sampled: 04/08/2021 1457	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/13/2021	Project Number: 40224847

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		84	25-150
13C3_PFHxS		104	25-150
13C3-HFPO-DA		95	25-150
13C4_PFBa		105	25-150
13C4_PFHpA		99	25-150
13C5_PFHxA		99	25-150
13C5_PFPeA		96	25-150
13C6_PFDA		94	25-150
13C7_PFUdA		100	25-150
13C8_PFOA		103	25-150
13C8_PFOS		100	25-150
13C8_PFOsA		100	10-150
13C9_PFNA		98	25-150
d-EtFOSA		88	10-150
d5-EtFOSAA		91	25-150
d9-EtFOSE		86	10-150
d-MeFOSA		94	10-150
d3-MeFOSAA		97	25-150
d7-MeFOSE		89	10-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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444 21st Street South · La Crosse, Wisconsin · 54601

May 3, 2021

██████████
 212 Hinkley Road
 La Crosse, WI 54603

Subject: Private Well Sampling Results
 212 Hinkley Road, La Crosse, WI 54603
 Tax Parcel # 4-613-0
 Sampling Point # 613-0
 Sample Date: April 8, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. Some PFAS compounds were found, but the levels found were **below** the Department of Health Services (DHS) levels recommended for protecting health. These levels are called the “Recommended Public Health Standard” in the table below. The levels found in *your* well are called the “Sample Result” in the table below.

Sample Results

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt ^{a,b}	The recommended limit is 20 ppt for any one of these 6 compounds or the combined total of all 6
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt ^{a,b}	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt ^{a,b}	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	0.62 ppt	20 ppt ^{a,b}	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt ^{a,b}	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	Not Detected	20 ppt ^{a,b}	

Private Well Sampling Results for
 212 Hinkley Road, La Crosse, WI 54603
 Tax Parcel # 4-613-0
 Sampling Point # 613-0
 May 3, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt ^a
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	Not Detected	450,000 ppt ^a
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	Not Detected	40 ppt ^a
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	Not Detected	10,000 ppt ^a
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt ^a
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt ^a
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt ^a
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt ^a
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt ^a
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt ^a
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt ^a
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt ^a

^a Public health enforcement standard (ES) recommended by DHS.
^b DHS recommends a combined enforcement standard of 20 ng/L and combined preventive action limit of 2 ng/L for FOSA, NEt-FOSE, NEt-FOSA, NetFOSAA, PFOS, and PFOA.
^c A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.
^d Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.
^e Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)
^{bl} Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for
212 Hinkley Road, La Crosse, WI 54603
Tax Parcel # 4-613-0
Sampling Point # 613-0
May 3, 2021

As required by law, we will be submitting these results to the Department of Natural Resources (DNR). The DNR may consult with the Department of Health Services (DHS) about these test results. *DHS may review all PFAS tests and follow-up with you directly if any actions are recommended to protect your health.*

Thank you for your patience and assistance with our investigation. We will provide updates on the project at <https://www.cityoflacrosse.org/wells> as our work continues. If you have any questions, please call The OS Group at (608) 668-2718 or email them at PFAS@theOSgrp.com.

You can also contact the DNR and DHS with questions about PFAS or the water sample results at the numbers provided below.

<u>Questions about...</u>		<u>Contact</u>	<u>Phone</u>	<u>E-mail Address</u>
Soil & Groundwater Testing, Clean Up	DNR	David Rozeboom	715-215-2078	David.Rozeboom@wisconsin.gov
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	kyle.burton@wisconsin.gov
Health Concerns	DHS	Curtis Hedman	608-266-6677	Curtis.Hedman@dhs.wisconsin.gov

On behalf of The City of La Crosse
The OS Group, LLC

Attachment: Lab report for your well

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD13014-006
Description: 613-0	Matrix: Aqueous
Date Sampled: 04/08/2021 1422	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/13/2021	Project Number: 40224847

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/16/2021 0243	MMM	04/13/2021 1617	88894

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.1	0.43	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.1	0.59	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.1	1.4	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.1	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.1	0.77	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.1	0.43	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.1	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.1	0.66	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.1	0.84	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	1.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.1	0.82	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.1	1.1	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		3.5	0.37	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.5	0.69	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.5	0.44	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.5	0.63	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.62	J	3.5	0.54	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.5	0.52	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.1	0.92	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		3.5	0.49	ng/L	1
Perfluoro-n-butanefluoronic acid (PFBA)	375-22-4	PFAS by ID SOP	ND		3.5	0.53	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.5	0.46	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.5	0.42	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.5	0.40	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.1	0.72	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.5	0.61	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.5	0.41	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.1	0.88	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.5	0.73	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.5	0.48	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.5	0.53	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.5	0.47	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.5	0.55	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.5	1.8	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		105	25-150
13C2_6:2FTS		106	25-150
13C2_8:2FTS		98	25-150
13C2_PFDaA		104	25-150
13C2_PFHxDA		100	25-150
13C2_PFTeDA		98	25-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD13014-006
Description: 613-0	Matrix: Aqueous
Date Sampled: 04/08/2021 1422	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/13/2021	Project Number: 40224847

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		93	25-150
13C3_PFHxS		97	25-150
13C3-HFPO-DA		107	25-150
13C4_PFBa		107	25-150
13C4_PFHpA		105	25-150
13C5_PFHxA		101	25-150
13C5_PFPeA		109	25-150
13C6_PFDa		103	25-150
13C7_PFUdA		107	25-150
13C8_PFOA		116	25-150
13C8_PFOS		100	25-150
13C8_PFOsA		107	10-150
13C9_PFNa		108	25-150
d-EtFOsA		85	10-150
d5-EtFOsAA		100	25-150
d9-EtFOsE		104	10-150
d-MeFOsA		75	10-150
d3-MeFOsAA		97	25-150
d7-MeFOsE		99	10-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
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444 21st Street South · La Crosse, Wisconsin · 54601

April 26, 2021

██████████
 1819 Nakomis Ave
 La Crosse, WI 54603

Subject: Private Well Sampling Results
 1819 Nakomis Ave, La Crosse, WI 54603
 Tax Parcel #4-1182-0
 Sampling Point #1182-0
 Sample Date: 03/31/2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. Some PFAS compounds were found, but the levels found were **below** the Department of Health Services (DHS) levels recommended for protecting health. These levels are called the “Recommended Public Health Standard” in the table below. The levels found in *your* well are called the “Sample Result” in the table below.

Sample Results

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt ^{a,b}	The recommended limit is 20 ppt for any one of these 6 compounds or the combined total of all 6
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt ^{a,b}	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt ^{a,b}	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	1.1 ppt	20 ppt ^{a,b}	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt ^{a,b}	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	Not Detected	20 ppt ^{a,b}	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt ^a
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	Not Detected	450,000 ppt ^a
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	Not Detected	40 ppt ^a
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	Not Detected	10,000 ppt ^a
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt ^a
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt ^a
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt ^a
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt ^a
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt ^a
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt ^a
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt ^a
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt ^a

^a Public health enforcement standard (ES) recommended by DHS.
^b DHS recommends a combined enforcement standard of 20 ng/L and combined preventive action limit of 2 ng/L for FOSA, NEt-FOSE, NEt-FOSA, NetFOSAA, PFOS, and PFOA.
^c A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.
^d Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.
^e Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)
^{bl} Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for
1819 Nakomis Ave, La Crosse, WI 54603
Tax Parcel #4-1182-0
Sampling Point #1182-0
April 26, 2021

As required by law, we will be submitting these results to the Department of Natural Resources (DNR). The DNR may consult with the Department of Health Services (DHS) about these test results. *DHS may review all PFAS tests and follow-up with you directly if any actions are recommended to protect your health.*

Thank you for your patience and assistance with our investigation. We will provide updates on the project at <https://www.cityoflacrosse.org/wells> as our work continues. If you have any questions, please call The OS Group at (608) 668-2718 or email them at PFAS@theOSgrp.com.

You can also contact the DNR and DHS with questions about PFAS or the water sample results at the numbers provided below.

<u>Questions about...</u>		<u>Contact</u>	<u>Phone</u>	<u>E-mail Address</u>
Soil & Groundwater Testing, Clean Up	DNR	David Rozeboom	715-215-2078	David.Rozeboom@wisconsin.gov
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	kyle.burton@wisconsin.gov
Health Concerns	DHS	Curtis Hedman	608-266-6677	Curtis.Hedman@dhs.wisconsin.gov

On behalf of The City of La Crosse
The OS Group, LLC

Attachment: Lab report for your well

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD06019-005
Description: 1182-0	Matrix: Aqueous
Date Sampled: 03/31/2021 1541	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/06/2021	Project Number: 40224396

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/09/2021 1856	JJG	04/08/2021 1108	88371

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.6	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		3.6	0.89	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.6	0.89	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.6	0.89	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.6	0.89	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	1.1	J	3.6	0.89	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.6	0.89	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		3.6	0.89	ng/L	1
Perfluoro-n-butanefluoronic acid (PFBA)	375-22-4	PFAS by ID SOP	ND		3.6	0.89	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.89	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.6	0.89	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.6	0.89	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.6	0.89	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.6	0.89	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.6	0.89	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.6	0.89	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.89	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.89	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.89	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.6	0.89	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		87	25-150
13C2_6:2FTS		89	25-150
13C2_8:2FTS		86	25-150
13C2_PFDaA		81	25-150
13C2_PFHxDA		89	25-150
13C2_PFTeDA		75	25-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD06019-005
Description: 1182-0	Matrix: Aqueous
Date Sampled: 03/31/2021 1541	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/06/2021	Project Number: 40224396

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		75	25-150
13C3_PFHxS		94	25-150
13C3-HFPO-DA		86	25-150
13C4_PFBa		90	25-150
13C4_PFHpA		92	25-150
13C5_PFHxA		91	25-150
13C5_PFPeA		89	25-150
13C6_PFDA		89	25-150
13C7_PFUdA		87	25-150
13C8_PFOA		93	25-150
13C8_PFOS		91	25-150
13C8_PFOSA		89	10-150
13C9_PFNA		88	25-150
d-EtFOSA		85	10-150
d5-EtFOSAA		84	25-150
d9-EtFOSE		94	10-150
d-MeFOSA		83	10-150
d3-MeFOSAA		89	25-150
d7-MeFOSE		86	10-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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444 21st Street South · La Crosse, Wisconsin · 54601

May 4, 2021

██████████
 2809 Lakeshore Drive
 La Crosse, WI 54603

Subject: Private Well Sampling Results
 2809 Lakeshore Drive, La Crosse, WI 54603
 Tax Parcel # 4-1573-1
 Sampling Point # 1573-1
 Sample Date: April 14, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. Some PFAS compounds were found, but the levels found were **below** the Department of Health Services (DHS) levels recommended for protecting health. These levels are called the “Recommended Public Health Standard” in the table below. The levels found in *your* well are called the “Sample Result” in the table below.

Sample Results

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt ^{a,b}	The recommended limit is 20 ppt for any one of these 6 compounds or the combined total of all 6
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt ^{a,b}	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt ^{a,b}	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt ^{a,b}	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	2.4 ppt	20 ppt ^{a,b}	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	11 ppt	20 ppt ^{a,b}	

Private Well Sampling Results for
 2809 Lakeshore Drive, La Crosse, WI 54603
 Tax Parcel # 4-1573-1
 Sampling Point # 1573-1
 May 4, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt ^a
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	8.8 ppt	450,000 ppt ^a
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	6.1 ppt	40 ppt ^a
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	18 ppt	10,000 ppt ^a
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt ^a
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt ^a
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt ^a
Perfluorononanoic acid (PFNA) CAS # 375-95-1	0.54 ppt	30 ppt ^a
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt ^a
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt ^a
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt ^a
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt ^a
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	0.76 ppt	None Established ^c

^a Public health enforcement standard (ES) recommended by DHS.

^b DHS recommends a combined enforcement standard of 20 ng/L and combined preventive action limit of 2 ng/L for FOSA, NEt-FOSE, NEt-FOSA, NetFOSAA, PFOS, and PFOA.

^c A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.

^d Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

^e Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)

^{bl} Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for
2809 Lakeshore Drive, La Crosse, WI 54603
Tax Parcel # 4-1573-1
Sampling Point # 1573-1
May 4, 2021

As required by law, we will be submitting these results to the Department of Natural Resources (DNR). The DNR may consult with the Department of Health Services (DHS) about these test results. *DHS may review all PFAS tests and follow-up with you directly if any actions are recommended to protect your health.*

Thank you for your patience and assistance with our investigation. We will provide updates on the project at <https://www.cityoflacrosse.org/wells> as our work continues. If you have any questions, please call The OS Group at (608) 668-2718 or email them at PFAS@theOSgrp.com.

You can also contact the DNR and DHS with questions about PFAS or the water sample results at the numbers provided below.

<u>Questions about...</u>		<u>Contact</u>	<u>Phone</u>	<u>E-mail Address</u>
Soil & Groundwater Testing, Clean Up	DNR	David Rozeboom	715-215-2078	David.Rozeboom@wisconsin.gov
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	kyle.burton@wisconsin.gov
Health Concerns	DHS	Curtis Hedman	608-266-6677	Curtis.Hedman@dhs.wisconsin.gov

On behalf of The City of La Crosse
The OS Group, LLC

Attachment: Lab report for your well

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD16053-002
Description: 1573-1	Matrix: Aqueous
Date Sampled: 04/14/2021 1431	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/16/2021	Project Number: 40225192

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/20/2021 2325	MMM	04/19/2021 1716	89533

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.9	0.48	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.9	0.66	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.9	1.6	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.9	1.2	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.9	0.86	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.9	2.1	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.9	0.48	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.9	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.9	0.74	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.9	0.94	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		16	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.9	0.92	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.9	1.3	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	8.8		4.0	0.41	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		4.0	0.77	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		4.0	0.49	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		4.0	0.70	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		4.0	0.61	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.76	J	4.0	0.59	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.9	1.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	6.1		4.0	0.54	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	18		4.0	0.59	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.0	0.52	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.0	0.47	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.0	0.44	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.9	0.81	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		4.0	0.68	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.54	J	4.0	0.46	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.9	0.99	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	2.4	J	4.0	0.82	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		4.0	0.54	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.0	0.59	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.0	0.52	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.0	0.62	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	11		4.0	2.0	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		119	25-150
13C2_6:2FTS		112	25-150
13C2_8:2FTS		109	25-150
13C2_PFDaA		95	25-150
13C2_PFHxDA		111	25-150
13C2_PFTeDA		101	25-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD16053-002
Description: 1573-1	Matrix: Aqueous
Date Sampled: 04/14/2021 1431	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/16/2021	Project Number: 40225192

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		91	25-150
13C3_PFHxS		109	25-150
13C3-HFPO-DA		102	25-150
13C4_PFBa		102	25-150
13C4_PFHpA		106	25-150
13C5_PFHxA		113	25-150
13C5_PFPeA		104	25-150
13C6_PFDa		110	25-150
13C7_PFUdA		101	25-150
13C8_PFOA		96	25-150
13C8_PFOS		108	25-150
13C8_PFOsA		106	10-150
13C9_PFNa		105	25-150
d-EtFOSA		98	10-150
d5-EtFOSAA		98	25-150
d9-EtFOSE		101	10-150
d-MeFOSA		90	10-150
d3-MeFOSAA		97	25-150
d7-MeFOSE		88	10-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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444 21st Street South · La Crosse, Wisconsin · 54601

May 19, 2021

██████████
 2815 Bayshore Drive
 La Crosse, WI 54603

Subject: Private Well Sampling Results
 2815 Bayshore Drive , La Crosse, WI 54603
 Tax Parcel # 4-1588-0
 Sampling Point # 1588-0
 Sample Date: April 26, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. Some PFAS compounds were found, but the levels found were **below** the Department of Health Services (DHS) levels recommended for protecting health. These levels are called the “Recommended Public Health Standard” in the table below. The levels found in *your* well are called the “Sample Result” in the table below.

Sample Results

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt ^{a,b}	The recommended limit is 20 ppt for any one of these 6 compounds or the combined total of all 6
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt ^{a,b}	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt ^{a,b}	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt ^{a,b}	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	1.2 ppt	20 ppt ^{a,b}	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	2.0 ppt	20 ppt ^{a,b}	

Private Well Sampling Results for
 2815 Bayshore Drive , La Crosse, WI 54603
 Tax Parcel # 4-1588-0
 Sampling Point # 1588-0
 May 19, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt ^a
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	1.2 ppt	450,000 ppt ^a
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	Not Detected	40 ppt ^a
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	11 ppt	10,000 ppt ^a
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt ^a
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt ^a
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt ^a
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt ^a
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt ^a
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt ^a
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt ^a
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt ^a

^a Public health enforcement standard (ES) recommended by DHS.
^b DHS recommends a combined enforcement standard of 20 ng/L and combined preventive action limit of 2 ng/L for FOSA, NEt-FOSE, NEt-FOSA, NetFOSAA, PFOS, and PFOA.
^c A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.
^d Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.
^e Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)
^{bl} Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for
2815 Bayshore Drive , La Crosse, WI 54603
Tax Parcel # 4-1588-0
Sampling Point # 1588-0
May 19, 2021

As required by law, we will be submitting these results to the Department of Natural Resources (DNR). The DNR may consult with the Department of Health Services (DHS) about these test results. *DHS may review all PFAS tests and follow-up with you directly if any actions are recommended to protect your health.*

Thank you for your patience and assistance with our investigation. We will provide updates on the project at <https://www.cityoflacrosse.org/wells> as our work continues. If you have any questions, please call The OS Group at (608) 668-2718 or email them at PFAS@theOSgrp.com.

You can also contact the DNR and DHS with questions about PFAS or the water sample results at the numbers provided below.

<u>Questions about...</u>		<u>Contact</u>	<u>Phone</u>	<u>E-mail Address</u>
Soil & Groundwater Testing, Clean Up	DNR	David Rozeboom	715-215-2078	David.Rozeboom@wisconsin.gov
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	kyle.burton@wisconsin.gov
Health Concerns	DHS	Curtis Hedman	608-266-6677	Curtis.Hedman@dhs.wisconsin.gov

On behalf of The City of La Crosse
The OS Group, LLC

Attachment: Lab report for your well

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WE01021-001
Description: 1588-0	Matrix: Aqueous
Date Sampled: 04/26/2021 1007	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/30/2021	Project Number: 40225957

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	05/05/2021 2143	MMM	05/03/2021 1205	90944

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.1	0.43	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.1	0.59	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.1	1.4	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.1	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.1	0.78	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.1	0.43	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.1	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.1	0.67	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.1	0.85	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	1.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.1	0.83	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.1	1.1	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	1.2	J	3.6	0.37	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.6	0.69	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.6	0.44	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.6	0.63	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.6	0.55	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.6	0.53	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.1	0.93	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		3.6	0.49	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	11		3.6	0.53	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.47	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.6	0.42	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.6	0.40	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.1	0.73	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.6	0.61	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.6	0.41	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.1	0.89	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	1.2	J	3.6	0.74	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.6	0.48	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.53	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.47	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.56	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	2.0	J	3.6	1.8	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		119	25-150
13C2_6:2FTS		135	25-150
13C2_8:2FTS		103	25-150
13C2_PFDaA		107	25-150
13C2_PFHxDA		76	25-150
13C2_PFTeDA		104	25-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WE01021-001
Description: 1588-0	Matrix: Aqueous
Date Sampled: 04/26/2021 1007	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/30/2021	Project Number: 40225957

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		107	25-150
13C3_PFHxS		94	25-150
13C3-HFPO-DA		110	25-150
13C4_PFBa		97	25-150
13C4_PFHpA		116	25-150
13C5_PFHxA		110	25-150
13C5_PFPeA		110	25-150
13C6_PFDa		110	25-150
13C7_PFUdA		105	25-150
13C8_PFOa		114	25-150
13C8_PFOs		118	25-150
13C8_PFOsA		101	10-150
13C9_PFNa		109	25-150
d-EtFOSA		85	10-150
d5-EtFOSAA		104	25-150
d9-EtFOSE		101	10-150
d-MeFOSA		97	10-150
d3-MeFOSAA		104	25-150
d7-MeFOSE		102	10-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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444 21st Street South · La Crosse, Wisconsin · 54601

May 3, 2021

██████████
 2916 Youngdale Avenue
 La Crosse, WI 54603

Subject: Private Well Sampling Results
 2916 Youngdale Avenue, La Crosse, WI 54603
 Tax Parcel # 4-1744-0
 Sampling Point # 1744-0
 Sample Date: April 6, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. Some PFAS compounds were found, but the levels found were **below** the Department of Health Services (DHS) levels recommended for protecting health. These levels are called the “Recommended Public Health Standard” in the table below. The levels found in *your* well are called the “Sample Result” in the table below.

Sample Results

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt ^{a,b}	The recommended limit is 20 ppt for any one of these 6 compounds or the combined total of all 6
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt ^{a,b}	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt ^{a,b}	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	0.92 ppt	20 ppt ^{a,b}	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt ^{a,b}	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	11 ppt	20 ppt ^{a,b}	

Private Well Sampling Results for
 2916 Youngdale Avenue, La Crosse, WI 54603
 Tax Parcel # 4-1744-0
 Sampling Point # 1744-0
 May 3, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt ^a
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	5.7 ppt	450,000 ppt ^a
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	2.0 ppt	40 ppt ^a
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	12 ppt	10,000 ppt ^a
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt ^a
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt ^a
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt ^a
Perfluorononanoic acid (PFNA) CAS # 375-95-1	0.63 ppt	30 ppt ^a
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt ^a
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt ^a
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt ^a
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt ^a

^a Public health enforcement standard (ES) recommended by DHS.

^b DHS recommends a combined enforcement standard of 20 ng/L and combined preventive action limit of 2 ng/L for FOSA, NEt-FOSE, NEt-FOSA, NetFOSAA, PFOS, and PFOA.

^c A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.

^d Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

^e Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)

^{bl} Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for
2916 Youngdale Avenue, La Crosse, WI 54603
Tax Parcel # 4-1744-0
Sampling Point # 1744-0
May 3, 2021

As required by law, we will be submitting these results to the Department of Natural Resources (DNR). The DNR may consult with the Department of Health Services (DHS) about these test results. *DHS may review all PFAS tests and follow-up with you directly if any actions are recommended to protect your health.*

Thank you for your patience and assistance with our investigation. We will provide updates on the project at <https://www.cityoflacrosse.org/wells> as our work continues. If you have any questions, please call The OS Group at (608) 668-2718 or email them at PFAS@theOSgrp.com.

You can also contact the DNR and DHS with questions about PFAS or the water sample results at the numbers provided below.

<u>Questions about...</u>		<u>Contact</u>	<u>Phone</u>	<u>E-mail Address</u>
Soil & Groundwater Testing, Clean Up	DNR	David Rozeboom	715-215-2078	David.Rozeboom@wisconsin.gov
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	kyle.burton@wisconsin.gov
Health Concerns	DHS	Curtis Hedman	608-266-6677	Curtis.Hedman@dhs.wisconsin.gov

On behalf of The City of La Crosse
The OS Group, LLC

Attachment: Lab report for your well

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD13014-002
Description: 1744-0	Matrix: Aqueous
Date Sampled: 04/06/2021 1431	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/13/2021	Project Number: 40224847

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/15/2021 2249	MMM	04/13/2021 1617	88894

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.1	0.43	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.1	0.59	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.1	1.4	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.1	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.1	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.1	0.78	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.1	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.1	0.43	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.1	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.1	0.67	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.1	0.85	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	1.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.1	0.83	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.1	1.1	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	5.7		3.6	0.37	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.6	0.69	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.6	0.45	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.6	0.64	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.92	J	3.6	0.55	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.6	0.53	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.1	0.93	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	2.0	J	3.6	0.49	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	12	B	3.6	0.54	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.47	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.6	0.42	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.6	0.40	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.1	0.73	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.6	0.61	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.63	J	3.6	0.41	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.1	0.89	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.6	0.74	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.6	0.49	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.54	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.47	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.56	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	11		3.6	1.8	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		125	25-150
13C2_6:2FTS		102	25-150
13C2_8:2FTS		109	25-150
13C2_PFDaA		106	25-150
13C2_PFHxDA		102	25-150
13C2_PFTeDA		101	25-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD13014-002
Description: 1744-0	Matrix: Aqueous
Date Sampled: 04/06/2021 1431	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/13/2021	Project Number: 40224847

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		99	25-150
13C3_PFHxS		115	25-150
13C3-HFPO-DA		105	25-150
13C4_PFBa		110	25-150
13C4_PFHpA		105	25-150
13C5_PFHxA		112	25-150
13C5_PFPeA		110	25-150
13C6_PFDa		104	25-150
13C7_PFUdA		101	25-150
13C8_PFOA		105	25-150
13C8_PFOS		102	25-150
13C8_PFOsA		102	10-150
13C9_PFNa		104	25-150
d-EtFOSA		87	10-150
d5-EtFOSAA		106	25-150
d9-EtFOSE		95	10-150
d-MeFOSA		103	10-150
d3-MeFOSAA		103	25-150
d7-MeFOSE		99	10-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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444 21st Street South · La Crosse, Wisconsin · 54601

April 26, 2021

██████████
 3106 Youngdale Ave
 La Crosse, WI 54603

Subject: Private Well Sampling Results
 3106 Youngdale Ave, La Crosse, WI 54603
 Tax Parcel #4-1822-0
 Sampling Point #1822-0
 Sample Date: 03/31/2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. Some PFAS compounds were found, but the levels found were **below** the Department of Health Services (DHS) levels recommended for protecting health. These levels are called the “Recommended Public Health Standard” in the table below. The levels found in *your* well are called the “Sample Result” in the table below.

Sample Results

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt ^{a,b}	The recommended limit is 20 ppt for any one of these 6 compounds or the combined total of all 6
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt ^{a,b}	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt ^{a,b}	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt ^{a,b}	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	2.1 ppt	20 ppt ^{a,b}	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	8.0 ppt	20 ppt ^{a,b}	

Private Well Sampling Results for
 3106 Youngdale Ave, La Crosse, WI 54603
 Tax Parcel #4-1822-0
 Sampling Point #1822-0
 April 26, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt ^a
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	5.0 ppt	450,000 ppt ^a
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	1.3 ppt	40 ppt ^a
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	16 ppt	10,000 ppt ^a
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt ^a
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt ^a
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt ^a
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt ^a
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt ^a
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt ^a
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt ^a
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt ^a

^a Public health enforcement standard (ES) recommended by DHS.
^b DHS recommends a combined enforcement standard of 20 ng/L and combined preventive action limit of 2 ng/L for FOSA, NEt-FOSE, NEt-FOSA, NetFOSAA, PFOS, and PFOA.
^c A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.
^d Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.
^e Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)
^{bl} Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for
3106 Youngdale Ave, La Crosse, WI 54603
Tax Parcel #4-1822-0
Sampling Point #1822-0
April 26, 2021

As required by law, we will be submitting these results to the Department of Natural Resources (DNR). The DNR may consult with the Department of Health Services (DHS) about these test results. *DHS may review all PFAS tests and follow-up with you directly if any actions are recommended to protect your health.*

Thank you for your patience and assistance with our investigation. We will provide updates on the project at <https://www.cityoflacrosse.org/wells> as our work continues. If you have any questions, please call The OS Group at (608) 668-2718 or email them at PFAS@theOSgrp.com.

You can also contact the DNR and DHS with questions about PFAS or the water sample results at the numbers provided below.

<u>Questions about...</u>		<u>Contact</u>	<u>Phone</u>	<u>E-mail Address</u>
Soil & Groundwater Testing, Clean Up	DNR	David Rozeboom	715-215-2078	David.Rozeboom@wisconsin.gov
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	kyle.burton@wisconsin.gov
Health Concerns	DHS	Curtis Hedman	608-266-6677	Curtis.Hedman@dhs.wisconsin.gov

On behalf of The City of La Crosse
The OS Group, LLC

Attachment: Lab report for your well

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD06019-001
Description: 1822-0	Matrix: Aqueous
Date Sampled: 03/31/2021 1415	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/06/2021	Project Number: 40224396

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/09/2021 1753	JJG	04/08/2021 1108	88371

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		17	4.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	5.0		4.1	1.0	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	1.3	J	4.1	1.0	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	16		4.1	1.0	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	2.1	J	4.1	1.0	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	8.0		4.1	1.0	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		111	25-150
13C2_6:2FTS		93	25-150
13C2_8:2FTS		94	25-150
13C2_PFDa		92	25-150
13C2_PFHxDA		92	25-150
13C2_PFTeDA		86	25-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD06019-001
Description: 1822-0	Matrix: Aqueous
Date Sampled: 03/31/2021 1415	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/06/2021	Project Number: 40224396

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		84	25-150
13C3_PFHxS		92	25-150
13C3-HFPO-DA		93	25-150
13C4_PFBa		105	25-150
13C4_PFHpA		102	25-150
13C5_PFHxA		100	25-150
13C5_PFPeA		96	25-150
13C6_PFDa		94	25-150
13C7_PFUdA		92	25-150
13C8_PFOA		97	25-150
13C8_PFOS		96	25-150
13C8_PFOSA		96	10-150
13C9_PFNA		99	25-150
d-EtFOSA		90	10-150
d5-EtFOSAA		85	25-150
d9-EtFOSE		105	10-150
d-MeFOSA		94	10-150
d3-MeFOSAA		93	25-150
d7-MeFOSE		90	10-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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444 21st Street South · La Crosse, Wisconsin · 54601

April 30, 2021

██████████
 2809 Lakeshore Drive
 La Crosse, WI 54603

Subject: Private Well Sampling Results
 2809 Lakeshore Drive, La Crosse, WI 54603
 Tax Parcel # 4-1537-1
 Sampling Point # 1573-1
 Sample Date: April 14, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. Some PFAS compounds were found, but the levels found were **below** the Department of Health Services (DHS) levels recommended for protecting health. These levels are called the “Recommended Public Health Standard” in the table below. The levels found in *your* well are called the “Sample Result” in the table below.

Sample Results

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt ^{a,b}	The recommended limit is 20 ppt for any one of these 6 compounds or the combined total of all 6
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt ^{a,b}	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt ^{a,b}	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt ^{a,b}	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	2.4 ppt	20 ppt ^{a,b}	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	11 ppt	20 ppt ^{a,b}	

Private Well Sampling Results for
 2809 Lakeshore Drive, La Crosse, WI 54603
 Tax Parcel # 4-1537-1
 Sampling Point # 1573-1
 April 30, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt ^a
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	8.8 ppt	450,000 ppt ^a
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	6.1 ppt	40 ppt ^a
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	18 ppt	10,000 ppt ^a
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt ^a
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt ^a
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt ^a
Perfluorononanoic acid (PFNA) CAS # 375-95-1	0.54 ppt	30 ppt ^a
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt ^a
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt ^a
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt ^a
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt ^a
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	0.76 ppt	None Established ^c

^a Public health enforcement standard (ES) recommended by DHS.
^b DHS recommends a combined enforcement standard of 20 ng/L and combined preventive action limit of 2 ng/L for FOSA, NEt-FOSE, NEt-FOSA, NetFOSAA, PFOS, and PFOA.
^c A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.
^d Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.
^e Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)
^{Bl} Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for
2809 Lakeshore Drive, La Crosse, WI 54603
Tax Parcel # 4-1537-1
Sampling Point # 1573-1
April 30, 2021

As required by law, we will be submitting these results to the Department of Natural Resources (DNR). The DNR may consult with the Department of Health Services (DHS) about these test results. *DHS may review all PFAS tests and follow-up with you directly if any actions are recommended to protect your health.*

Thank you for your patience and assistance with our investigation. We will provide updates on the project at <https://www.cityoflacrosse.org/wells> as our work continues. If you have any questions, please call The OS Group at (608) 668-2718 or email them at PFAS@theOSgrp.com.

You can also contact the DNR and DHS with questions about PFAS or the water sample results at the numbers provided below.

<u>Questions about...</u>		<u>Contact</u>	<u>Phone</u>	<u>E-mail Address</u>
Soil & Groundwater Testing, Clean Up	DNR	David Rozeboom	715-215-2078	David.Rozeboom@wisconsin.gov
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	kyle.burton@wisconsin.gov
Health Concerns	DHS	Curtis Hedman	608-266-6677	Curtis.Hedman@dhs.wisconsin.gov

On behalf of The City of La Crosse
The OS Group, LLC

Attachment: Lab report for your well

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD16053-002
Description: 1573-1	Matrix: Aqueous
Date Sampled: 04/14/2021 1431	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/16/2021	Project Number: 40225192

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/20/2021 2325	MMM	04/19/2021 1716	89533

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.9	0.48	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.9	0.66	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.9	1.6	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.9	1.2	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.9	0.86	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.9	2.1	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.9	0.48	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.9	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.9	0.74	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.9	0.94	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		16	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.9	0.92	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.9	1.3	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	8.8		4.0	0.41	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		4.0	0.77	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		4.0	0.49	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		4.0	0.70	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		4.0	0.61	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.76	J	4.0	0.59	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.9	1.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	6.1		4.0	0.54	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	18		4.0	0.59	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.0	0.52	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.0	0.47	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.0	0.44	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.9	0.81	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		4.0	0.68	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.54	J	4.0	0.46	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.9	0.99	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	2.4	J	4.0	0.82	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		4.0	0.54	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.0	0.59	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.0	0.52	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.0	0.62	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	11		4.0	2.0	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		119	25-150
13C2_6:2FTS		112	25-150
13C2_8:2FTS		109	25-150
13C2_PFDaA		95	25-150
13C2_PFHxDA		111	25-150
13C2_PFTeDA		101	25-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD16053-002
Description: 1573-1	Matrix: Aqueous
Date Sampled: 04/14/2021 1431	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/16/2021	Project Number: 40225192

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		91	25-150
13C3_PFHxS		109	25-150
13C3-HFPO-DA		102	25-150
13C4_PFBa		102	25-150
13C4_PFHpA		106	25-150
13C5_PFHxA		113	25-150
13C5_PFPeA		104	25-150
13C6_PFDa		110	25-150
13C7_PFUdA		101	25-150
13C8_PFOa		96	25-150
13C8_PFOs		108	25-150
13C8_PFOsA		106	10-150
13C9_PFNa		105	25-150
d-EtFOsA		98	10-150
d5-EtFOsAA		98	25-150
d9-EtFOsE		101	10-150
d-MeFOsA		90	10-150
d3-MeFOsAA		97	25-150
d7-MeFOsE		88	10-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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444 21st Street South · La Crosse, Wisconsin · 54601

April 26, 2021

██████████
 814 Lakeview Dr
 La Crosse, WI 54603

Subject: Private Well Sampling Results
 814 Lakeview Dr, La Crosse, WI 54603
 Tax Parcel #4-1895-0
 Sampling Point #1895-0
 Sample Date: 04/01/2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. Some PFAS compounds were found, but the levels found were **below** the Department of Health Services (DHS) levels recommended for protecting health. These levels are called the “Recommended Public Health Standard” in the table below. The levels found in *your* well are called the “Sample Result” in the table below.

Sample Results

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt ^{a,b}	The recommended limit is 20 ppt for any one of these 6 compounds or the combined total of all 6
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt ^{a,b}	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt ^{a,b}	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	0.93 ppt	20 ppt ^{a,b}	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	3.2 ppt	20 ppt ^{a,b}	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	9.4 ppt	20 ppt ^{a,b}	

Private Well Sampling Results for
 814 Lakeview Dr, La Crosse, WI 54603
 Tax Parcel #4-1895-0
 Sampling Point #1895-0
 April 26, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt ^a
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	7.5 ppt	450,000 ppt ^a
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	1.4 ppt	40 ppt ^a
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	19 ppt	10,000 ppt ^a
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt ^a
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt ^a
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt ^a
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt ^a
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt ^a
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt ^a
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt ^a
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt ^a
Perfluoro-n-pentanoic acid (PFPeA) CAS # 2706-90-3	1.2 ppt	None Established ^c

^a Public health enforcement standard (ES) recommended by DHS.

^b DHS recommends a combined enforcement standard of 20 ng/L and combined preventive action limit of 2 ng/L for FOSA, NEt-FOSE, NEt-FOSA, NetFOSAA, PFOS, and PFOA.

^c A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.

^d Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

^e Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)

^{Bl} Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for
814 Lakeview Dr, La Crosse, WI 54603
Tax Parcel #4-1895-0
Sampling Point #1895-0
April 26, 2021

As required by law, we will be submitting these results to the Department of Natural Resources (DNR). The DNR may consult with the Department of Health Services (DHS) about these test results. *DHS may review all PFAS tests and follow-up with you directly if any actions are recommended to protect your health.*

Thank you for your patience and assistance with our investigation. We will provide updates on the project at <https://www.cityoflacrosse.org/wells> as our work continues. If you have any questions, please call The OS Group at (608) 668-2718 or email them at PFAS@theOSgrp.com.

You can also contact the DNR and DHS with questions about PFAS or the water sample results at the numbers provided below.

<u>Questions about...</u>		<u>Contact</u>	<u>Phone</u>	<u>E-mail Address</u>
Soil & Groundwater Testing, Clean Up	DNR	David Rozeboom	715-215-2078	David.Rozeboom@wisconsin.gov
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	kyle.burton@wisconsin.gov
Health Concerns	DHS	Curtis Hedman	608-266-6677	Curtis.Hedman@dhs.wisconsin.gov

On behalf of The City of La Crosse
The OS Group, LLC

Attachment: Lab report for your well

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD06019-006
Description: 1895-0	Matrix: Aqueous
Date Sampled: 03/31/2021 1419 4/1/21	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/06/2021	Project Number: 40224396

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/09/2021 1907	JJG	04/08/2021 1108	88371

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.4	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	7.5		3.4	0.86	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.93	J	3.4	0.86	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	1.4	J	3.4	0.86	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	19		3.4	0.86	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	3.2	J	3.4	0.86	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	1.2	J	3.4	0.86	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	9.4		3.4	0.86	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		100	25-150
13C2_6:2FTS		98	25-150
13C2_8:2FTS		95	25-150
13C2_PFDa		94	25-150
13C2_PFHxDA		99	25-150
13C2_PFTeDA		85	25-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD06019-006
Description: 1895-0	Matrix: Aqueous
Date Sampled: 03/31/2021 1419 4/1/21	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/06/2021	Project Number: 40224396

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		87	25-150
13C3_PFHxS		101	25-150
13C3-HFPO-DA		95	25-150
13C4_PFBa		107	25-150
13C4_PFHpA		101	25-150
13C5_PFHxA		102	25-150
13C5_PFPeA		101	25-150
13C6_PFDA		99	25-150
13C7_PFUdA		97	25-150
13C8_PFOA		106	25-150
13C8_PFOS		100	25-150
13C8_PFOSA		98	10-150
13C9_PFNA		102	25-150
d-EtFOSA		106	10-150
d5-EtFOSAA		91	25-150
d9-EtFOSE		108	10-150
d-MeFOSA		108	10-150
d3-MeFOSAA		95	25-150
d7-MeFOSE		83	10-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
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444 21st Street South · La Crosse, Wisconsin · 54601

April 26, 2021

██████████
 801 Spillway Dr
 La Crosse, WI 54603

Subject: Private Well Sampling Results
 801 Spillway Dr, La Crosse, WI 54603
 Tax Parcel #4-1907-0
 Sampling Point #1907-0
 Sample Date: 03/31/2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. Some PFAS compounds were found, but the levels found were **below** the Department of Health Services (DHS) levels recommended for protecting health. These levels are called the “Recommended Public Health Standard” in the table below. The levels found in *your* well are called the “Sample Result” in the table below.

Sample Results

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt ^{a,b}	The recommended limit is 20 ppt for any one of these 6 compounds or the combined total of all 6
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt ^{a,b}	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt ^{a,b}	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt ^{a,b}	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt ^{a,b}	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	4.9 ppt	20 ppt ^{a,b}	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt ^a
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	6.4 ppt	450,000 ppt ^a
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	1.8 ppt	40 ppt ^a
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	20 ppt	10,000 ppt ^a
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt ^a
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt ^a
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	3.3 ppt	150,000 ppt ^a
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt ^a
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt ^a
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt ^a
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt ^a
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt ^a
Perfluoro-n-pentanoic acid (PFPeA) CAS # 2706-90-3	4.1 ppt	None Established ^c

^a Public health enforcement standard (ES) recommended by DHS.
^b DHS recommends a combined enforcement standard of 20 ng/L and combined preventive action limit of 2 ng/L for FOSA, NEt-FOSE, NEt-FOSA, NetFOSAA, PFOS, and PFOA.
^c A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.
^d Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.
^e Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)
^{Bl} Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for
801 Spillway Dr, La Crosse, WI 54603
Tax Parcel #4-1907-0
Sampling Point #1907-0
April 26, 2021

As required by law, we will be submitting these results to the Department of Natural Resources (DNR). The DNR may consult with the Department of Health Services (DHS) about these test results. *DHS may review all PFAS tests and follow-up with you directly if any actions are recommended to protect your health.*

Thank you for your patience and assistance with our investigation. We will provide updates on the project at <https://www.cityoflacrosse.org/wells> as our work continues. If you have any questions, please call The OS Group at (608) 668-2718 or email them at PFAS@theOSgrp.com.

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<u>Questions about...</u>		<u>Contact</u>	<u>Phone</u>	<u>E-mail Address</u>
Soil & Groundwater Testing, Clean Up	DNR	David Rozeboom	715-215-2078	David.Rozeboom@wisconsin.gov
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	kyle.burton@wisconsin.gov
Health Concerns	DHS	Curtis Hedman	608-266-6677	Curtis.Hedman@dhs.wisconsin.gov

On behalf of The City of La Crosse
The OS Group, LLC

Attachment: Lab report for your well

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD06019-004
Description: 1907-0	Matrix: Aqueous
Date Sampled: 03/31/2021 1514	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/06/2021	Project Number: 40224396

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/09/2021 1846	JJG	04/08/2021 1108	88371

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.4	1.9	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.4	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.4	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.4	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.4	1.9	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.4	1.9	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.4	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.4	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.4	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.4	1.9	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.4	1.9	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		15	3.7	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.4	1.9	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.4	1.9	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	6.4		3.7	0.93	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.7	0.93	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.7	0.93	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.7	0.93	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.7	0.93	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.7	0.93	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.4	1.9	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	1.8	J	3.7	0.93	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	20		3.7	0.93	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.7	0.93	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.7	0.93	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.7	0.93	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.4	1.9	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	3.3	J	3.7	0.93	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.7	0.93	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.4	1.9	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.7	0.93	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	4.1		3.7	0.93	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.7	0.93	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.7	0.93	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.7	0.93	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	4.9		3.7	0.93	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		97	25-150
13C2_6:2FTS		97	25-150
13C2_8:2FTS		99	25-150
13C2_PFDaA		90	25-150
13C2_PFHxDA		99	25-150
13C2_PFTeDA		87	25-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD06019-004
Description: 1907-0	Matrix: Aqueous
Date Sampled: 03/31/2021 1514	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/06/2021	Project Number: 40224396

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		85	25-150
13C3_PFHxS		103	25-150
13C3-HFPO-DA		96	25-150
13C4_PFBa		102	25-150
13C4_PFHpA		103	25-150
13C5_PFHxA		100	25-150
13C5_PFPeA		101	25-150
13C6_PFDa		100	25-150
13C7_PFUdA		92	25-150
13C8_PFOA		102	25-150
13C8_PFOS		97	25-150
13C8_PFOSA		95	10-150
13C9_PFNA		101	25-150
d-EtFOSA		98	10-150
d5-EtFOSAA		88	25-150
d9-EtFOSE		104	10-150
d-MeFOSA		93	10-150
d3-MeFOSAA		90	25-150
d7-MeFOSE		91	10-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com



444 21st Street South · La Crosse, Wisconsin · 54601

May 14, 2021

██████████
 2625 Bayview Court
 La Crosse, WI 54603

Subject: Private Well Sampling Results – CORRECTED ADDRESS
 2625 Bayview Court, La Crosse, WI 54603
 Tax Parcel # 4-1916-1
 Sampling Point # 1916-1
 Sample Date: April 8, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. Some PFAS compounds were found, but the levels found were **below** the Department of Health Services (DHS) levels recommended for protecting health. These levels are called the “Recommended Public Health Standard” in the table below. The levels found in *your* well are called the “Sample Result” in the table below.

Sample Results

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt ^{a,b}	The recommended limit is 20 ppt for any one of these 6 compounds or the combined total of all 6
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt ^{a,b}	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt ^{a,b}	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	0.69 ppt	20 ppt ^{a,b}	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt ^{a,b}	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	2.7 ppt	20 ppt ^{a,b}	

Private Well Sampling Results for
 2625 Bayview Court, La Crosse, WI 54603
 Tax Parcel # 4-1916-1
 Sampling Point # 1916-1
 May 14, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt ^a
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	2.8 ppt	450,000 ppt ^a
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	0.56 ppt	40 ppt ^a
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	5.5 ppt	10,000 ppt ^a
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt ^a
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt ^a
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt ^a
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt ^a
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt ^a
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt ^a
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt ^a
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt ^a

^a Public health enforcement standard (ES) recommended by DHS.
^b DHS recommends a combined enforcement standard of 20 ng/L and combined preventive action limit of 2 ng/L for FOXA, NEt-FOSE, NEt-FOSA, NetFOSAA, PFOS, and PFOA.
^c A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.
^d Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.
^e Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)
^{bl} Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for
2625 Bayview Court, La Crosse, WI 54603
Tax Parcel # 4-1916-1
Sampling Point # 1916-1
May 14, 2021

As required by law, we will be submitting these results to the Department of Natural Resources (DNR). The DNR may consult with the Department of Health Services (DHS) about these test results. *DHS may review all PFAS tests and follow-up with you directly if any actions are recommended to protect your health.*

Thank you for your patience and assistance with our investigation. We will provide updates on the project at <https://www.cityoflacrosse.org/wells> as our work continues. If you have any questions, please call The OS Group at (608) 668-2718 or email them at PFAS@theOSgrp.com.

You can also contact the DNR and DHS with questions about PFAS or the water sample results at the numbers provided below.

<u>Questions about...</u>		<u>Contact</u>	<u>Phone</u>	<u>E-mail Address</u>
Soil & Groundwater Testing, Clean Up	DNR	David Rozeboom	715-215-2078	David.Rozeboom@wisconsin.gov
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	kyle.burton@wisconsin.gov
Health Concerns	DHS	Curtis Hedman	608-266-6677	Curtis.Hedman@dhs.wisconsin.gov

On behalf of The City of La Crosse
The OS Group, LLC

Attachment: Lab report for your well

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD13014-005
Description: 1916-1	Matrix: Aqueous
Date Sampled: 04/08/2021 1358	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/13/2021	Project Number: 40224847

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/16/2021 0232	MMM	04/13/2021 1617	88894

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.4	0.44	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.4	0.61	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.4	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.4	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.4	0.80	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.4	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.4	0.44	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.4	1.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.4	0.69	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.4	0.88	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.4	0.86	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.4	1.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	2.8	J	3.7	0.38	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.7	0.71	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.7	0.46	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.7	0.65	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.69	J	3.7	0.56	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.7	0.55	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.4	0.96	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.56	J	3.7	0.51	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	5.5	B	3.7	0.55	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.7	0.48	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.7	0.43	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.7	0.41	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.4	0.75	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.7	0.63	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.7	0.42	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.4	0.92	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.7	0.76	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.7	0.50	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.7	0.55	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.7	0.49	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.7	0.58	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	2.7	J	3.7	1.8	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		108	25-150
13C2_6:2FTS		93	25-150
13C2_8:2FTS		95	25-150
13C2_PFDaA		100	25-150
13C2_PFHxDA		91	25-150
13C2_PFTeDA		89	25-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD13014-005
Description: 1916-1	Matrix: Aqueous
Date Sampled: 04/08/2021 1358	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/13/2021	Project Number: 40224847

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		90	25-150
13C3_PFHxS		91	25-150
13C3-HFPO-DA		99	25-150
13C4_PFBa		103	25-150
13C4_PFHpA		97	25-150
13C5_PFHxA		96	25-150
13C5_PFPeA		102	25-150
13C6_PFDa		96	25-150
13C7_PFUdA		97	25-150
13C8_PFOa		100	25-150
13C8_PFOs		89	25-150
13C8_PFOsA		97	10-150
13C9_PFNa		95	25-150
d-EtFOsA		85	10-150
d5-EtFOsAA		91	25-150
d9-EtFOsE		90	10-150
d-MeFOsA		73	10-150
d3-MeFOsAA		91	25-150
d7-MeFOsE		91	10-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
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444 21st Street South · La Crosse, Wisconsin · 54601

April 26, 2021

████████████████████
 805 Breezy Point Road
 La Crosse, WI 54603

Subject: Private Well Sampling Results
 805 Breezy Point Road, La Crosse, WI 54603
 Tax Parcel #4-2007-0
 Sampling Point #2007-0
 Sample Date: 03/31/2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. Some PFAS compounds were found, but the levels found were **below** the Department of Health Services (DHS) levels recommended for protecting health. These levels are called the “Recommended Public Health Standard” in the table below. The levels found in *your* well are called the “Sample Result” in the table below.

Sample Results

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt ^{a,b}	The recommended limit is 20 ppt for any one of these 6 compounds or the combined total of all 6
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt ^{a,b}	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt ^{a,b}	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	1.5 ppt	20 ppt ^{a,b}	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	2.8 ppt	20 ppt ^{a,b}	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	11 ppt	20 ppt ^{a,b}	

Private Well Sampling Results for
 805 Breezy Point Road, La Crosse, WI 54603
 Tax Parcel #4-2007-0
 Sampling Point #2007-0
 April 26, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt ^a
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	5.1 ppt	450,000 ppt ^a
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	2.4 ppt	40 ppt ^a
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	20 ppt	10,000 ppt ^a
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt ^a
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt ^a
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt ^a
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt ^a
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt ^a
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt ^a
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt ^a
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt ^a

^a Public health enforcement standard (ES) recommended by DHS.

^b DHS recommends a combined enforcement standard of 20 ng/L and combined preventive action limit of 2 ng/L for FOXA, NEt-FOSE, NEt-FOSA, NetFOSAA, PFOS, and PFOA.

^c A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.

^d Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

^e Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)

^{bl} Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for
805 Breezy Point Road, La Crosse, WI 54603
Tax Parcel #4-2007-0
Sampling Point #2007-0
April 26, 2021

As required by law, we will be submitting these results to the Department of Natural Resources (DNR). The DNR may consult with the Department of Health Services (DHS) about these test results. *DHS may review all PFAS tests and follow-up with you directly if any actions are recommended to protect your health.*

Thank you for your patience and assistance with our investigation. We will provide updates on the project at <https://www.cityoflacrosse.org/wells> as our work continues. If you have any questions, please call The OS Group at (608) 668-2718 or email them at PFAS@theOSgrp.com.

You can also contact the DNR and DHS with questions about PFAS or the water sample results at the numbers provided below.

<u>Questions about...</u>		<u>Contact</u>	<u>Phone</u>	<u>E-mail Address</u>
Soil & Groundwater Testing, Clean Up	DNR	David Rozeboom	715-215-2078	David.Rozeboom@wisconsin.gov
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	kyle.burton@wisconsin.gov
Health Concerns	DHS	Curtis Hedman	608-266-6677	Curtis.Hedman@dhs.wisconsin.gov

On behalf of The City of La Crosse
The OS Group, LLC

Attachment: Lab report for your well

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD06019-002
Description: 2007-0	Matrix: Aqueous
Date Sampled: 03/31/2021 1440	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/06/2021	Project Number: 40224396

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/09/2021 1814	JJG	04/08/2021 1108	88371

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.6	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	5.1		3.6	0.90	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	1.5	J	3.6	0.90	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	2.4	J	3.6	0.90	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	20		3.6	0.90	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	2.8	J	3.6	0.90	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.90	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	11		3.6	0.90	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		99	25-150
13C2_6:2FTS		89	25-150
13C2_8:2FTS		95	25-150
13C2_PFDaA		88	25-150
13C2_PFHxDA		92	25-150
13C2_PFTeDA		80	25-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD06019-002
Description: 2007-0	Matrix: Aqueous
Date Sampled: 03/31/2021 1440	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/06/2021	Project Number: 40224396

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		82	25-150
13C3_PFHxS		92	25-150
13C3-HFPO-DA		89	25-150
13C4_PFBa		101	25-150
13C4_PFHpA		100	25-150
13C5_PFHxA		94	25-150
13C5_PFPeA		96	25-150
13C6_PFDa		90	25-150
13C7_PFUdA		88	25-150
13C8_PFOA		99	25-150
13C8_PFOS		99	25-150
13C8_PFOSA		89	10-150
13C9_PFNA		97	25-150
d-EtFOSA		82	10-150
d5-EtFOSAA		84	25-150
d9-EtFOSE		96	10-150
d-MeFOSA		91	10-150
d3-MeFOSAA		90	25-150
d7-MeFOSE		80	10-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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444 21st Street South · La Crosse, Wisconsin · 54601

May 3, 2021

██████████
 3313 Lakeshore Drive
 La Crosse, WI 54603

Subject: Private Well Sampling Results
 3313 Lakeshore Drive, La Crosse, WI 54603
 Tax Parcel # 4-2317-0
 Sampling Point # 2317-0
 Sample Date: April 8, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. This is the second sample taken from your well. Some PFAS compounds were found, but the levels found were **below** the Department of Health Services (DHS) levels recommended for protecting health. These levels are called the “Recommended Public Health Standard” in the table below. The levels found in *your* well are called the “Sample Result” in the table below. **PLEASE NOTE: During this sampling at your property, we took a second “duplicate” sample for quality control / quality assurance purposes. The two sample tests confirmed each other, and there were only minor differences. The results in the table below are based on the highest concentration of contaminants observed in either of the two samples.**

Sample Results

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt ^{a,b}
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt ^{a,b}
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt ^{a,b}
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	0.87 ppt	20 ppt ^{a,b}

The recommended limit is 20 ppt for any one of these 6 compounds or the combined total of all 6

Private Well Sampling Results for
 3313 Lakeshore Drive, La Crosse, WI 54603
 Tax Parcel # 4-2317-0
 Sampling Point # 2317-0
 May 3, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt ^{a,b}
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	6.6 ppt	20 ppt ^{a,b}
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt ^a
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	4.2 ppt	450,000 ppt ^a
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	1.1 ppt	40 ppt ^a
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	9.4 ppt	10,000 ppt ^a
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt ^a
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt ^a
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected ^t	150,000 ppt ^a
Perfluorononanoic acid (PFNA) CAS # 375-95-1	0.59 ppt	30 ppt ^a
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt ^a
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt ^a
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt ^a
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt ^a

^a Public health enforcement standard (ES) recommended by DHS.
^b DHS recommends a combined enforcement standard of 20 ng/L and combined preventive action limit of 2 ng/L for FOSA, NEt-FOSE, NEt-FOSA, NetFOSAA, PFOS, and PFOA.
^c A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.
^d Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.
^e Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)
^{tl} Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for
3313 Lakeshore Drive, La Crosse, WI 54603
Tax Parcel # 4-2317-0
Sampling Point # 2317-0
May 3, 2021

As required by law, we will be submitting these results to the Department of Natural Resources (DNR). The DNR may consult with the Department of Health Services (DHS) about these test results. *DHS may review all PFAS tests and follow-up with you directly if any actions are recommended to protect your health.*

Thank you for your patience and assistance with our investigation. We will provide updates on the project at <https://www.cityoflacrosse.org/wells> as our work continues. If you have any questions, please call The OS Group at (608) 668-2718 or email them at PFAS@theOSgrp.com.

You can also contact the DNR and DHS with questions about PFAS or the water sample results at the numbers provided below.

<u>Questions about...</u>		<u>Contact</u>	<u>Phone</u>	<u>E-mail Address</u>
Soil & Groundwater Testing, Clean Up	DNR	David Rozeboom	715-215-2078	David.Rozeboom@wisconsin.gov
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	kyle.burton@wisconsin.gov
Health Concerns	DHS	Curtis Hedman	608-266-6677	Curtis.Hedman@dhs.wisconsin.gov

On behalf of The City of La Crosse
The OS Group, LLC

Attachment: Lab report for your well

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD13014-004
Description: 2317-0	Matrix: Aqueous
Date Sampled: 04/08/2021 1341	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/13/2021	Project Number: 40224847

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/15/2021 2310	MMM	04/13/2021 1617	88894

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.6	0.46	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.6	0.63	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.6	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.6	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.6	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.6	0.83	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.6	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.6	0.46	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.6	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.6	0.71	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.6	0.90	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.6	0.88	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.6	1.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	3.9		3.8	0.39	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.8	0.74	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.8	0.47	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.8	0.67	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.8	0.58	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.8	0.56	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.6	0.99	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	1.1	J	3.8	0.52	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	8.6	B	3.8	0.57	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.8	0.50	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.8	0.45	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.8	0.42	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.6	0.77	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.8	0.65	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.59	J	3.8	0.44	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.6	0.95	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.8	0.79	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.8	0.52	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.8	0.57	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.8	0.50	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.8	0.59	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	6.6		3.8	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		132	25-150
13C2_6:2FTS		100	25-150
13C2_8:2FTS		107	25-150
13C2_PFDaA		114	25-150
13C2_PFHxDA		100	25-150
13C2_PFTeDA		98	25-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD13014-004
Description: 2317-0	Matrix: Aqueous
Date Sampled: 04/08/2021 1341	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/13/2021	Project Number: 40224847

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		94	25-150
13C3_PFHxS		103	25-150
13C3-HFPO-DA		103	25-150
13C4_PFBa		111	25-150
13C4_PFHpA		111	25-150
13C5_PFHxA		106	25-150
13C5_PFPeA		109	25-150
13C6_PFDa		104	25-150
13C7_PFUdA		103	25-150
13C8_PFOa		108	25-150
13C8_PFOs		98	25-150
13C8_PFOsA		99	10-150
13C9_PFNa		103	25-150
d-EtFOSA		89	10-150
d5-EtFOSAA		104	25-150
d9-EtFOSE		92	10-150
d-MeFOSA		108	10-150
d3-MeFOSAA		107	25-150
d7-MeFOSE		92	10-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD13014-009
Description: DUP-19	Matrix: Aqueous
Date Sampled: 04/08/2021	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/13/2021	Project Number: 40224847

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/16/2021 1734	JJG	04/15/2021 1150	89122

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.4	0.44	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.4	0.61	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.4	1.5	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.4	1.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.4	0.81	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.4	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.4	0.45	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.4	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.4	0.69	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.4	0.88	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		15	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.4	0.86	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.4	1.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	4.2		3.7	0.38	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.7	0.72	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.7	0.46	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.7	0.66	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.87	J	3.7	0.57	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.7	0.55	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.4	0.96	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.85	J	3.7	0.51	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	9.4	B	3.7	0.55	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.7	0.48	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.7	0.44	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.7	0.41	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.4	0.75	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.7	0.63	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.55	J	3.7	0.43	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.4	0.92	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.7	0.76	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.7	0.50	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.7	0.55	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.7	0.49	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.7	0.58	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	6.4		3.7	1.8	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		106	25-150
13C2_6:2FTS		94	25-150
13C2_8:2FTS		83	25-150
13C2_PFDaA		82	25-150
13C2_PFHxDA		81	25-150
13C2_PFTeDA		85	25-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD13014-009
Description: DUP-19	Matrix: Aqueous
Date Sampled: 04/08/2021	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/13/2021	Project Number: 40224847

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		78	25-150
13C3_PFHxS		86	25-150
13C3-HFPO-DA		90	25-150
13C4_PFBa		95	25-150
13C4_PFHpA		94	25-150
13C5_PFHxA		96	25-150
13C5_PFPeA		91	25-150
13C6_PFDA		89	25-150
13C7_PFUdA		88	25-150
13C8_PFOA		90	25-150
13C8_PFOS		83	25-150
13C8_PFOSA		88	10-150
13C9_PFNA		92	25-150
d-EtFOSA		84	10-150
d5-EtFOSAA		84	25-150
d9-EtFOSE		80	10-150
d-MeFOSA		88	10-150
d3-MeFOSAA		87	25-150
d7-MeFOSE		84	10-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com



444 21st Street South · La Crosse, Wisconsin · 54601

June 1, 2021

[Redacted]

3313 Lakeshore Drive
La Crosse, WI 54603

Subject: Private Well Sampling Results
3313 Lakeshore Drive, La Crosse, WI 54603
Tax Parcel # 4-2317-0
Sampling Point # 2317-0
Sample Date: May 6, 2021

Dear [Redacted]:

We have received and reviewed the test results for the sample collected at the above address. This is the third sample taken from your well, and the results were similar to the levels in the second sample. Some PFAS compounds were found, but the levels found were **below** the Department of Health Services (DHS) levels recommended for protecting health. These levels are called the “Recommended Public Health Standard” in the table below. The levels found in *your* well are called the “Sample Result” in the table below.

Sample Results

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt ^{a,b}	The recommended limit is 20 ppt for any one of these 6 compounds or the combined total of all 6
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt ^{a,b}	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt ^{a,b}	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt ^{a,b}	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt ^{a,b}	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	6.7 ppt	20 ppt ^{a,b}	

Private Well Sampling Results for
 3313 Lakeshore Drive, La Crosse, WI 54603
 Tax Parcel # 4-2317-0
 Sampling Point # 2317-0
 June 1, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt ^a
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	3.9 ppt	450,000 ppt ^a
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	0.91 ppt	40 ppt ^a
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	8.7 ppt	10,000 ppt ^a
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt ^a
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt ^a
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected ^t	150,000 ppt ^a
Perfluorononanoic acid (PFNA) CAS # 375-95-1	0.54 ppt	30 ppt ^a
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt ^a
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt ^a
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt ^a
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt ^a
^a Public health enforcement standard (ES) recommended by DHS. ^b DHS recommends a combined enforcement standard of 20 ng/L and combined preventive action limit of 2 ng/L for FOSA, NEt-FOSE, NEt-FOSA, NetFOSAA, PFOS, and PFOA. ^c A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. ^d Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. ^e Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) ^{BL} Detected in the method blank. Possible lab contaminant.		

Private Well Sampling Results for
3313 Lakeshore Drive, La Crosse, WI 54603
Tax Parcel # 4-2317-0
Sampling Point # 2317-0
June 1, 2021

As required by law, we will be submitting these results to the Department of Natural Resources (DNR). The DNR may consult with the Department of Health Services (DHS) about these test results. *DHS may review all PFAS tests and follow-up with you directly if any actions are recommended to protect your health.*

Thank you for your patience and assistance with our investigation. We will provide updates on the project at <https://www.cityoflacrosse.org/wells> as our work continues. If you have any questions, please call The OS Group at (608) 668-2718 or email them at PFAS@theOSgrp.com.

You can also contact the DNR and DHS with questions about PFAS or the water sample results at the numbers provided below.

<u>Questions about...</u>		<u>Contact</u>	<u>Phone</u>	<u>E-mail Address</u>
Soil & Groundwater Testing, Clean Up	DNR	David Rozeboom	715-215-2078	David.Rozeboom@wisconsin.gov
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	kyle.burton@wisconsin.gov
Health Concerns	DHS	Curtis Hedman	608-266-6677	Curtis.Hedman@dhs.wisconsin.gov

On behalf of The City of La Crosse
The OS Group, LLC

Attachment: Lab report for your well

June 01, 2021

Steve Osesek
The OS Group, LLC
N6746 McCurdy Road
Holmen, WI 54636

RE: Project: [REDACTED]
Pace Project No.: 40226691


Dear Steve Osesek:

Enclosed are the analytical results for sample(s) received by the laboratory on May 11, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Christopher Hyska
christopher.hyska@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: John Storlie, The OS Group, LLC



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE SUMMARY

Project: [REDACTED]

Pace Project No.: 40226691

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40226691001	2317-0	Water	05/06/21 16:02	05/11/21 09:35

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

(Please Print Clearly)

Company Name: The OS Group LLC
 Branch/Location: LaCrosse WI
 Project Contact: Steven Oseseck
 Phone: 608-433-9388
 Project Number: [REDACTED]
 Project Name: ~~LACROSSE WELLS 23 & 24~~
 Project State: WI
 Sampled By (Print): Steven Oseseck
 Sampled By (Sign): *Steven Oseseck*
 PO #: - Regulatory Program: WDNR



UPPER MIDWEST REGION

MN: 612-607-1700 WI: 920-469-2436

Page 1 of 1

COC No. 40226691

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

Y/N	N																						
Pick Letter	A																						
Analyses Requested	WI 36 PFAS by ID																						
		X																					

Quote #: -
 Mail To Contact: Steven Oseseck
 Mail To Company: The OS Group LLC
 Mail To Address: 444 21st St S
 LaCrosse, WI 54601
 Invoice To Contact: Steven Oseseck
 Invoice To Company: The OS Group LLC
 Invoice To Address: 444 21st St S
 LaCrosse, WI 54601
 Invoice To Phone: 608-433-9388
 CLIENT COMMENTS: LAB COMMENTS (Lab Use Only) Profile # 4532

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 SI = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX	Y/N	N																
		DATE	TIME																			
001	2317-0	5-6-21	4:02	DW	X																	

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge) Date Needed: _____

Transmit Prelim Rush Results by (complete what you want): _____

Relinquished By: <i>Steven Oseseck</i> 5/10/21 3:58	Received By: _____ Date/Time: _____
Relinquished By: <i>Fed Ex</i> 5-11-21 0935	Received By: <i>Susank Ulyas</i> 5-11-21 0935
Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____
Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____

PACE Project No. 40226691
 Receipt Temp = 4 °C
 Sample Receipt pH OK / Adjusted
 Cooler Custody Seal Present Not Present Intact / Not Intact

Samples on HOLD are subject to special pricing and release of liability

Sample Preservation Receipt Form

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Client Name: The OS Group Project # 4026691

All containers needing preservation have been checked and noted below: Yes No N/A

Initial when completed:

Date/Time:


Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Pace Lab #	Glass							Plastic					Vials					Jars				General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)							
	AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T								ZPLC	GN					
001									2																													2.5 / 5 / 10
002																																						2.5 / 5 / 10
003																																						2.5 / 5 / 10
004																																						2.5 / 5 / 10
005																																						2.5 / 5 / 10
006																																						2.5 / 5 / 10
007																																						2.5 / 5 / 10
008																																						2.5 / 5 / 10
009																																						2.5 / 5 / 10
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017																																						2.5 / 5 / 10
018																																						2.5 / 5 / 10
019																																						2.5 / 5 / 10
020																																						2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : Yes No N/A *If yes look in headspace column

AG1U 1 liter amber glass	BP1U 1 liter plastic unpres	VG9A 40 mL clear ascorbic	JGFU 4 oz amber jar unpres
BG1U 1 liter clear glass	BP3U 250 mL plastic unpres	DG9T 40 mL amber Na Thio	JG9U 9 oz amber jar unpres
AG1H 1 liter amber glass HCL	BP3B 250 mL plastic NaOH	VG9U 40 mL clear vial unpres	WGFU 4 oz clear jar unpres
AG4S 125 mL amber glass H2SO4	BP3N 250 mL plastic HNO3	VG9H 40 mL clear vial HCL	WPFU 4 oz plastic jar unpres
AG4U 120 mL amber glass unpres	BP3S 250 mL plastic H2SO4	VG9M 40 mL clear vial MeOH	SP5T 120 mL plastic Na Thiosulfate
AG5U 100 mL amber glass unpres		VG9D 40 mL clear vial DI	ZPLC ziploc bag
AG2S 500 mL amber glass H2SO4			GN
BG3U 250 mL clear glass unpres			


 1241 Bellevue Street, Green Bay, WI 54302	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: 26Mar2020
	Document No.: ENV-FRM-GBAY-0014-Rev.00	Author: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Client Name: The OS Group
Courier: CS Logistics Fed Ex Speedee UPS Waitco
 Client Pace Other: _____

Project #: _____

WO#: 40226691



40226691

Tracking #: 786995522111
Custody Seal on Cooler/Box Present: yes no **Seals intact:** yes no
Custody Seal on Samples Present: yes no **Seals intact:** yes no
Packing Material: Bubble Wrap Bubble Bags None Other
Thermometer Used: SR - 104 **Type of Ice:** Wet Blue Dry None Samples on ice, cooling process has begun
Cooler Temperature: Uncorr: 4 ICorr: 4
Temp Blank Present: yes no **Biological Tissue is Frozen:** yes no

Person examining contents:
 Date: 5-11-21 /Initials: SKW
Labeled By Initials: HP

Temp should be above freezing to 6°C.
 Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Chain of Custody Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
- VOA Samples frozen upon receipt: <input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time: _____
Short Hold Time Analysis (<72hr): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	8.
For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Correct Containers Used: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>W</u>	
Trip Blank Present: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____	

Client Notification/ Resolution: _____ If checked, see attached form for additional comments
 Person Contacted: _____ Date/Time: _____
 Comments/ Resolution: _____



Report of Analysis

Pace Analytical Services, LLC
1241 Bellevue Street
Suite 9
Green Bay, WI 54302
Attention: Christopher Hyska

Project Name: [REDACTED]

Project Number: 40226691

Lot Number: **WE14025**

Date Completed: 05/28/2021

Karen Coonan

05/29/2021 3:44 PM

Approved and released by:
Project Manager II: **Karen L. Coonan**



The electronic signature above is the equivalent of a handwritten signature.
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PACE ANALYTICAL SERVICES, LLC

SC DHEC No: 32010001

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative Pace Analytical Services, LLC Lot Number: WE14025

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved The NELAC Institute (TNI) standards, the Pace Analytical Services, LLC ("Pace") Laboratory Quality Manual, standard operating procedures (SOPs), and Pace policies. Any exceptions to the TNI standards, the Laboratory Quality Manual, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Pace Project Manager listed on the cover page.

PACE ANALYTICAL SERVICES, LLC

Sample Summary

Pace Analytical Services, LLC

Lot Number: WE14025

Project Name: [REDACTED]

Project Number: 40226691

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	2317-0	Aqueous	05/06/2021 1602	05/12/2021

(1 sample)

PACE ANALYTICAL SERVICES, LLC

Detection Summary
Pace Analytical Services, LLC
Lot Number: WE14025
Project Name: [REDACTED]
Project Number: 40226691

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	2317-0	Aqueous	PFBS	PFAS by ID	3.9	J	ng/L	5
001	2317-0	Aqueous	PFHxS	PFAS by ID	0.91	J	ng/L	5
001	2317-0	Aqueous	PFBA	PFAS by ID	8.7		ng/L	5
001	2317-0	Aqueous	PFNA	PFAS by ID	0.54	J	ng/L	6
001	2317-0	Aqueous	PFOS	PFAS by ID	6.7		ng/L	6

(5 detections)

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WE14025-001
Description: 2317-0	Matrix: Aqueous
Date Sampled: 05/06/2021 1602	Project Name: XXXXXXXXXX
Date Received: 05/12/2021	Project Number: 40226691

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	05/20/2021 1849	JJG	05/19/2021 1731	92842

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		8.2	0.49	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.2	0.68	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		8.2	1.6	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		8.2	1.2	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		8.2	0.90	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.2	2.1	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.2	0.50	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		8.2	1.4	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.2	0.77	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		8.2	0.98	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		16	1.3	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.2	0.96	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		8.2	1.3	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	3.9	J	4.1	0.42	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		4.1	0.80	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		4.1	0.51	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		4.1	0.73	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		4.1	0.63	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		4.1	0.61	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		8.2	1.1	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	0.91	J	4.1	0.57	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	8.7		4.1	0.61	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.1	0.54	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.1	0.48	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.1	0.46	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		8.2	0.84	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		4.1	0.70	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	0.54	J	4.1	0.47	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		8.2	1.0	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		4.1	0.85	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		4.1	0.56	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.1	0.61	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.1	0.54	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.1	0.64	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	6.7		4.1	2.1	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		110	25-150
13C2_6:2FTS		112	25-150
13C2_8:2FTS		103	25-150
13C2_PFDa		89	25-150
13C2_PFHxDA		84	25-150
13C2_PFTeDA		92	25-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WE14025-001
Description: 2317-0	Matrix: Aqueous
Date Sampled: 05/06/2021 1602	Project Name: XXXXXXXXXX
Date Received: 05/12/2021	Project Number: 40226691

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		90	25-150
13C3_PFHxS		86	25-150
13C3-HFPO-DA		98	25-150
13C4_PFBa		97	25-150
13C4_PFHpA		97	25-150
13C5_PFHxA		102	25-150
13C5_PFPeA		99	25-150
13C6_PFDa		87	25-150
13C7_PFUdA		98	25-150
13C8_PFOA		103	25-150
13C8_PFOS		80	25-150
13C8_PFOsA		103	10-150
13C9_PFNa		97	25-150
d-EtFOsA		86	10-150
d5-EtFOsAA		89	25-150
d9-EtFOsE		89	10-150
d-MeFOsA		95	10-150
d3-MeFOsAA		102	25-150
d7-MeFOsE		90	10-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

QC Summary

PFAS by LC/MS/MS - MB

Sample ID: WQ92842-001

Matrix: Aqueous

Batch: 92842

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 05/19/2021 1731

Parameter	Result	Q	Dil	LOQ	MDL	Units	Analysis Date
9CI-PF3ONS	ND		1	8.0	0.48	ng/L	05/20/2021 1319
11CI-PF3OUdS	ND		1	8.0	0.66	ng/L	05/20/2021 1319
8:2 FTS	ND		1	8.0	1.6	ng/L	05/20/2021 1319
6:2 FTS	ND		1	8.0	2.0	ng/L	05/20/2021 1319
10:2 FTS	ND		1	8.0	1.2	ng/L	05/20/2021 1319
4:2 FTS	ND		1	8.0	0.87	ng/L	05/20/2021 1319
GenX	ND		1	8.0	2.1	ng/L	05/20/2021 1319
ADONA	ND		1	8.0	0.48	ng/L	05/20/2021 1319
EtFOSA	ND		1	8.0	1.4	ng/L	05/20/2021 1319
EtFOSAA	ND		1	8.0	0.75	ng/L	05/20/2021 1319
EtFOSE	ND		1	8.0	0.95	ng/L	05/20/2021 1319
MeFOSA	ND		1	16	1.3	ng/L	05/20/2021 1319
MeFOSAA	ND		1	8.0	0.93	ng/L	05/20/2021 1319
MeFOSE	ND		1	8.0	1.3	ng/L	05/20/2021 1319
PFBS	ND		1	4.0	0.41	ng/L	05/20/2021 1319
PFDS	ND		1	4.0	0.78	ng/L	05/20/2021 1319
PFHpS	ND		1	4.0	0.50	ng/L	05/20/2021 1319
PFNS	ND		1	4.0	0.71	ng/L	05/20/2021 1319
PFOSA	ND		1	4.0	0.61	ng/L	05/20/2021 1319
PFPeS	ND		1	4.0	0.59	ng/L	05/20/2021 1319
PFDOS	ND		1	8.0	1.0	ng/L	05/20/2021 1319
PFHxS	ND		1	4.0	0.55	ng/L	05/20/2021 1319
PFBA	ND		1	4.0	0.60	ng/L	05/20/2021 1319
PFDA	ND		1	4.0	0.52	ng/L	05/20/2021 1319
PFDoA	ND		1	4.0	0.47	ng/L	05/20/2021 1319
PFHpA	ND		1	4.0	0.45	ng/L	05/20/2021 1319
PFHxDA	ND		1	8.0	0.82	ng/L	05/20/2021 1319
PFHxA	ND		1	4.0	0.69	ng/L	05/20/2021 1319
PFNA	ND		1	4.0	0.46	ng/L	05/20/2021 1319
PFODA	ND		1	8.0	1.0	ng/L	05/20/2021 1319
PFOA	ND		1	4.0	0.83	ng/L	05/20/2021 1319
PFPeA	ND		1	4.0	0.54	ng/L	05/20/2021 1319
PFTeDA	ND		1	4.0	0.60	ng/L	05/20/2021 1319
PFTTrDA	ND		1	4.0	0.53	ng/L	05/20/2021 1319
PFUdA	ND		1	4.0	0.63	ng/L	05/20/2021 1319
PFOS	ND		1	4.0	2.0	ng/L	05/20/2021 1319

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		98	25-150
13C2_6:2FTS		94	25-150
13C2_8:2FTS		93	25-150
13C2_PFDoA		90	25-150
13C2_PFHxDA		92	25-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

PFAS by LC/MS/MS - MB

Sample ID: WQ92842-001

Matrix: Aqueous

Batch: 92842

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 05/19/2021 1731

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		93	25-150
13C3_PFBs		86	25-150
13C3_PFHxS		84	25-150
13C3-HFPO-DA		91	25-150
13C4_PFBa		90	25-150
13C4_PFHpA		88	25-150
13C5_PFHxA		93	25-150
13C5_PFPeA		93	25-150
13C6_PFDa		87	25-150
13C7_PFUdA		91	25-150
13C8_PFOA		97	25-150
13C8_PFOs		83	25-150
13C8_PFOsA		85	10-150
13C9_PFNa		88	25-150
d-EtFOsA		58	10-150
d5-EtFOsAA		83	25-150
d9-EtFOsE		83	10-150
d-MeFOsA		73	10-150
d3-MeFOsAA		96	25-150
d7-MeFOsE		84	10-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

PFAS by LC/MS/MS - LCS

Sample ID: WQ92842-002

Matrix: Aqueous

Batch: 92842

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 05/19/2021 1731

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
9CI-PF3ONS	15	15		1	99	50-150	05/20/2021 1329
11CI-PF3OUdS	15	14		1	92	50-150	05/20/2021 1329
8:2 FTS	15	17		1	109	50-150	05/20/2021 1329
6:2 FTS	15	16		1	109	50-150	05/20/2021 1329
10:2 FTS	15	18		1	114	50-150	05/20/2021 1329
4:2 FTS	15	16		1	106	50-150	05/20/2021 1329
GenX	32	31		1	96	50-150	05/20/2021 1329
ADONA	15	17		1	111	50-150	05/20/2021 1329
EtFOSA	16	16		1	99	50-150	05/20/2021 1329
EtFOSAA	16	17		1	104	50-150	05/20/2021 1329
EtFOSE	16	15		1	92	50-150	05/20/2021 1329
MeFOSA	16	15		1	93	50-150	05/20/2021 1329
MeFOSAA	16	15		1	95	50-150	05/20/2021 1329
MeFOSE	16	14		1	90	50-150	05/20/2021 1329
PFBS	14	14		1	99	50-150	05/20/2021 1329
PFDS	15	17		1	113	50-150	05/20/2021 1329
PFHpS	15	17		1	109	50-150	05/20/2021 1329
PFNS	15	16		1	102	50-150	05/20/2021 1329
PFOSA	16	16		1	99	50-150	05/20/2021 1329
PFPeS	15	14		1	94	50-150	05/20/2021 1329
PFDOS	15	14		1	91	50-150	05/20/2021 1329
PFHxS	15	15		1	104	50-150	05/20/2021 1329
PFBA	16	16		1	99	50-150	05/20/2021 1329
PFDA	16	17		1	105	50-150	05/20/2021 1329
PFDoA	16	15		1	95	50-150	05/20/2021 1329
PFHpA	16	15		1	95	50-150	05/20/2021 1329
PFHxDA	16	16		1	99	50-150	05/20/2021 1329
PFHxA	16	16		1	99	50-150	05/20/2021 1329
PFNA	16	16		1	102	50-150	05/20/2021 1329
PFODA	16	16		1	100	50-150	05/20/2021 1329
PFOA	16	16		1	101	50-150	05/20/2021 1329
PFPeA	16	16		1	99	50-150	05/20/2021 1329
PFTeDA	16	16		1	98	50-150	05/20/2021 1329
PFTTrDA	16	16		1	99	50-150	05/20/2021 1329
PFUdA	16	16		1	99	50-150	05/20/2021 1329
PFOS	15	15		1	102	50-150	05/20/2021 1329
Surrogate	Q	% Rec	Acceptance Limit				
13C2_4:2FTS		87	25-150				
13C2_6:2FTS		93	25-150				
13C2_8:2FTS		90	25-150				
13C2_PFDoA		88	25-150				
13C2_PFHxDA		87	25-150				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

PFAS by LC/MS/MS - LCS

Sample ID: WQ92842-002

Matrix: Aqueous

Batch: 92842

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 05/19/2021 1731

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		86	25-150
13C3_PFBs		78	25-150
13C3_PFHxS		77	25-150
13C3-HFPO-DA		90	25-150
13C4_PFBa		88	25-150
13C4_PFHpA		91	25-150
13C5_PFHxA		93	25-150
13C5_PFPeA		90	25-150
13C6_PFDa		83	25-150
13C7_PFUdA		97	25-150
13C8_PFOA		92	25-150
13C8_PFOs		78	25-150
13C8_PFOsA		90	10-150
13C9_PFNa		87	25-150
d-EtFOsA		65	10-150
d5-EtFOsAA		88	25-150
d9-EtFOsE		90	10-150
d-MeFOsA		75	10-150
d3-MeFOsAA		86	25-150
d7-MeFOsE		84	10-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Chain of Custody
and
Miscellaneous Documents

Internal Transfer Chain of Custody



Samples Pre-Logged into eCOC.

State Of Origin: WI
 Cert. Needed: Yes No



Workorder: 40226591 Workorder Name: [REDACTED] Owner Received Date: 5/11/2021 Results Requested By: 5/2/2021

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved	WT 36 PFA5 by ID	Requested Analytes
1	2317-0	PS	5/6/2021 16:02	40226681001	Water	2	X	
2								
3								
4								
5								



LAB USE ONLY

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	[Signature]	5/11/21 16:00			R77 - MDI, reporting - Qunfe 23482
2	[Signature]				
3	[Signature]	5/12/21 9:50	[Signature]	5/12/21 9:50	

Cooler Temperature on Receipt: 3.5°C Custody Seal or N Received on Ice or N Samples Intact or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
 This chain of custody is considered complete as is since this information is available in the owner laboratory.

PACE ANALYTICAL SERVICES, LLC



Samples Receipt Checklist (SRC) (ME0018C-15)
 Issuing Authority: Pace ENV - WCOL

Revised: 9/29/2020
 Page 1 of 1

Sample Receipt Checklist (SRC)

Client: PACE Cooler Inspected by/date: JRG2 / 5/13/2021 Lot #: WF14025

Means of receipt: <input checked="" type="checkbox"/> Pace <input type="checkbox"/> Client <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Other:	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1. Were custody seals present on the cooler?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	2. If custody seals were present, were they intact and unbroken?
pH Strip ID: <u>NA</u> Chlorine Strip ID: <u>NA</u> Tested by: <u>NA</u>	
Original temperature upon receipt / Derived (Corrected) temperature upon receipt %Solid Snap-Cup ID: <u>NA</u> <u>3.5 / 3.5</u> °C <u>NA</u> / <u>NA</u> °C <u>NA</u> / <u>NA</u> °C <u>NA</u> / <u>NA</u> °C	
Method: <input checked="" type="checkbox"/> Temperature Blank <input type="checkbox"/> Against Bottles IR Gun ID: <u>5</u> IR Gun Correction Factor: <u>0</u> °C	
Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Ice Packs <input type="checkbox"/> Dry Ice <input type="checkbox"/> None	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	4. Is the commercial courier's packing slip attached to this form?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. Were proper custody procedures (relinquished/received) followed?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6. Were sample IDs listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7. Were sample IDs listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8. Was collection date & time listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9. Was collection date & time listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10. Did all container label information (ID, date, time) agree with the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. Were tests to be performed listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13. Was adequate sample volume available?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	16. For VOA and RSK-175 samples, were bubbles present >"pea-size" (¼" or 6mm in diameter) in any of the VOA vials?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	19. Were all applicable NH ₃ /TKN/cyanide/pheno/625.1/608.3 (< 0.5mg/L) samples free of residual chlorine?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	20. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	21. Was the quote number listed on the container label? If yes, Quote #
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)	
Sample(s) <u>NA</u> were received incorrectly preserved and were adjusted accordingly in sample receiving with <u>NA</u> mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # <u>NA</u>	
Time of preservation <u>NA</u> . If more than one preservative is needed, please note in the comments below.	
Sample(s) <u>NA</u> were received with bubbles >6 mm in diameter.	
Sample(s) <u>NA</u> were received with TRC > 0.5 mg/L (If #19 is <i>no</i>) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na ₂ S ₂ O ₃) with Shealy ID: <u>NA</u>	
SR barcode labels applied by: <u>JRG2</u> Date: <u>5/14/2021</u>	

Comments:



444 21st Street South · La Crosse, Wisconsin · 54601

May 3, 2021

██████████
 3410 Sand Lake Road
 Holmen, WI 54636

Subject: Private Well Sampling Results
 424 Callaway Boulevard, La Crosse, WI 54603
 Tax Parcel # 4-2320-0
 Sampling Point # 2320-0
 Sample Date: April 8, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. Some PFAS compounds were found, but the levels found were **below** the Department of Health Services (DHS) levels recommended for protecting health. These levels are called the “Recommended Public Health Standard” in the table below. The levels found in *your* well are called the “Sample Result” in the table below.

Sample Results

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt ^{a,b}	The recommended limit is 20 ppt for any one of these 6 compounds or the combined total of all 6
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt ^{a,b}	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt ^{a,b}	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	0.87 ppt	20 ppt ^{a,b}	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	1.6 ppt	20 ppt ^{a,b}	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	3.6 ppt	20 ppt ^{a,b}	

Private Well Sampling Results for
 424 Callaway Boulevard, La Crosse, WI 54603
 Tax Parcel # 4-2320-0
 Sampling Point # 2320-0
 May 3, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit ^e)
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt ^a
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	1.6 ppt	450,000 ppt ^a
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	7.2 ppt	40 ppt ^a
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	28 ppt	10,000 ppt ^a
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt ^a
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt ^a
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt ^a
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt ^a
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt ^a
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt ^a
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt ^a
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt ^a
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	1.3 ppt	None Established ^c

^a Public health enforcement standard (ES) recommended by DHS.

^b DHS recommends a combined enforcement standard of 20 ng/L and combined preventive action limit of 2 ng/L for FOSA, NEt-FOSE, NEt-FOSA, NetFOSAA, PFOS, and PFOA.

^c A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.

^d Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

^e Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)

^{Bl} Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for
424 Callaway Boulevard, La Crosse, WI 54603
Tax Parcel # 4-2320-0
Sampling Point # 2320-0
May 3, 2021

As required by law, we will be submitting these results to the Department of Natural Resources (DNR). The DNR may consult with the Department of Health Services (DHS) about these test results. *DHS may review all PFAS tests and follow-up with you directly if any actions are recommended to protect your health.*

Thank you for your patience and assistance with our investigation. We will provide updates on the project at <https://www.cityoflacrosse.org/wells> as our work continues. If you have any questions, please call The OS Group at (608) 668-2718 or email them at PFAS@theOSgrp.com.

You can also contact the DNR and DHS with questions about PFAS or the water sample results at the numbers provided below.

<u>Questions about...</u>		<u>Contact</u>	<u>Phone</u>	<u>E-mail Address</u>
Soil & Groundwater Testing, Clean Up	DNR	David Rozeboom	715-215-2078	David.Rozeboom@wisconsin.gov
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	kyle.burton@wisconsin.gov
Health Concerns	DHS	Curtis Hedman	608-266-6677	Curtis.Hedman@dhs.wisconsin.gov

On behalf of The City of La Crosse
The OS Group, LLC

Attachment: Lab report for your well

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD13014-007
Description: 2320-0	Matrix: Aqueous
Date Sampled: 04/08/2021 1452	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/13/2021	Project Number: 40224847

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/16/2021 0254	MMM	04/13/2021 1617	88894

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	MDL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.8	0.47	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.8	0.64	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.8	1.6	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.8	1.2	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.8	0.85	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.8	0.47	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.8	1.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.8	0.73	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.8	0.92	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		16	1.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.8	0.90	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.8	1.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	1.6	J	3.9	0.40	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.9	0.75	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.9	0.48	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.9	0.69	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.87	J	3.9	0.59	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	1.3	J	3.9	0.58	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.8	1.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	7.2		3.9	0.53	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	28	B	3.9	0.58	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.9	0.51	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.9	0.46	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.9	0.43	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.8	0.79	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.9	0.67	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.9	0.45	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.8	0.97	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	1.6	J	3.9	0.80	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.9	0.53	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.9	0.58	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.9	0.51	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.9	0.61	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	3.6	J	3.9	1.9	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		103	25-150
13C2_6:2FTS		101	25-150
13C2_8:2FTS		100	25-150
13C2_PFDaA		99	25-150
13C2_PFHxDA		95	25-150
13C2_PFTeDA		92	25-150

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WD13014-007
Description: 2320-0	Matrix: Aqueous
Date Sampled: 04/08/2021 1452	Project Name: LACROSSE WELLS 23 & 24
Date Received: 04/13/2021	Project Number: 40224847

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		87	25-150
13C3_PFHxS		97	25-150
13C3-HFPO-DA		98	25-150
13C4_PFBa		101	25-150
13C4_PFHpA		98	25-150
13C5_PFHxA		100	25-150
13C5_PFPeA		102	25-150
13C6_PFDa		99	25-150
13C7_PFUdA		102	25-150
13C8_PFOA		106	25-150
13C8_PFOS		91	25-150
13C8_PFOSA		93	10-150
13C9_PFNA		96	25-150
d-EtFOSA		74	10-150
d5-EtFOSAA		93	25-150
d9-EtFOSE		91	10-150
d-MeFOSA		68	10-150
d3-MeFOSAA		90	25-150
d7-MeFOSE		80	10-150

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